SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

EIS0048I

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

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

Precautions for work

EIS0048J

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

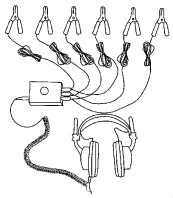
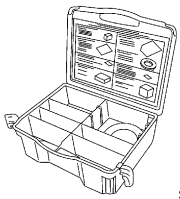
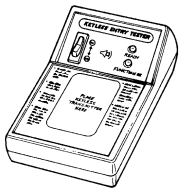
PREPARATION

PFP:00002

Special Service Tool

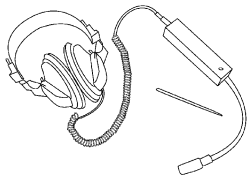
EIS0048L

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

EIS0048M

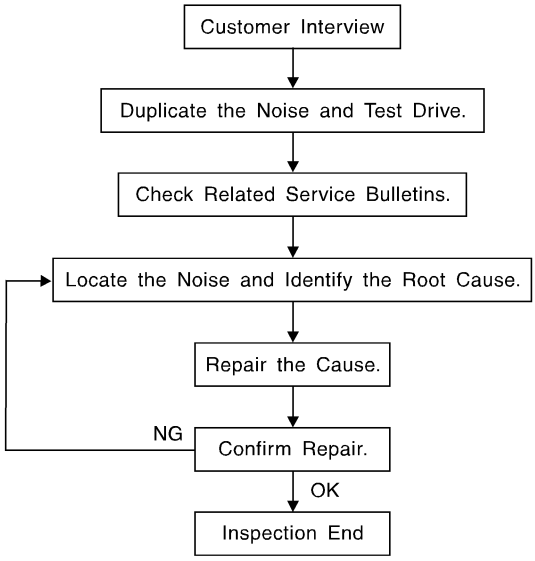
(Kent-Moore No.) Tool name	Description
(J-39565) Engine ear  SIIA0995E	Locating the noise

SQUEAK AND RATTLE TROUBLE DIAGNOSES

PFP:00000

Work Flow

EIS0048N



SBT842

CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to BL-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 brought on by activity.
- Buzz—(Like a bumble bee)
  Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

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

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

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

CHECK RELATED SERVICE BULLETINS

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

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

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

- removing the components in the area that you suspect the noise is coming from.
  Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
- tapping or pushing/pulling the component that you suspect is causing the noise.
  Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
- placing a piece of paper between components that you suspect are causing the noise.
- looking for loose components and contact marks.
  Refer to BL-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 instead of UHMW tape that will be visible or not fit.
Note: Will only last a few months.
SILICONE SPRAY
Use when grease cannot be applied.
DUCT TAPE
Use to eliminate movement.

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

EIS0048O

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

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

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

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

CENTER CONSOLE

Components to pay attention to include:

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

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

DOORS

Pay attention to the:

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

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

TRUNK

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

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

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

SUNROOF/HEADLINING

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

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

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

OVERHEAD CONSOLE (FRONT AND REAR)

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

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

SEATS

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

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

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

UNDERHOOD

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

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

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

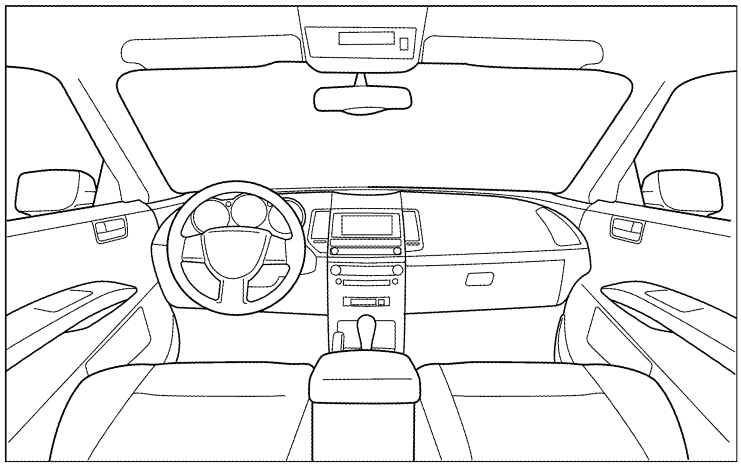
Diagnostic Worksheet

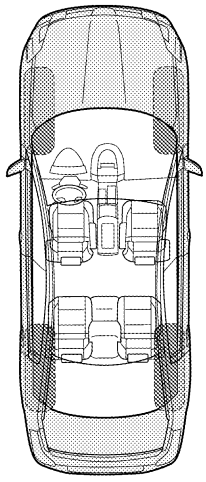
EIS0048P

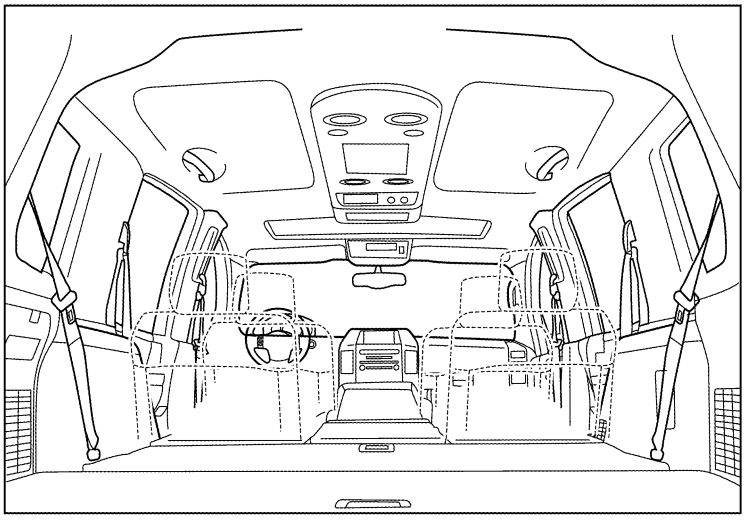
Dear Customer:
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions.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

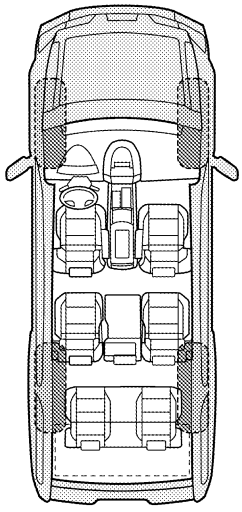
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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









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

LAIA0072E

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

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

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

III. WHEN DRIVING:

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

IV. WHAT TYPE OF NOISE

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

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

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

VIN: _____ Customer Name _____

W.O.# _____ Date: _____

This form must be attached to Work Order

LAIA0071E

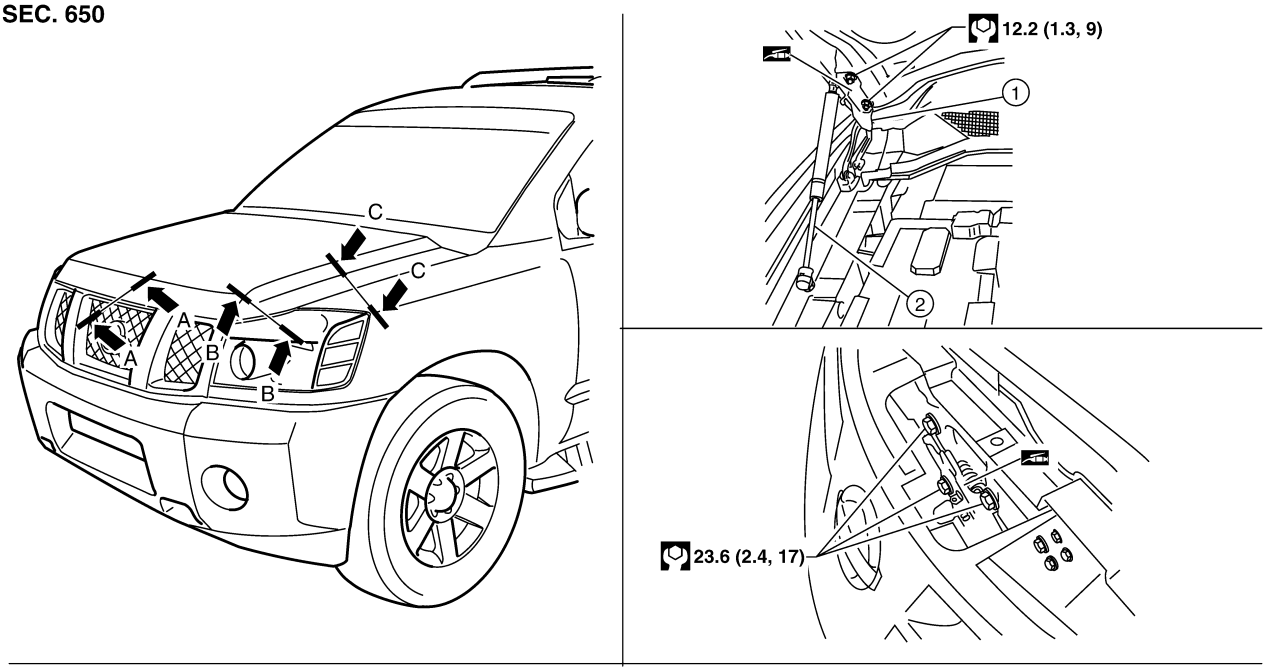
HOOD

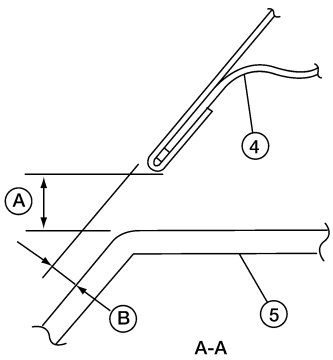
PFP:F5100

Fitting Adjustment

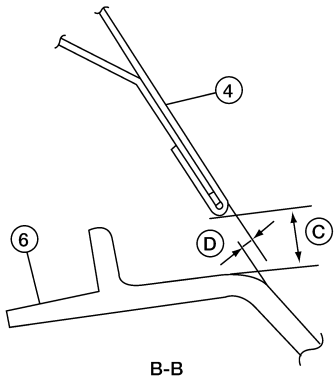
EIS0048Q

SEC. 650

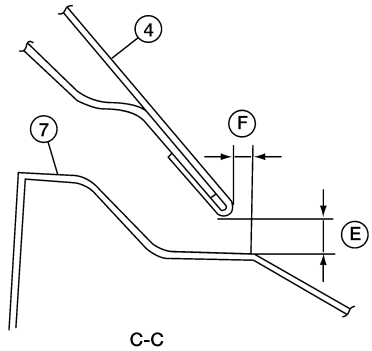




A-A



B-B



C-C

WIIA0883E

1. Hood hinge
2. Hood stay
3. Hood lock assembly
4. Hood assembly
5. Front grille
6. Headlamp
7. Front fender
A. 8.0 mm (0.315 in)
B. 2.0 mm (0.079 in)
C. 8.0mm (0.315 in)
D. 0.8 mm (0.031 in)
E. 5.0 mm (0.197 in)
F. 0.0 mm (0.00 in)

CLEARANCE AND SURFACE HEIGHT ADJUSTMENT

1. Remove the front grille. Refer to EI-20, "FRONT GRILLE" .
2. Remove the hood lock assembly and adjust the height by rotating the bumper rubber until the hood clearance of hood and fender becomes 1 mm (0.04 in) lower than fitting standard dimension.
3. 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 bolt to the specified torque.
4. Adjust the clearance and surface height of hood and fender according to the fitting standard dimension by rotating right and left bumper rubbers.

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

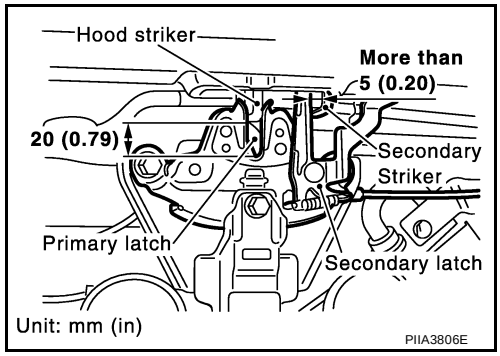
   Hood and headlamp (B–B) : Less than 8.0 mm

5. Install the front grille. Refer to EI-20, "FRONT GRILLE" .

HOOD LOCK ADJUSTMENT

1. Remove the front grille. Refer to EI-20, "FRONT GRILLE" .
2. Move the hood lock to the left or right so that striker center is vertically aligned with hood lock center (when viewed from vehicle front).
3. Make sure 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, 7lb).

   CAUTION:
   Do not drop the hood from 300 mm (11.81 in) height or higher.
4. After adjusting hood lock, tighten the lock bolts to the specified torque.
5. Install the front grille. Refer to EI-20, "FRONT GRILLE" .



Removal and Installation of Hood Assembly

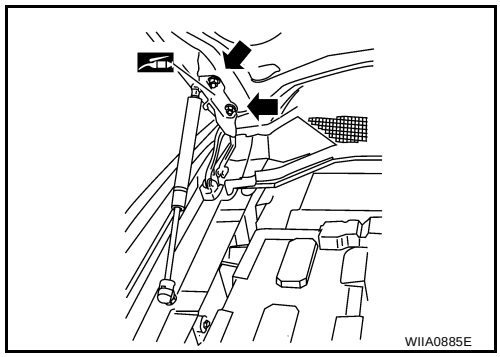
EIS0048R

1. Support the hood with a suitable tool.

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

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

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

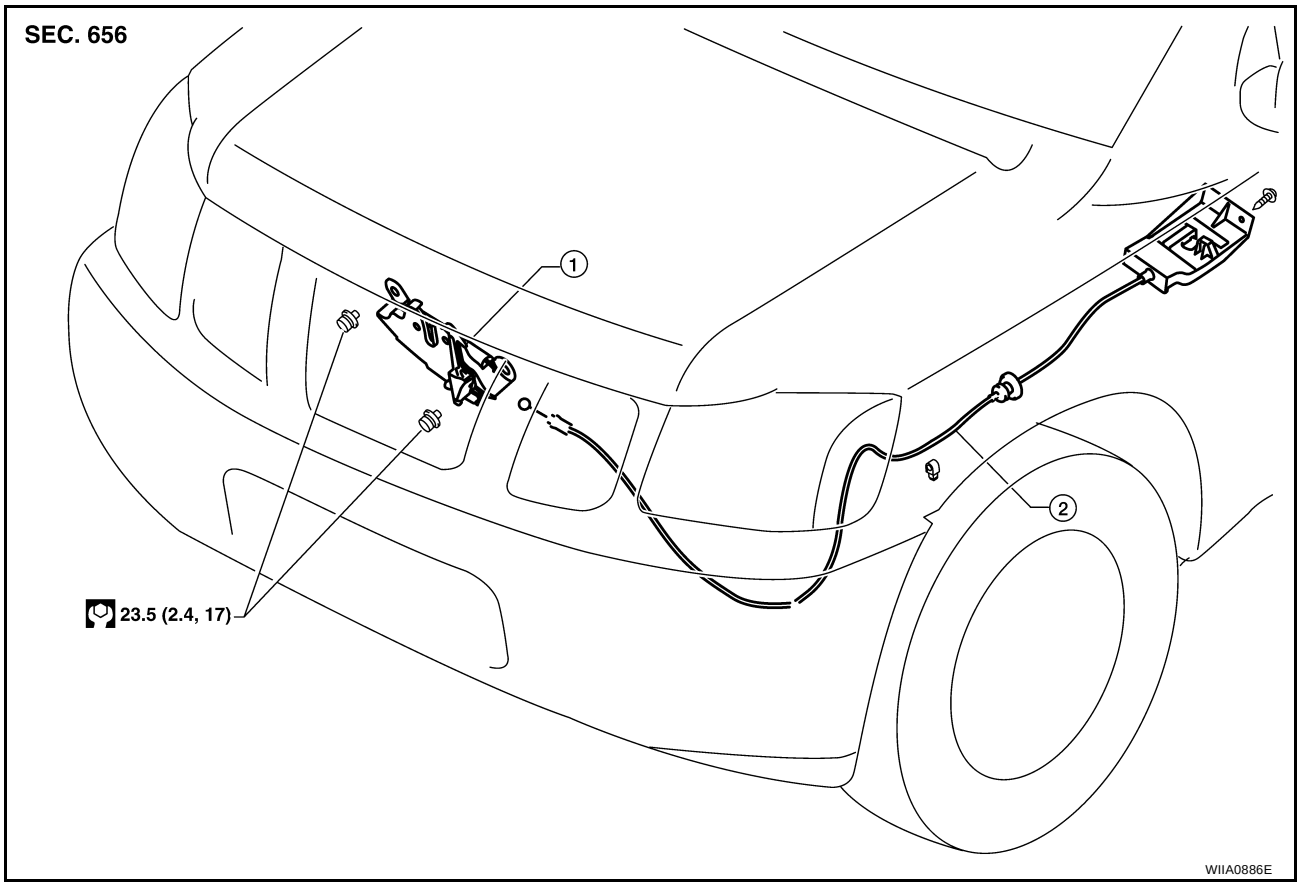


Installation is in the reverse order of removal.

- Adjust the hood. Refer to BL-13, "CLEARANCE AND SURFACE HEIGHT ADJUSTMENT" .
- Adjust the hood lock. Refer to BL-13, "HOOD LOCK ADJUSTMENT" .

Removal and Installation of Hood Lock Control

EIS0048S



1. Hood lock assembly
2. Hood lock cable

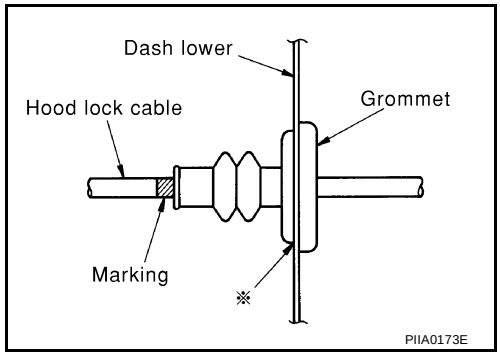
REMOVAL

1. Remove the front grill. Refer to EI-20, "FRONT GRILLE" .
2. Remove the front fender protector (LH). Refer to EI-24, "FENDER PROTECTOR" .
3. Disconnect the hood lock cable from the hood lock, and unclip it from the radiator core support upper and hoodledge.
4. Remove the bolt and the hood opener.
5. Remove the grommet from the dash lower, and pull the hood lock cable toward the passenger room.

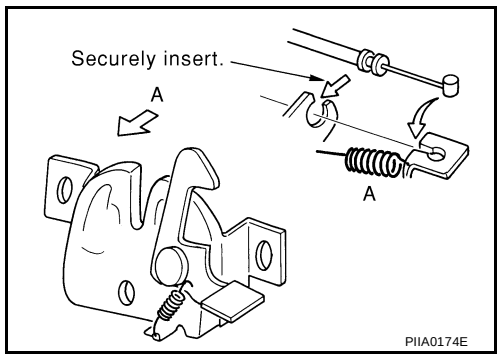
CAUTION:
While pulling, be careful not to damage the outside of the hood lock cable.

INSTALLATION

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



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



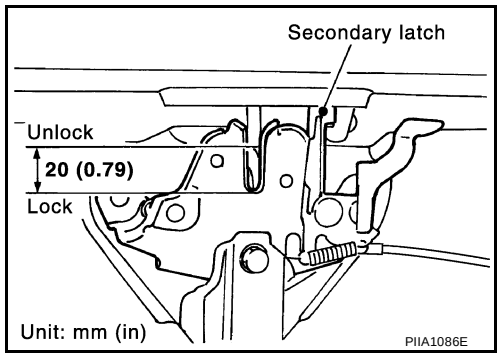
Hood Lock Control Inspection

EIS0048T

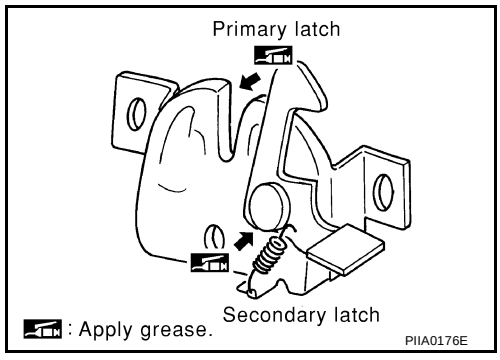
CAUTION:

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

1. Make sure 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 make sure the front end of the hood is raised by approx. 20 mm (0.79 in). Also make sure 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.

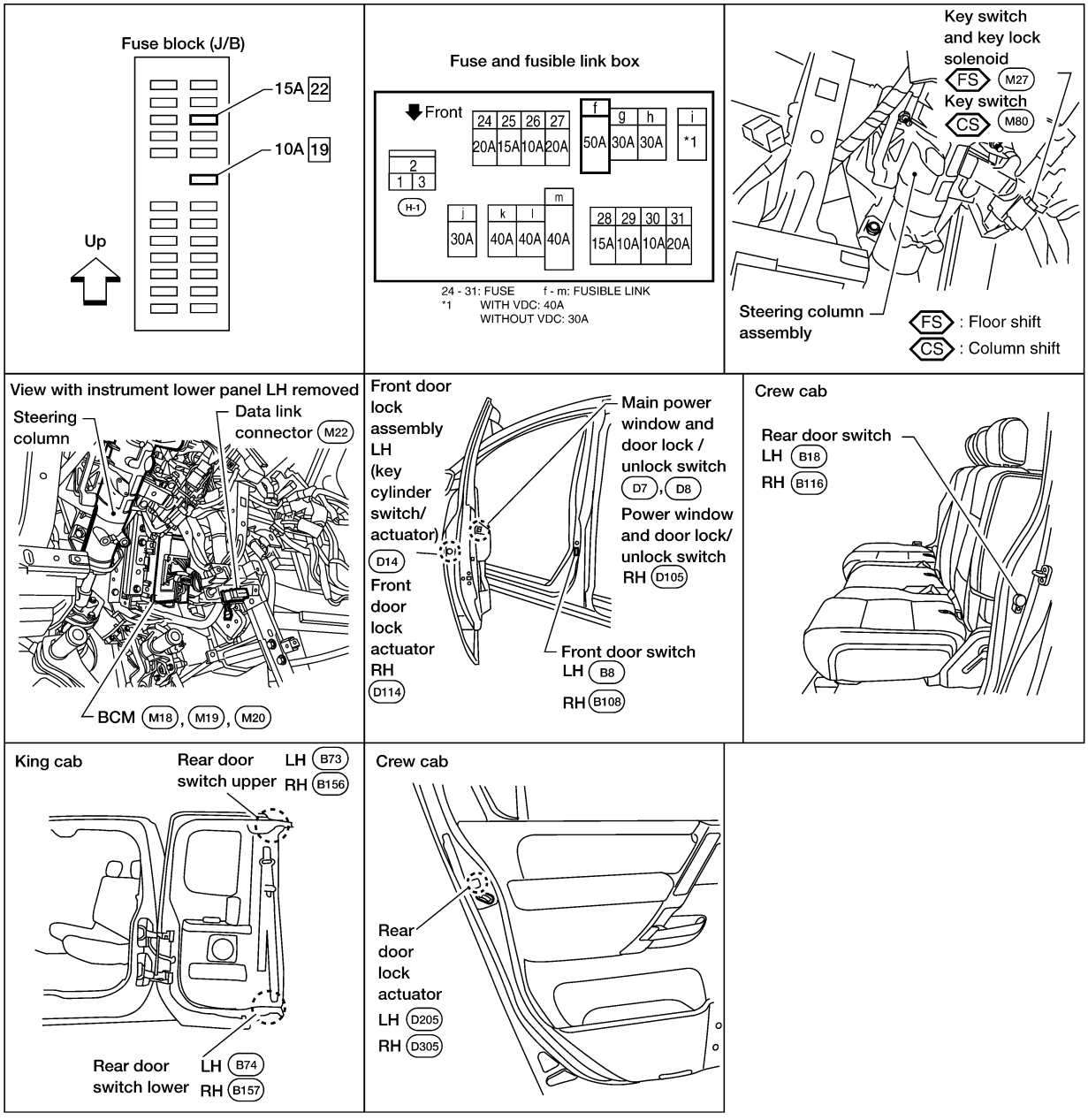


POWER DOOR LOCK SYSTEM

PFP:24814

Component Parts and Harness Connector Location

EIS0048U



WIIA0579E

System Description

EIS0048V

Power is supplied at all times

- through 50A fusible link (letter **f,** located in the fuse and fusible link box)
- to BCM terminal 70 and
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to BCM terminal 57
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to key switch and key lock solenoid terminal 3 (floor shift) or key switch terminal 3 (column shift).

With ignition key inserted, power is supplied

- through key switch and key lock solenoid terminal 4 (floor shift) or key switch terminal 4 (column shift)
- to BCM terminal 37.

Ground is supplied to terminal 67 of BCM through body grounds M57, M61 and M79.

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

- to CPU of main power window and door lock/unlock switch
- through main power window and door lock/unlock switch terminal 15 (King Cab) or 17 (Crew Cab)
- through grounds M57, M61 and M79.

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

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 12 (King Cab) or 14 (Crew Cab).

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

- to CPU of power window and door lock/unlock switch RH
- through power window and door lock/unlock switch RH terminal 11
- through grounds M57, M61 and M79.

Then power window and door lock/unlock switch RH operation signal is supplied

- to BCM terminal 22
- through power window and door lock/unlock switch RH terminal 16.

When the door is locked with front door lock assembly LH (key cylinder switch), ground is supplied

- to main power window and door lock/unlock switch terminal 6 (King Cab) or 4 (Crew Cab)
- through key cylinder switch terminals 1 and 5
- through grounds M57, M61 and M79.

Then key cylinder switch operation signal is supplied

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 12 (King Cab) or 14 (Crew Cab).

When the door is unlocked with front door lock assembly LH (key cylinder switch), ground is supplied

- to main power window and door lock/unlock switch terminal 7 (King Cab) or 6 (Crew Cab)
- through key cylinder switch terminals 6 and 5
- through grounds M57, M61 and M79.

Then key cylinder switch operation signal is supplied

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 12 (King Cab) or 14 (Crew Cab).

KING CAB

BCM is connected to main power window and door lock/unlock switch and power window and door lock/unlock switch RH through a serial link.

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

- to BCM terminal 47
- through front door switch LH terminals 2 and 3
- through grounds B7 and B19.

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

- to BCM terminal 47

- through rear door switch upper LH terminals 1 and 2
- through grounds B7 and B19.

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

- to BCM terminal 47
- through rear door switch lower LH terminals 1 and 2
- through grounds B7 and B19.

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

- to BCM terminal 12
- through front door switch RH terminals 2 and 3
- through grounds B117 and B132.

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

- to BCM terminal 12
- through rear door switch upper RH terminals 1 and 2
- through grounds B117 and B132.

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

- to BCM terminal 12
- through rear door switch lower RH terminals 1 and 2
- through grounds B117 and B132.

CREW CAB

BCM is connected to main power window and door lock/unlock switch and power window and door lock/unlock switch RH through a serial link.
When the front door switch LH is ON (door is open), ground is supplied

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

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

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

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

- to BCM terminal 48
- through rear door switch LH terminal 2
- through rear door switch LH case ground.

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

- to BCM terminal 13
- through rear door switch RH terminal 2
- through rear door switch RH case ground.

OUTLINE

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

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

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

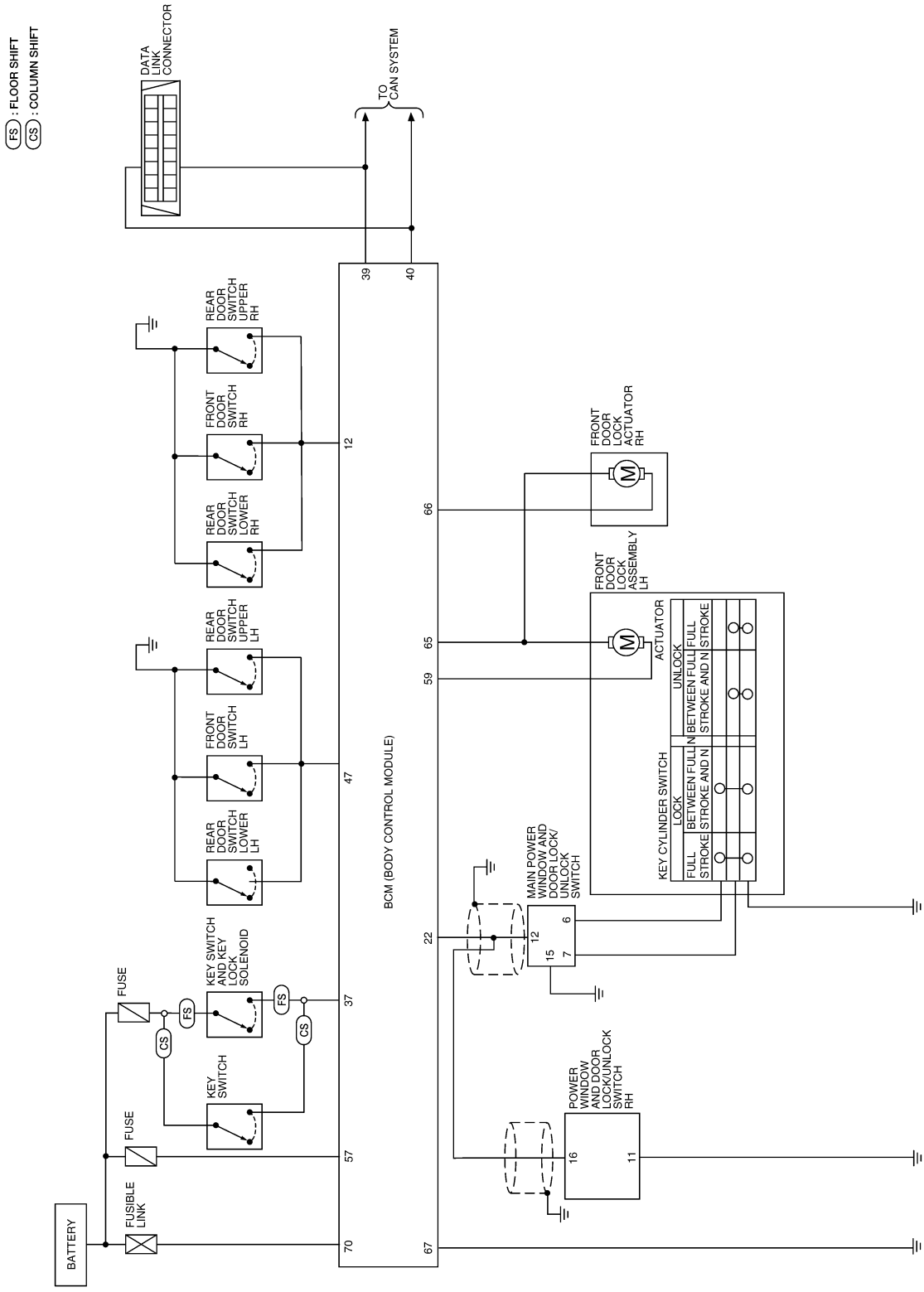
- Interlocked with the locking operation of door key cylinder, door lock actuators of all doors are locked.
- When door key cylinder is unlocked, front door lock assembly LH is unlocked.
- When door key cylinder is unlocked for the second time within 5 seconds after the first operation, door lock actuators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

Key reminder door system

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

Schematic (King Cab)

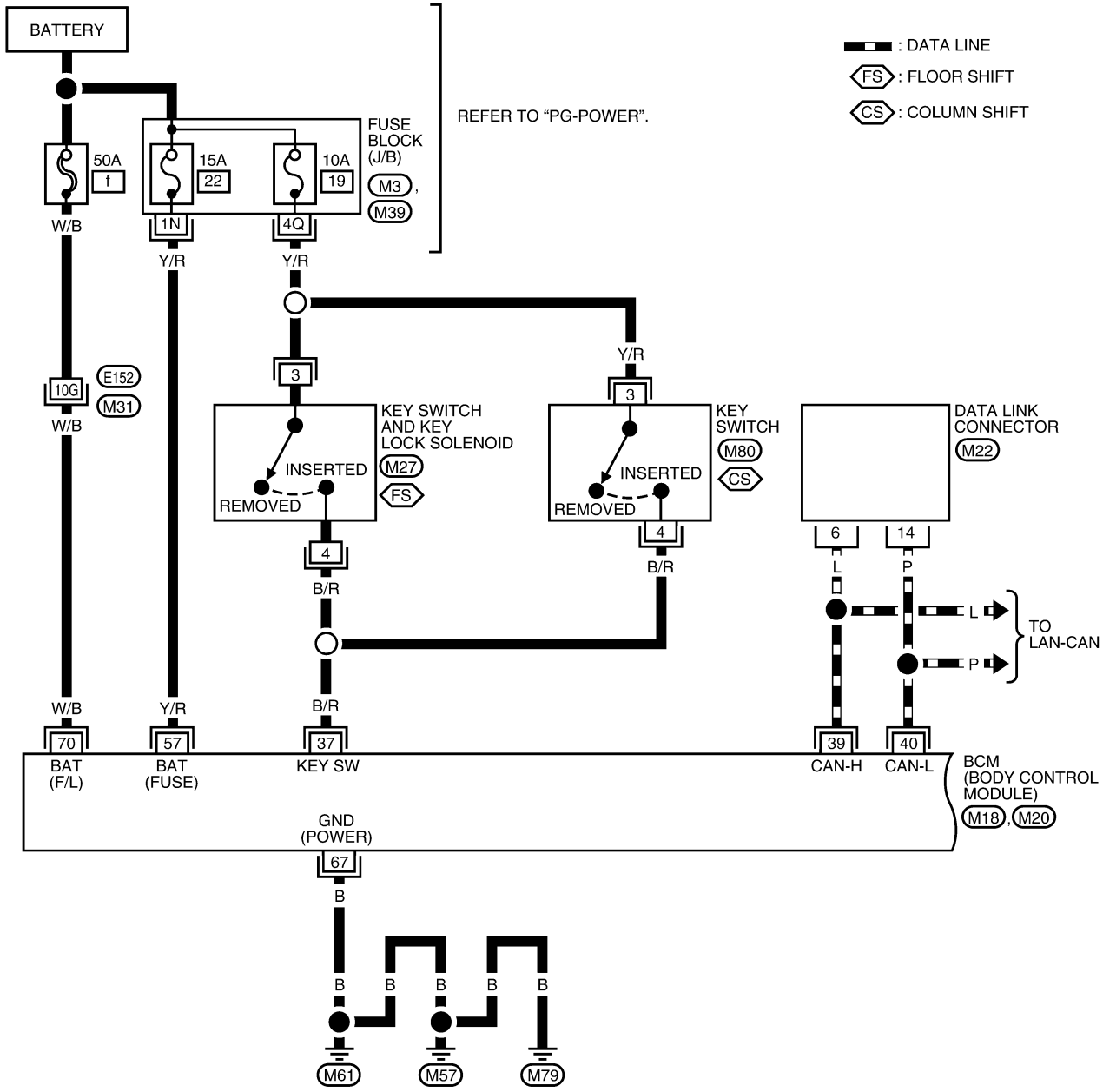
EIS0048W

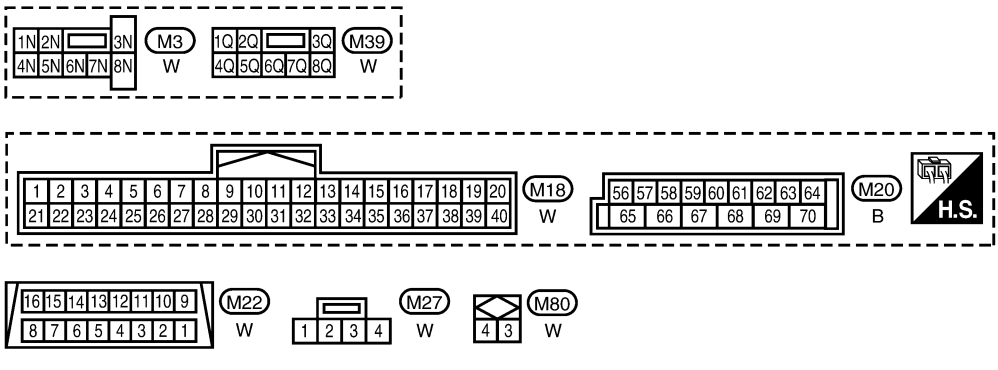


Wiring Diagram — D/LOCK — (King Cab)

EIS0048X

BL-D/LOCK-01

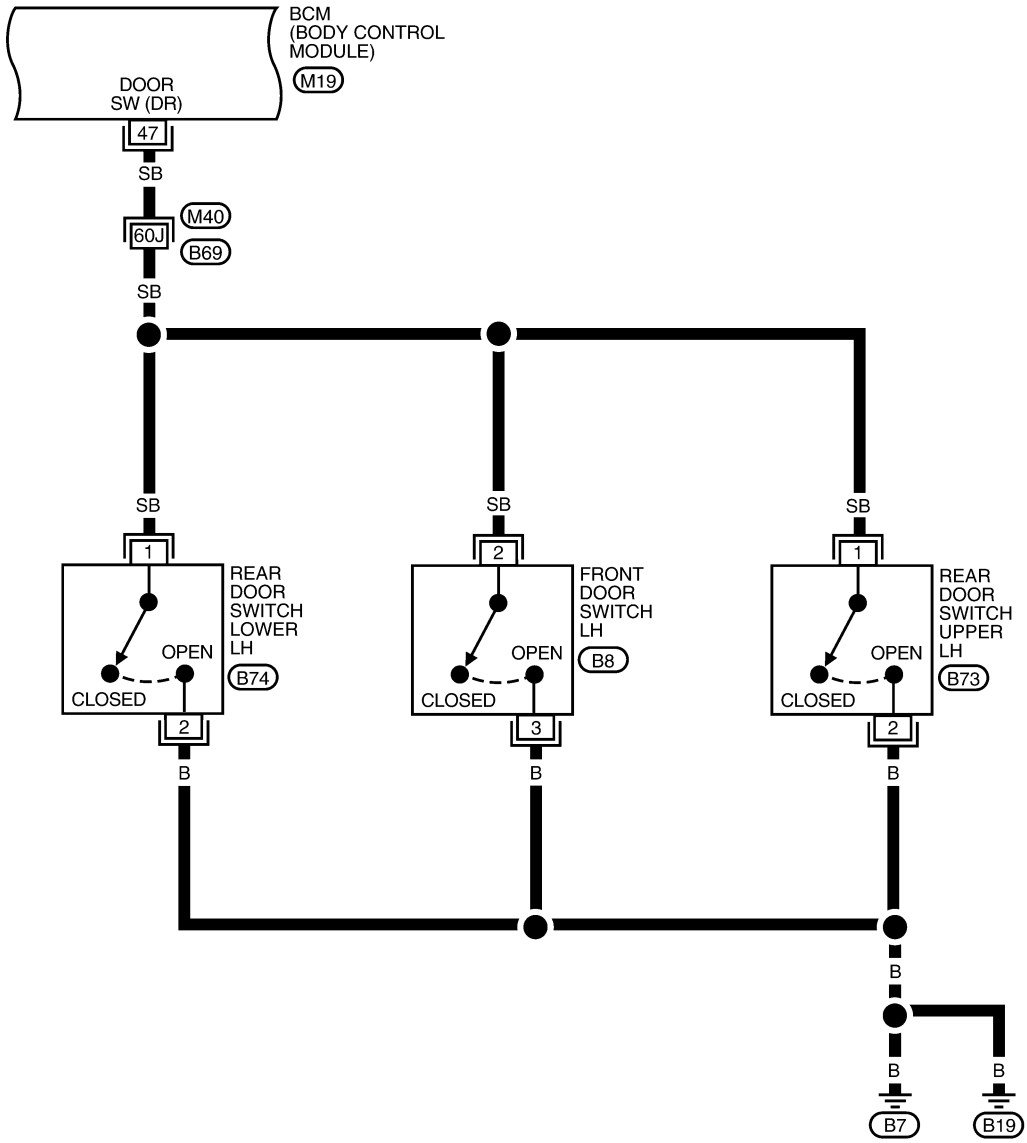




REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0760E

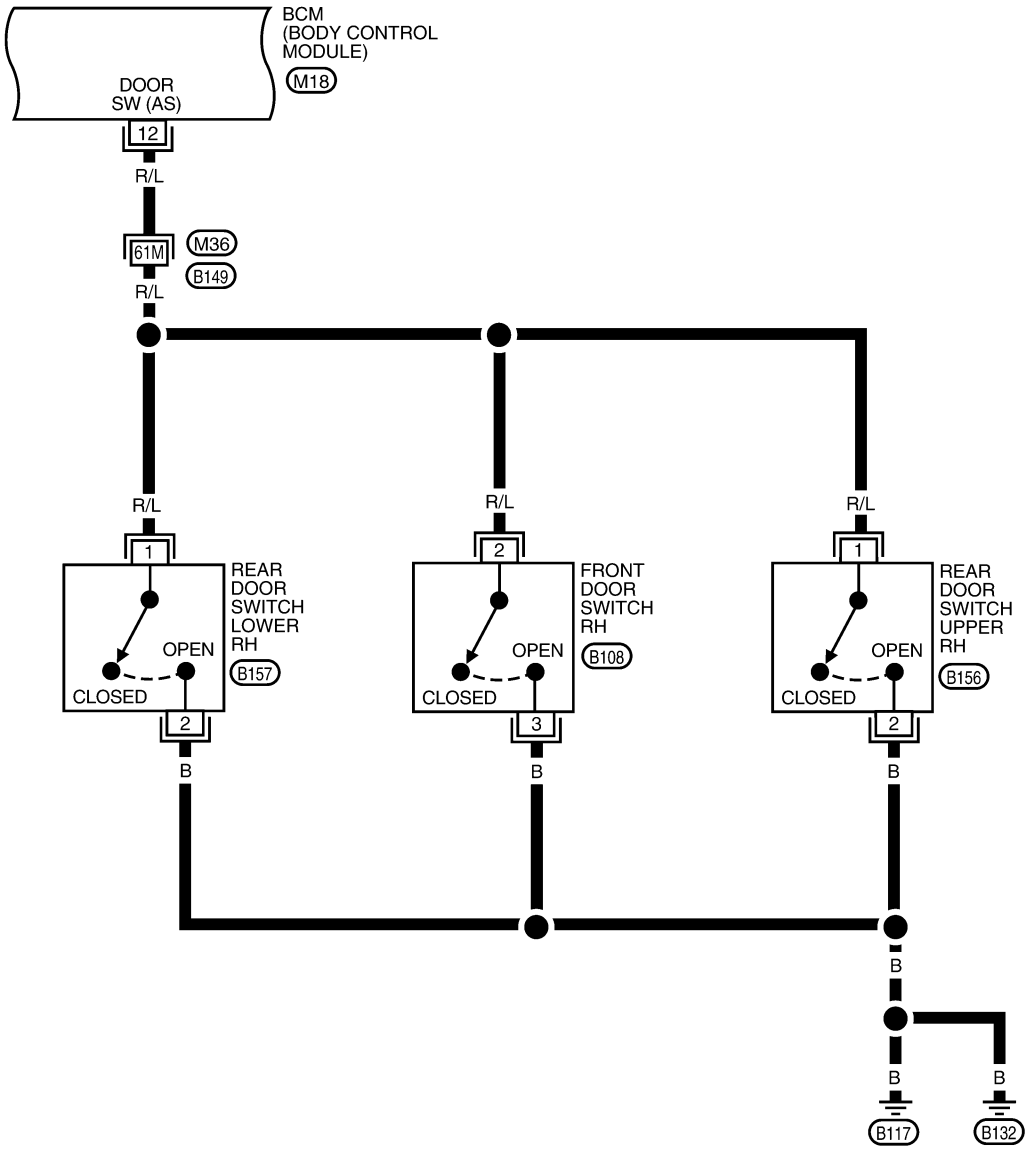
BL-D/LOCK-02

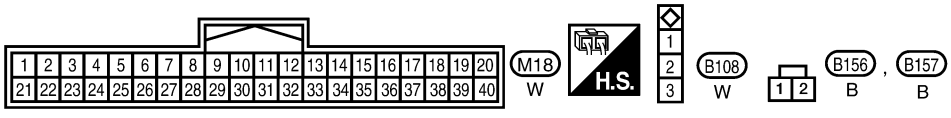


REFER TO THE FOLLOWING.
M40 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1337E

BL-D/LOCK-03

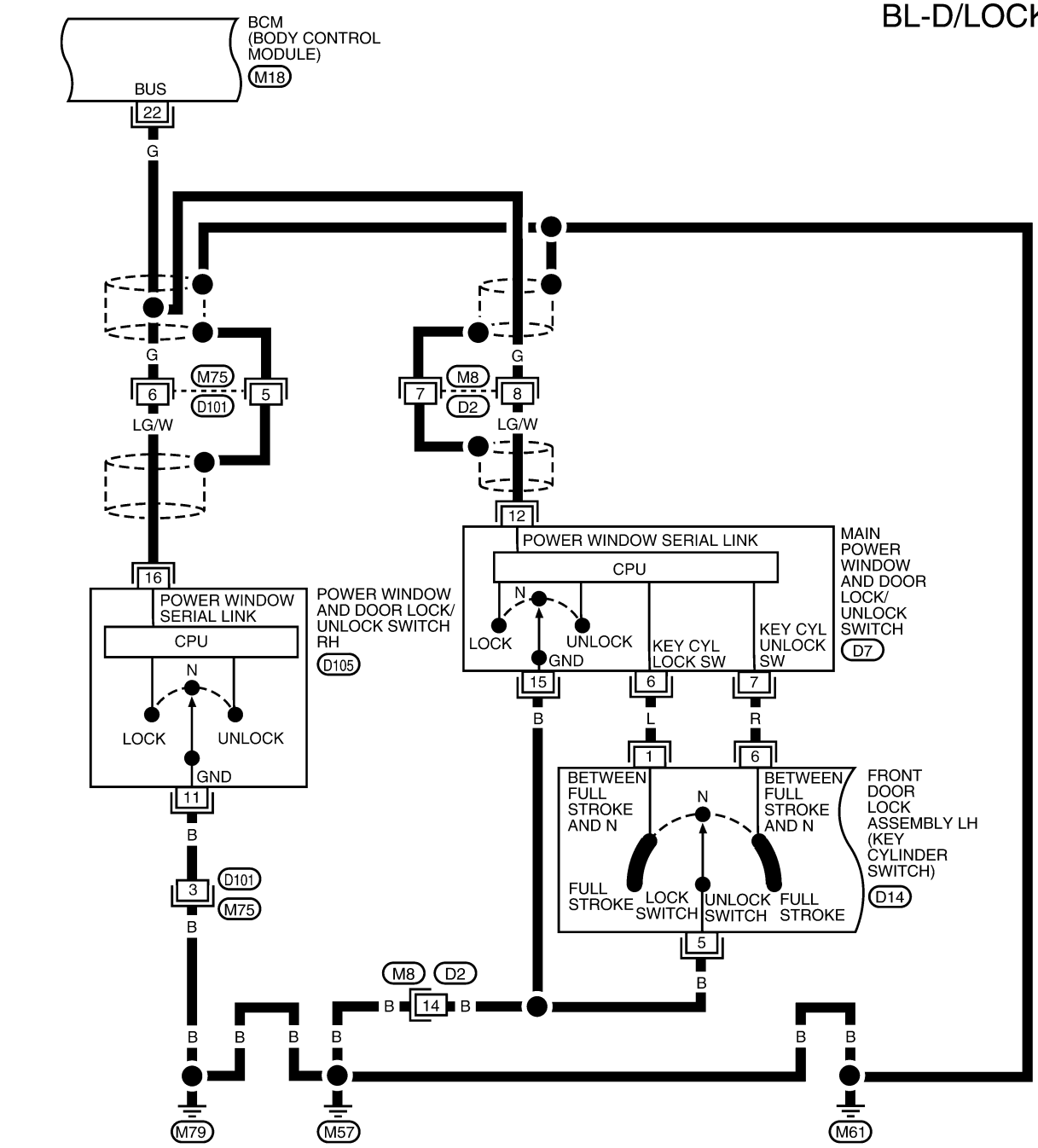


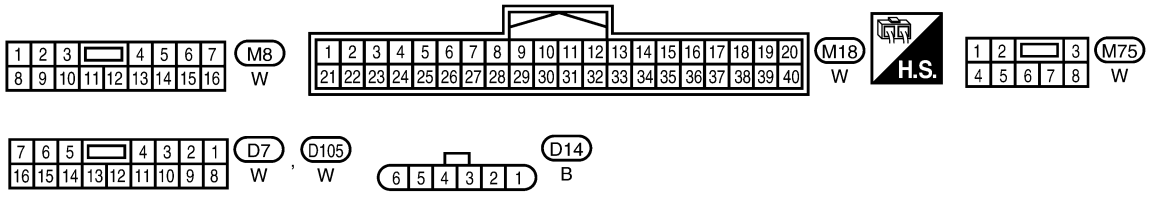


REFER TO THE FOLLOWING.
M36 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1338E

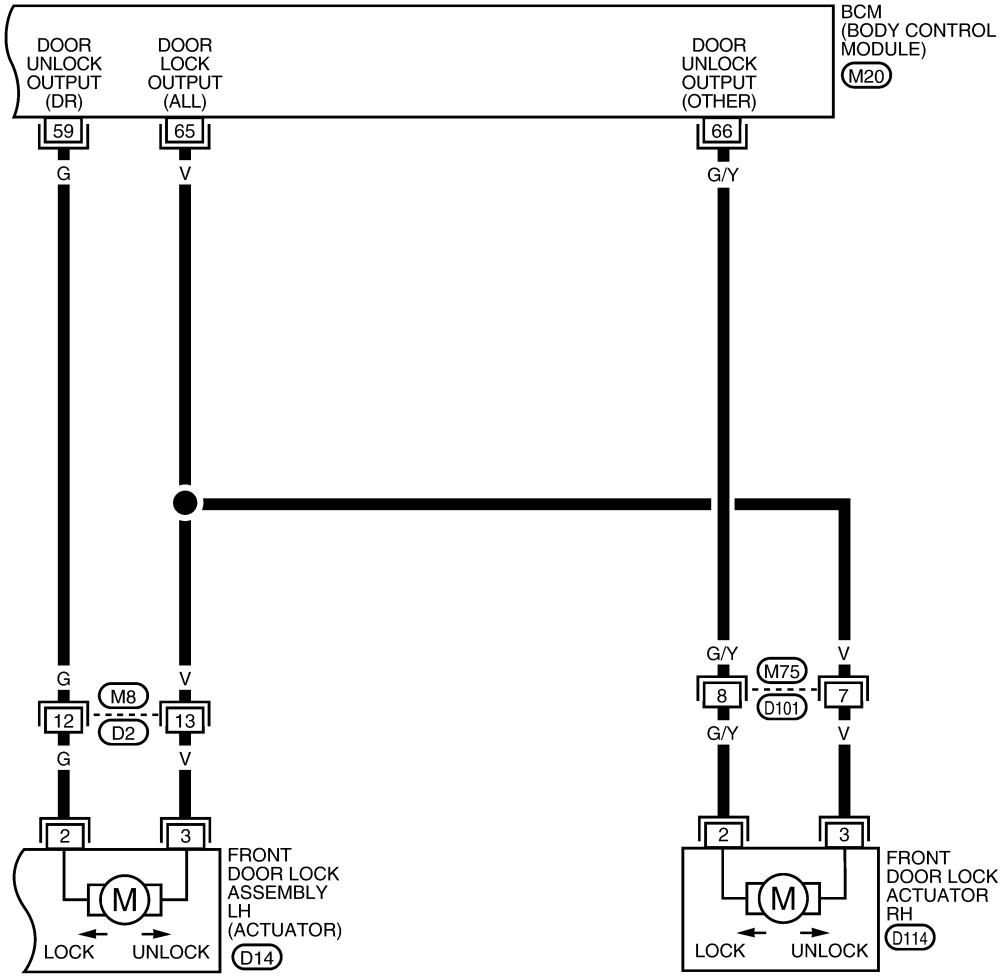
BL-D/LOCK-04

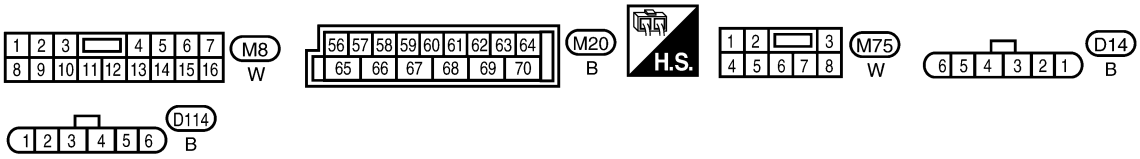




WIWA1339E

BL-D/LOCK-05

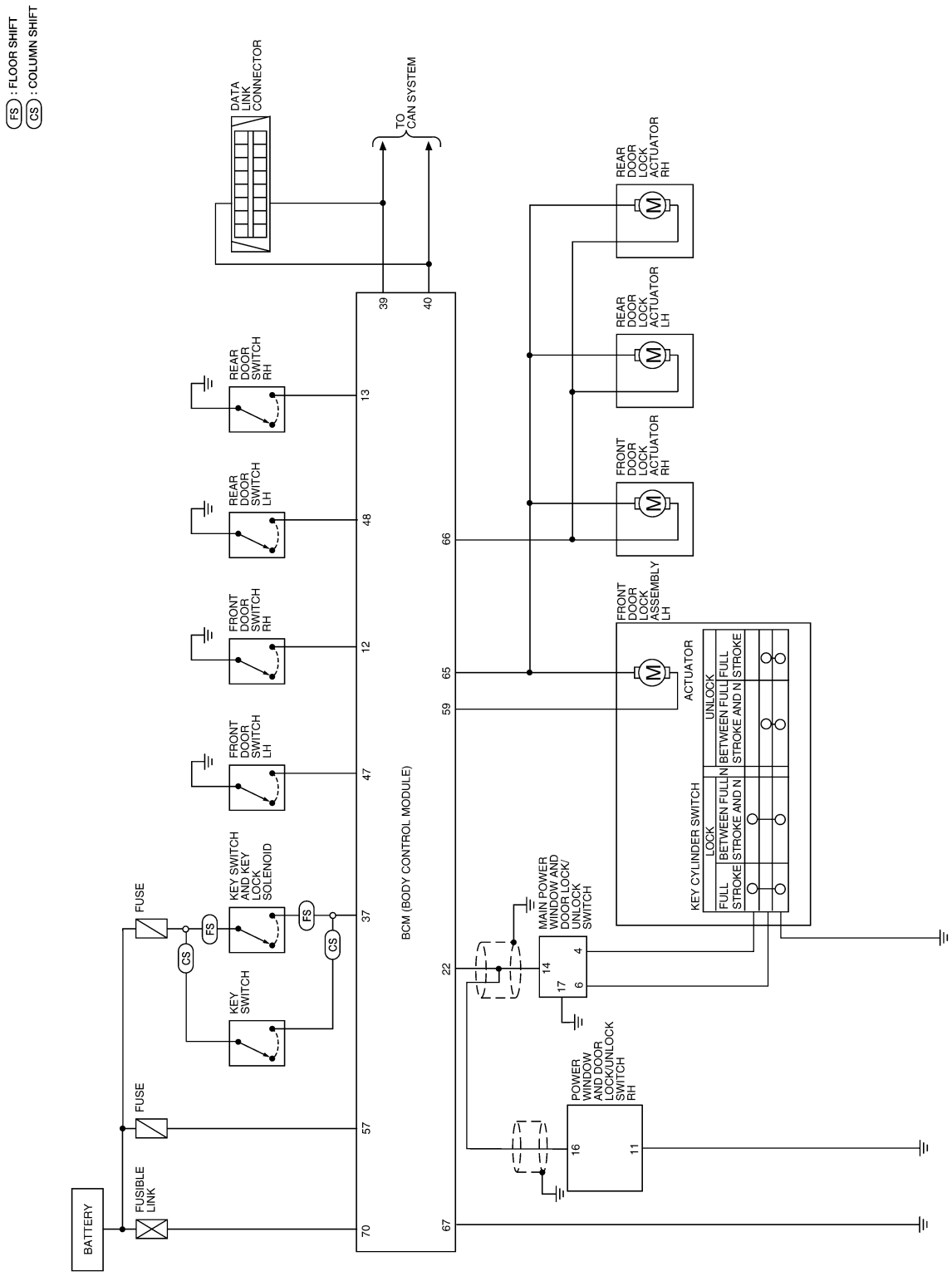




WIWA1340E

Schematic (Crew Cab)

EIS0048Y

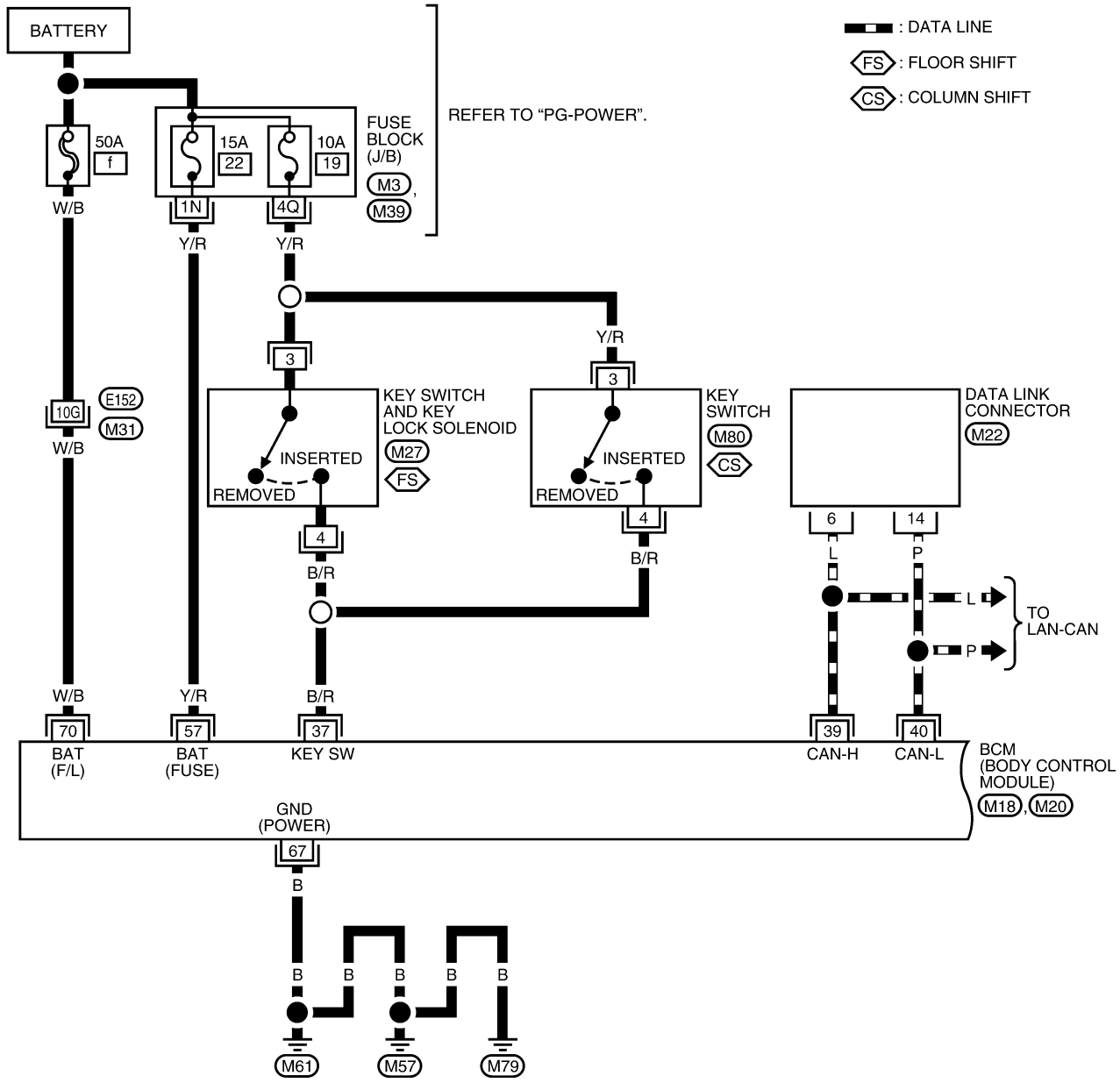


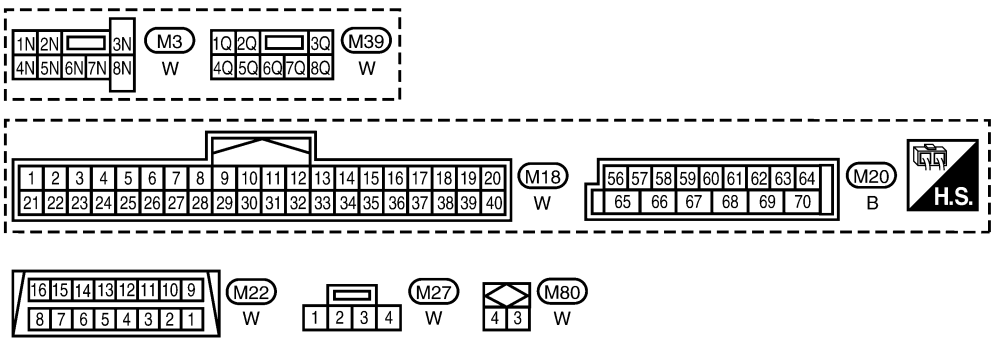
WIWA1341E

Wiring Diagrams — D/LOCK — (Crew Cab)

EIS0048Z

BL-D/LOCK-06

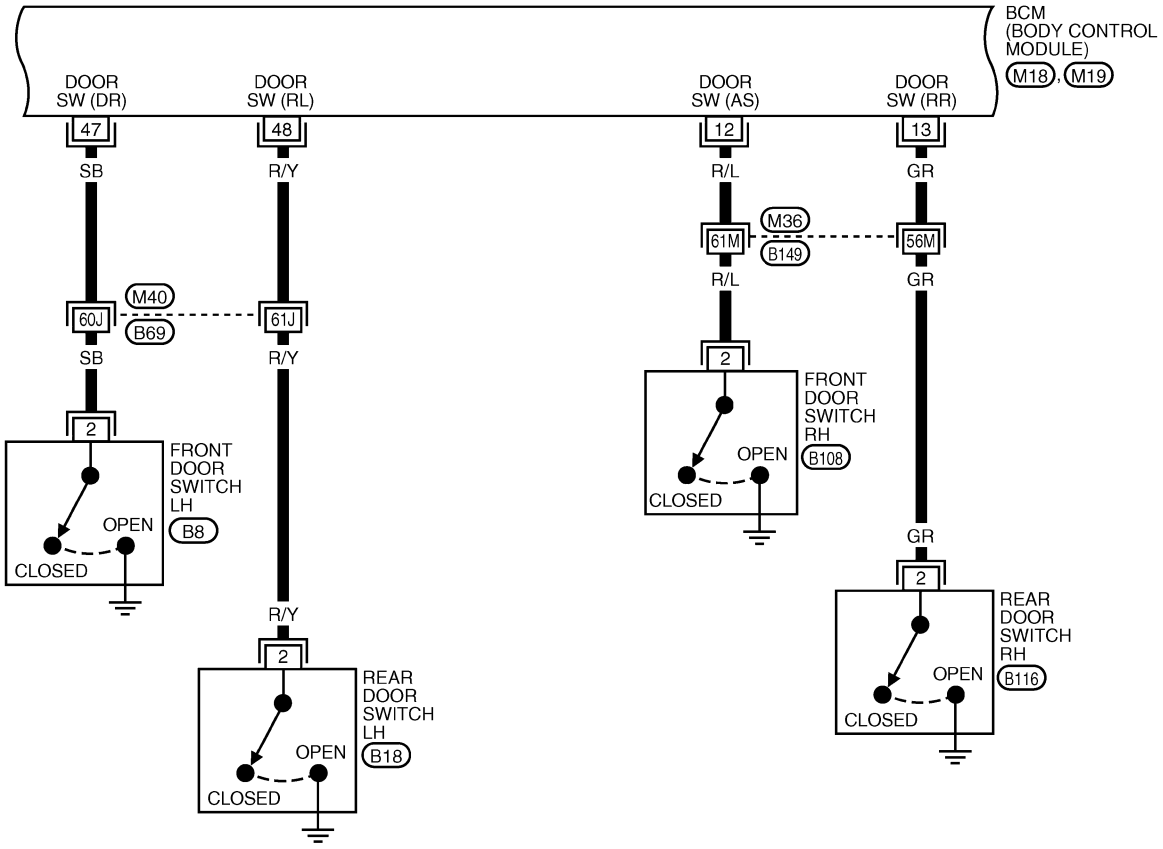


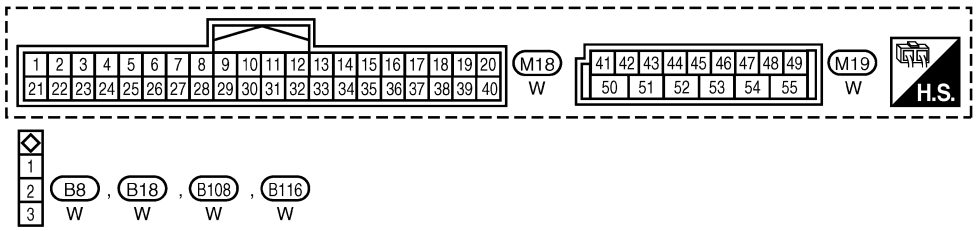


REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0761E

BL-D/LOCK-07

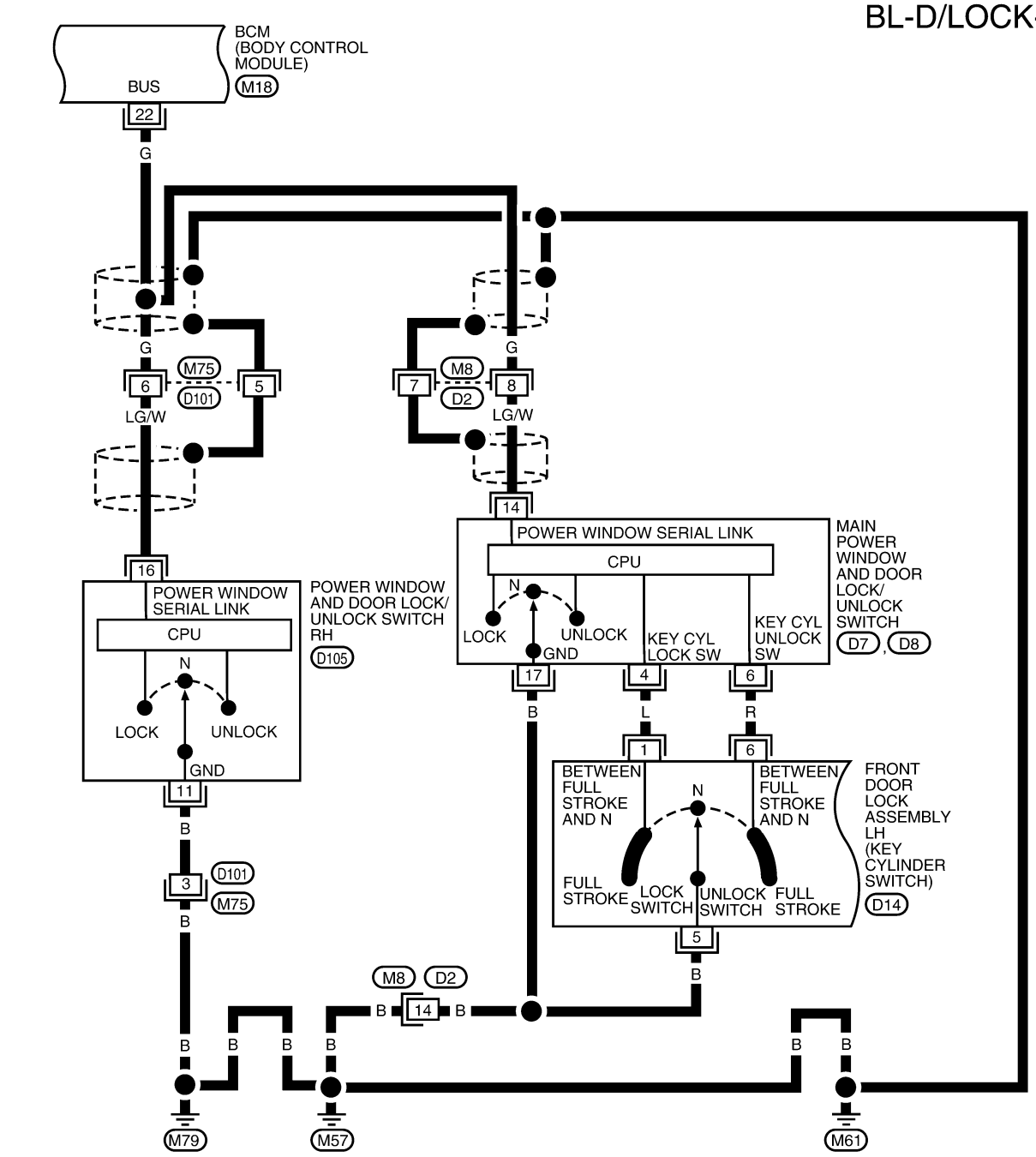


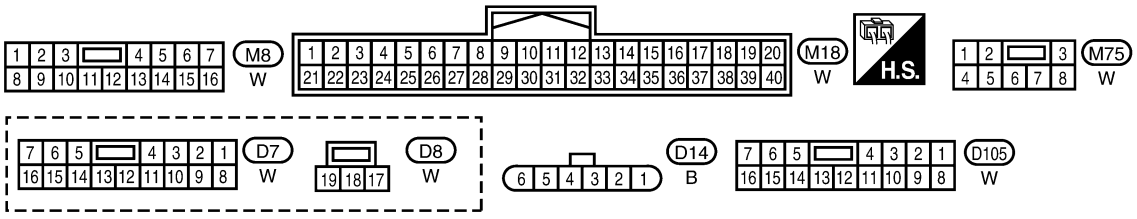


REFER TO THE FOLLOWING.
M36, M40 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0304E

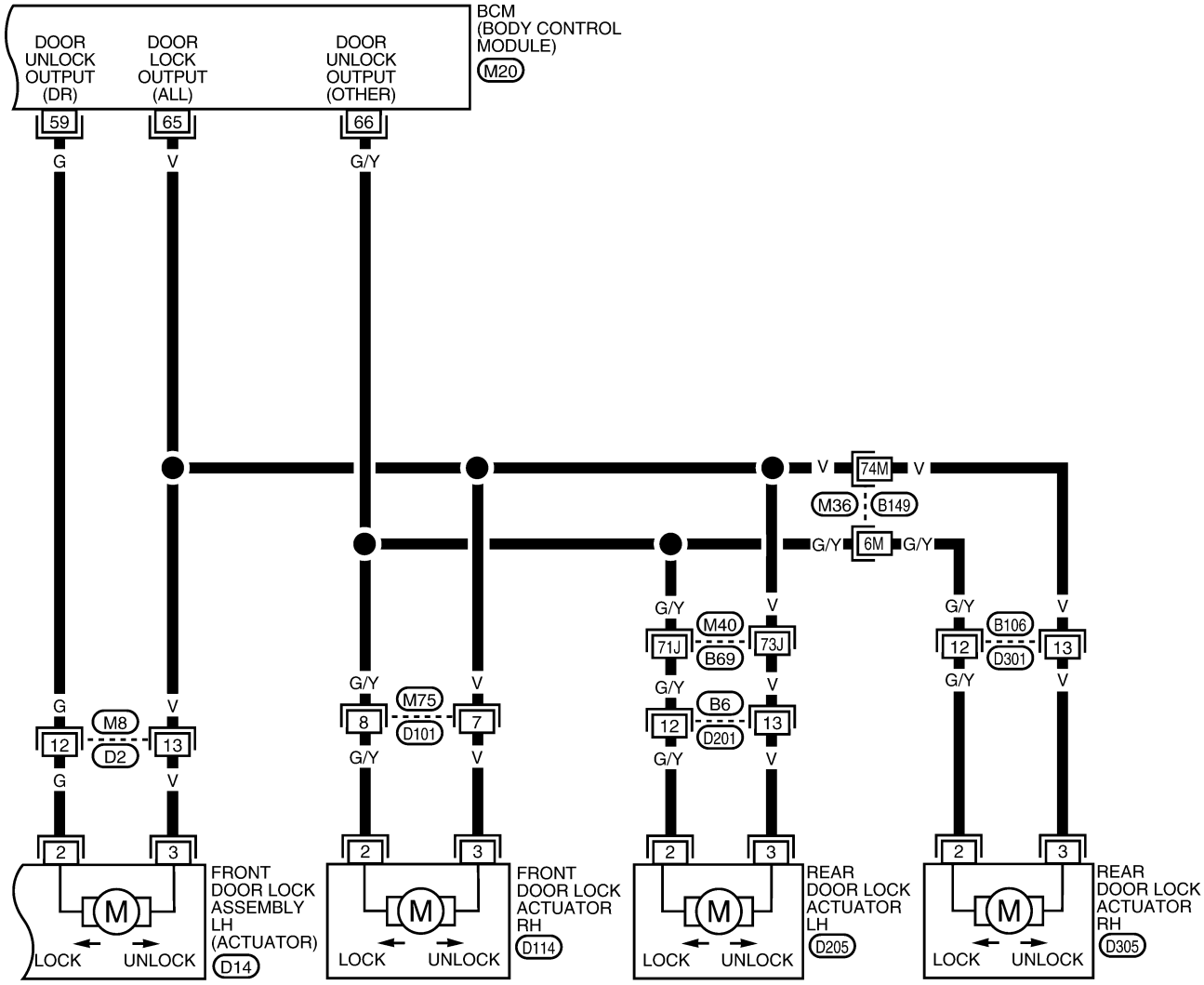
BL-D/LOCK-08

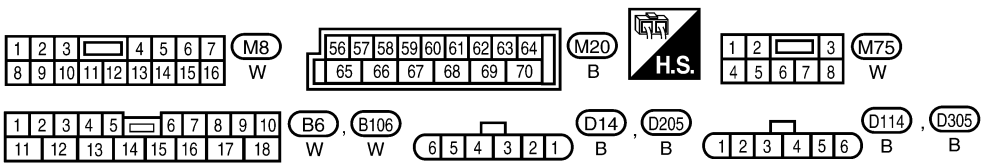




WIWA1342E

BL-D/LOCK-09



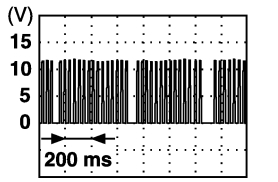


REFER TO THE FOLLOWING.
M36, M40 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1343E

Terminals and Reference Value for BCM

EIS00490

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
12	R/L	Front door switch RH (All) Rear door switch lower RH (King Cab) Rear door switch upper RH (King Cab)	Door open (ON) → Door close (OFF)	0 → Battery voltage
13	GR	Rear door switch RH (Crew Cab)	Door open (ON) → Door close (OFF)	0 → Battery voltage
22	G	Bus	When ignition switch is ON or power window timer operates	 PIIA2344E
37	B/R	Key switch (insert)	Key inserted in IGN key cylinder (ON) → Key removed from IGN key cylinder (OFF)	Battery voltage → 0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
47	SB	Front door switch LH (All) Rear door switch lower LH (King Cab) Rear door switch upper LH (King Cab)	Door open (ON) → Door close (OFF)	0 → Battery voltage
48	R/Y	Rear door switch LH (Crew Cab)	Door open (ON) → Door close (OFF)	0 → Battery voltage
57	Y/R	Battery power supply	—	Battery voltage
59	G	Front door lock assembly LH (unlock)	Driver door lock knob (locked → unlocked)	0 → Battery voltage
65	V	All door lock actuator (lock)	Driver door lock knob (neutral → lock)	0 → Battery voltage
66	G/Y	Front door lock actuator RH and rear door lock actuators LH/RH (unlock)	Door lock and unlock switch (locked → unlocked)	0 → Battery voltage
67	B	Ground	—	—
70	W/B	BAT power supply	—	Battery voltage

Work Flow

EIS00491

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-17, "System Description" .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to BL-35, "Trouble Diagnoses Symptom Chart" .
4. Does power door lock system operate normally? OK: GO TO 5, NG: GO TO 3.
5. Inspection End.

CONSULT–II Function (BCM)

EIS00492

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

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

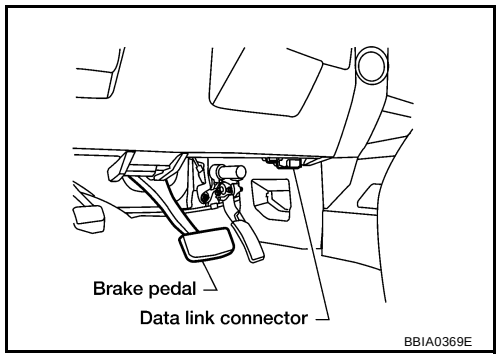
CONSULT–II INSPECTION PROCEDURE

"DOOR LOCK"

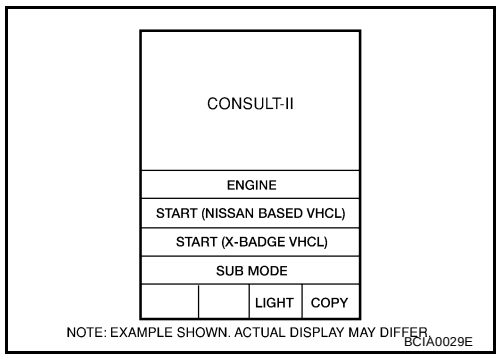
CAUTION:

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

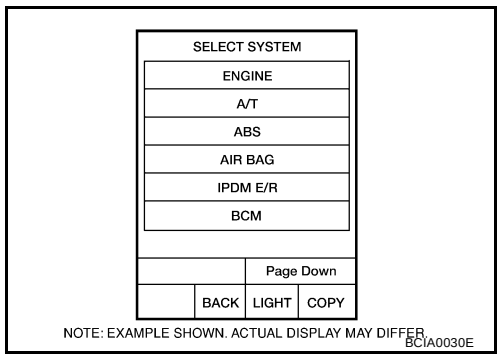
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



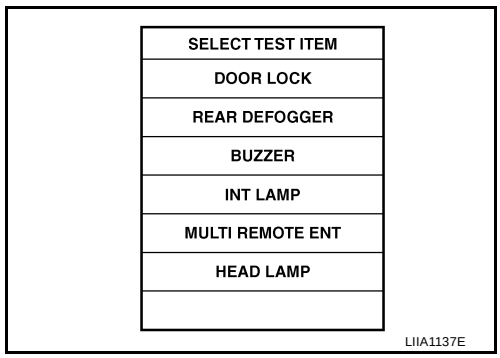
3. Turn ignition switch ON.
4. Touch “START (NISSAN BASED VHCL)”.



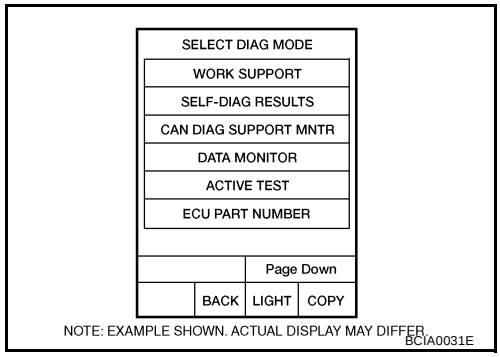
5. Touch “BCM”.
If “BCM” is not indicated, refer to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “DOOR LOCK”.



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



DATA MONITOR

Monitor item "OPERATION"		Content
KEY ON SW	"ON/OFF"	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	"ON/OFF"	Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
CDL UNLOCK SW	"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.
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 rear door switch RH.
DOOR SW–RL	"ON/OFF"	Indicates [ON/OFF] condition of rear door switch LH.

ACTIVE TEST

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

Trouble Diagnoses Symptom Chart

EIS00493

Symptom	Repair order	Refer to page
Key reminder door function does not operate properly.	1. Door switch check	BL-36
	2. Key switch (Insert) check	BL-40
	3. Replace BCM.	BCS-20
Power door lock does not operate with door lock and unlock switch on main power window and door lock/unlock switch or power window and door lock/unlock switch RH	1. Door lock/unlock switch check	BL-43
Front door lock assembly LH does not operate.	1. Door lock actuator check (Front LH)	BL-48
Specific door lock actuator does not operate.	1. Door lock actuator check (Front RH, Rear LH/RH)	BL-50
Power door lock does not operate with front door key cylinder LH operation.	1. Front door lock assembly LH (key cylinder switch) check	BL-52
	2. Replace BCM.	BCS-20
Power door lock does not operate.	1. BCM power supply and ground circuit check	BL-35
	2. Door lock/unlock switch check	BL-43

BCM Power Supply and Ground Circuit Check

EIS00494

1. CHECK FUSE

Check the following BCM fuses and fusible link.

Component Parts	Terminal No. (SIGNAL)	Ampere	No.	Location
BCM	57 (BAT power supply)	15A	22	Fuse block (J/B)
	70 (BAT power supply)	50A	f	Fuse and fusible link box

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

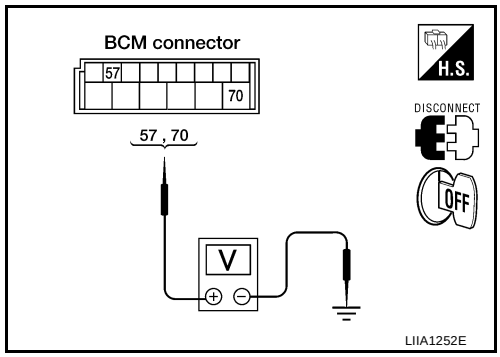
OK or NG

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

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check voltage between BCM connector M20 terminals 57, 70 and ground.

Connector	Terminals (+)	Terminals (–)	Signal name	Ignition switch	Voltage
M20	70	Ground	Battery power supply	OFF	Battery voltage
	57		Battery power supply	OFF	Battery voltage



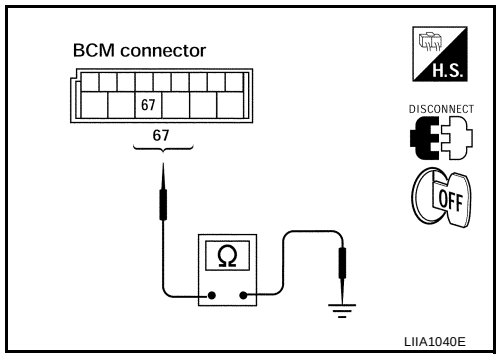
OK or NG

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

Connector	Terminals		Continuity
	(+)	(-)	
M20	67	Ground	Yes



OK or NG

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

Door Switch Check (King Cab)

EIS00495

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

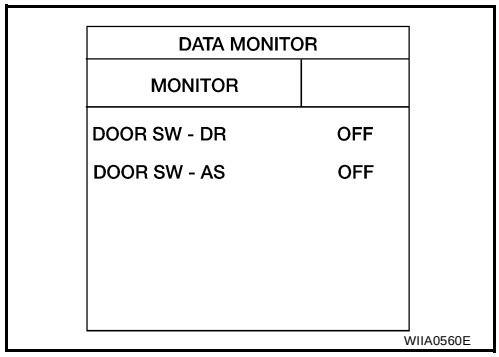
Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

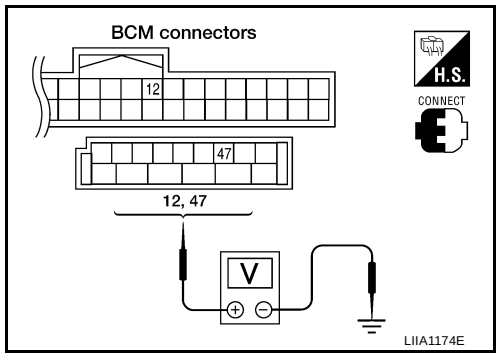
  DOOR SW-DR :OFF
  DOOR SW-AS :OFF



Without CONSULT-II

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

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(–)		
M19	Door switches LH	47	Ground	Open ↓ Closed	0 ↓ Battery voltage
M18	Door switches RH	12			



OK or NG

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

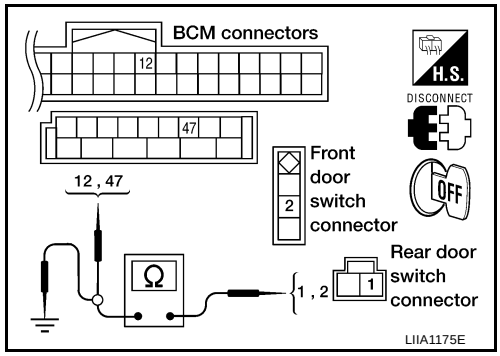
2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and BCM connector M18, M19 terminals 12, and 47.

2 - 47 :Continuity should exist
2 - 12 :Continuity should exist
1 - 47 :Continuity should exist
1 - 12 :Continuity should exist

4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and ground.

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



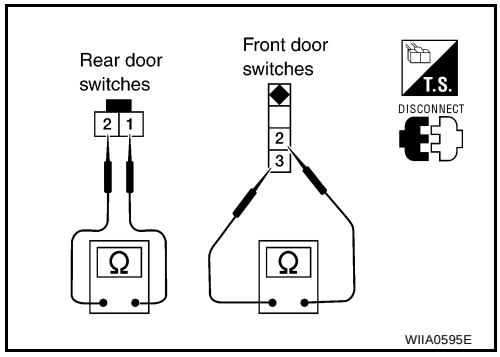
OK or NG

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

3. CHECK DOOR SWITCHES

Check continuity between door switch terminals.

Item	Terminals	Condition	Continuity
Door switches (front)	2 – 3	Open	No
		Closed	Yes
Door switches (rear upper and lower)	1 – 2	Open	No
		Closed	Yes



OK or NG

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

Door Switch Check (Crew Cab)

EIS00496

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

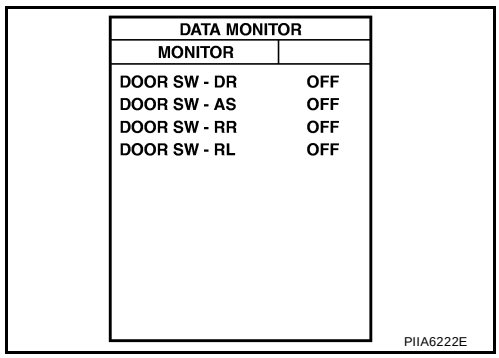
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

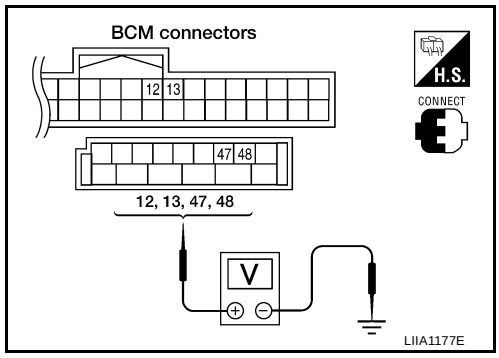
  DOOR SW-DR :OFF
  DOOR SW-AS :OFF
  DOOR SW-RL :OFF
  DOOR SW-RR :OFF



Without CONSULT-II

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

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



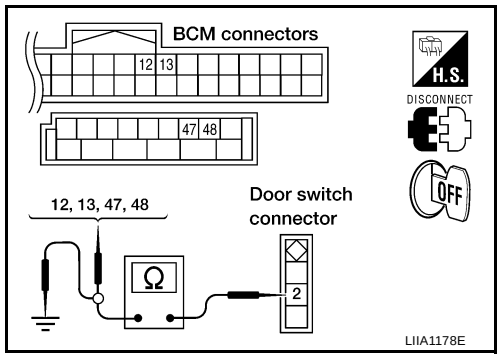
OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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



4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and ground.

2 - Ground :Continuity should not exist

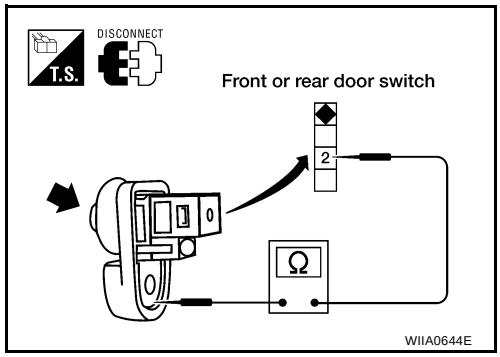
OK or NG

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

3. CHECK DOOR SWITCHES

Check continuity between door switch terminal 2 and exposed metal of switch while pressing and releasing switch.

	Terminals	Condition	Continuity
Door switch (front and rear)	2 – Ground	Released	Yes
		Pressed	No



OK or NG

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

Key Switch (Insert) Check (Column Shift)

EIS00497

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

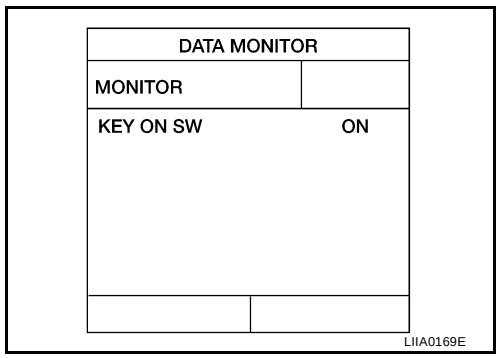
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When key is inserted to ignition key cylinder:

  KEY ON SW :ON

- When key is removed from ignition key cylinder:

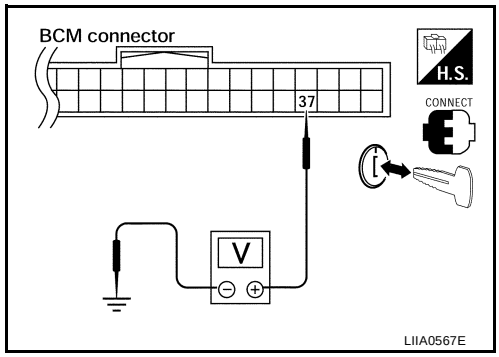
  KEY ON SW :OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

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



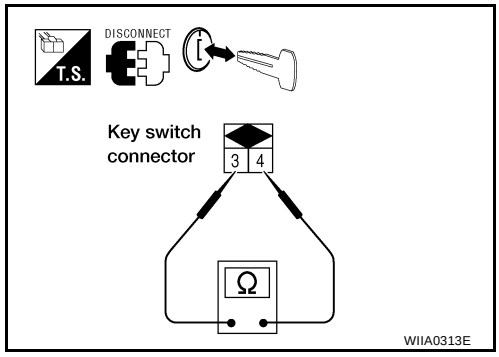
OK or NG

OK >> Key switch (insert) circuit is OK.
NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

1. Turn ignition switch OFF.
2. Disconnect key switch connector.
3. Check continuity between key switch terminals 3 and 4.

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



OK or NG

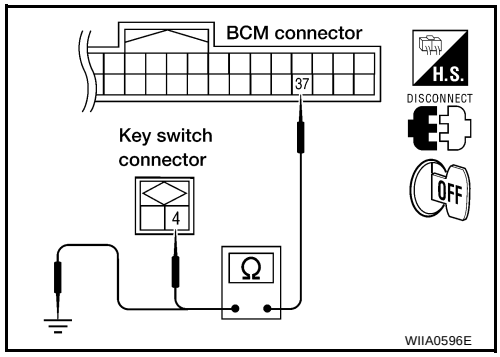
OK >> GO TO 3.
NG >> Replace key switch.

3. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between the BCM harness connector M18 terminal 37 and key switch harness connector M80 terminal 4.
3. Check continuity between BCM harness connector M18 terminal 37 (B/R) and ground.

37 - 4 : Continuity should exist

37 - Ground : Continuity should not exist



OK or NG

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

NG >> Repair or replace harness.

Key Switch (Insert) Check (Floor Shift)

EIS00498

1. CHECK KEY SWITCH AND KEY LOCK SOLENOID INPUT SIGNAL

With CONSULT-II

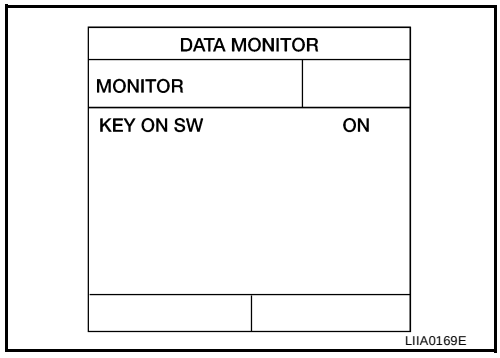
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When key is inserted to ignition key cylinder:

KEY ON SW :ON

- When key is removed from ignition key cylinder:

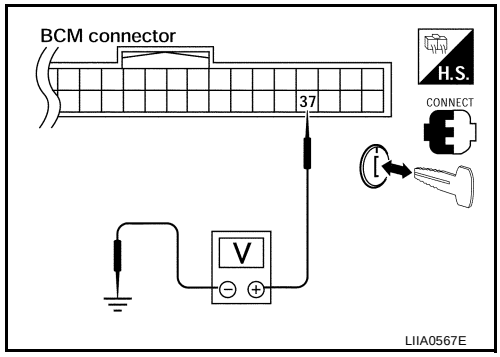
KEY ON SW :OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

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



OK or NG

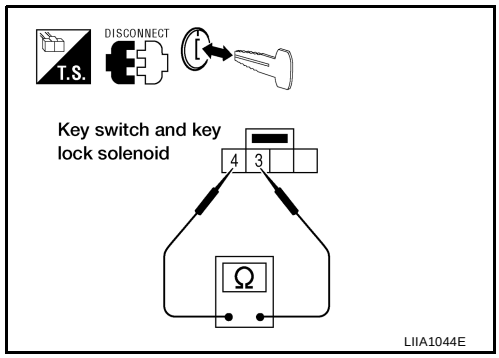
OK >> Key switch (insert) circuit is OK.

NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

1. Turn ignition switch OFF.
2. Disconnect key switch and key lock solenoid connector.
3. Check continuity between key switch and key lock solenoid terminals 3 and 4.

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



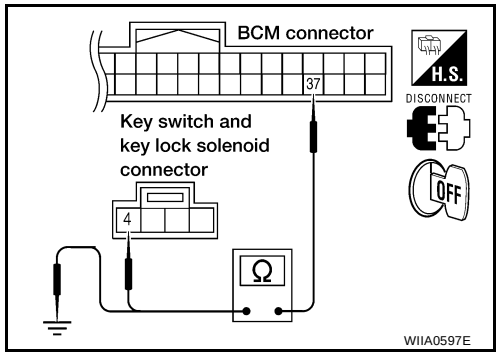
OK or NG

OK >> GO TO 3.
NG >> Replace key switch and key lock solenoid.

3. CHECK KEY SWITCH AND KEY LOCK SOLENOID CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between the BCM harness connector M18 terminal 37 and key switch and key lock solenoid harness connector M27 terminal 4.
3. Check continuity between BCM harness connector M18 terminal 37 (B/R) and ground.

37 - 4 : Continuity should exist
37 - Ground : Continuity should not exist



OK or NG

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

NG >> Repair or replace harness.

Door Lock/Unlock Switch Check (King Cab)

EIS00499

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

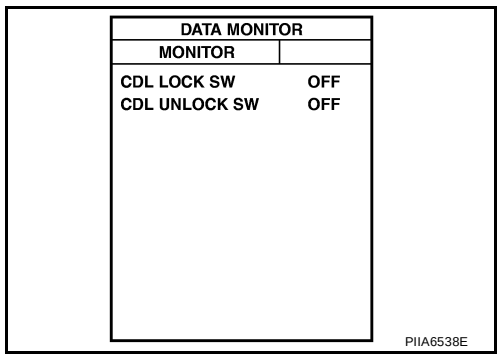
Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT–II. Refer to BL-33, "DATA MONITOR" .

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

  CDL LOCK SW :ON

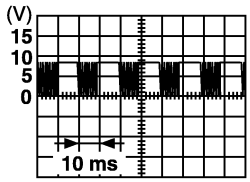
- When door lock/unlock switch is turned to UNLOCK:

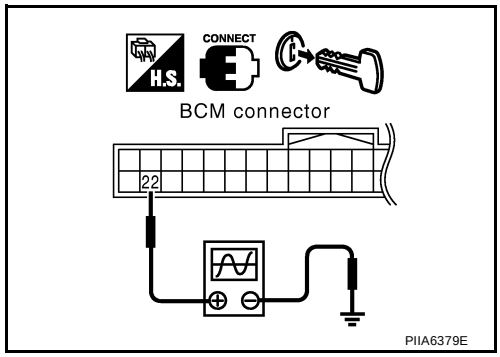
  CDL UNLOCK SW :ON



Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between BCM connector M18 terminal 22 and ground with oscilloscope when door lock/unlock switch is turned to LOCK or UNLOCK.
3. Make sure the signals which are shown in the figure below can be detected during 10 seconds just after the door lock/unlock switch is turned to LOCK or UNLOCK.

Connector	Terminals (+)	Terminals (–)	Signal (Reference value)
M18	22	Ground	



OK or NG

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

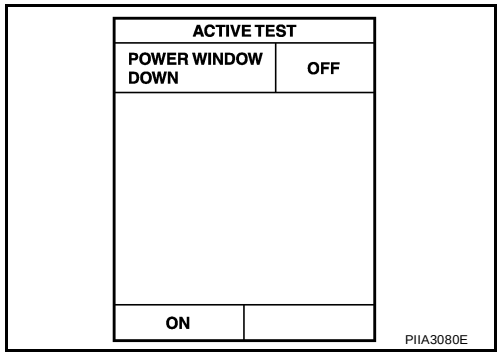
2. CHECK BCM OUTPUT SIGNAL

Check ("POWER WINDOW DOWN") in ACTIVE TEST mode for "MULTI REMOTE ENT" with CONSULT–II. Refer to BL-73, "Active Test" .

When "ACTIVE TEST" is performed, are the front windows lowered?

OK or NG

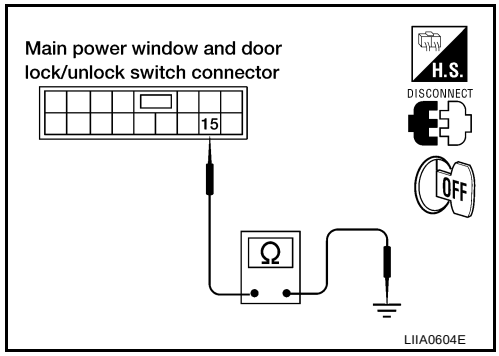
OK >> GO TO 3.
NG >> Replace BCM. Refer to BCS-20, "BCM" .



3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

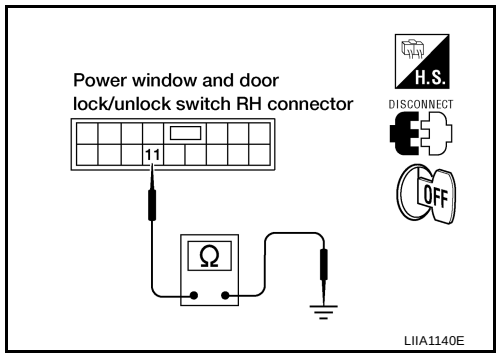
1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
3. Check continuity between main power window and door lock/unlock switch connector D7 terminal 15 and ground.

15 - Ground : Continuity should exist



4. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

11 - Ground : Continuity should exist



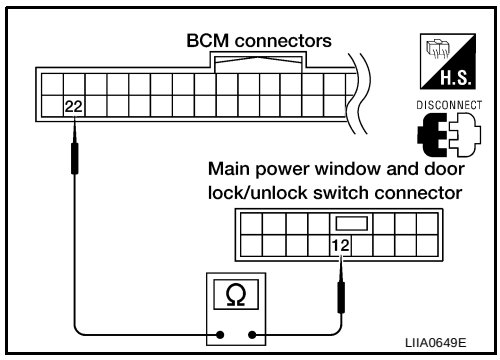
OK or NG

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

4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

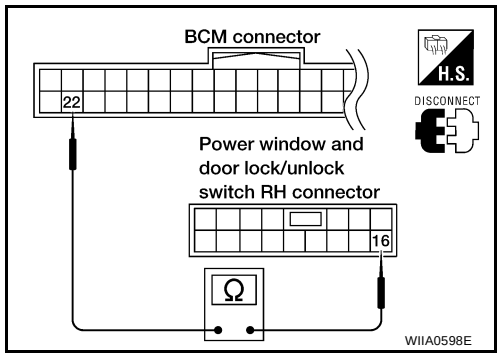
1. Disconnect BCM.
2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D7 terminal 12.

22 - 12 : Continuity should exist



3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

22 - 16 : Continuity should exist



OK or NG

OK >> Replace main power window and door lock/unlock switch or power window and door lock/unlock switch RH.

NG >> Repair or replace harness.

Door Lock/Unlock Switch Check (Crew Cab)

EIS0049A

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

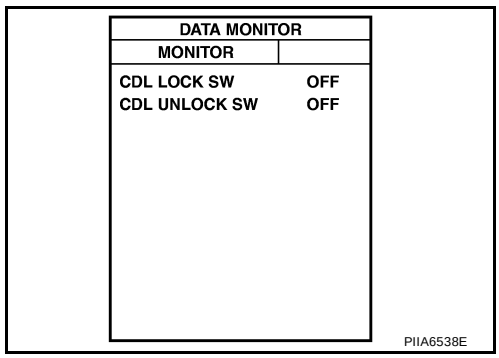
Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT–II. Refer to BL-33, "DATA MONITOR" .

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

  CDL LOCK SW :ON

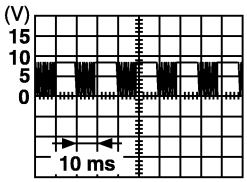
- When door lock/unlock switch is turned to UNLOCK:

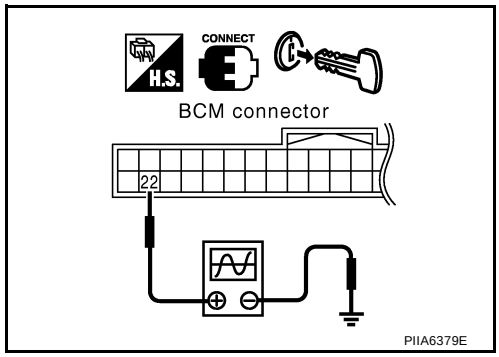
  CDL UNLOCK SW :ON



Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between BCM connector M18 terminal 22 and ground with oscilloscope when door lock/unlock switch is turned to LOCK or UNLOCK.
3. Make sure the signals which are shown in the figure below can be detected during 10 seconds just after the door lock/unlock switch is turned to LOCK or UNLOCK.

Connector	Terminals (+)	Terminals (–)	Signal (Reference value)
M18	22	Ground	



OK or NG

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

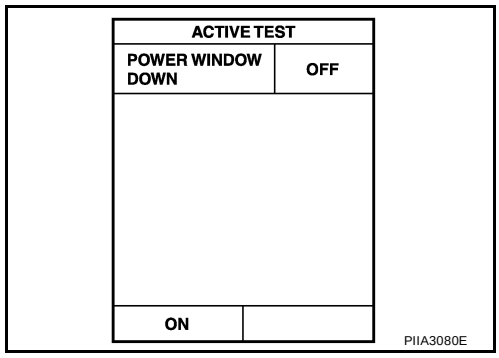
2. CHECK BCM OUTPUT SIGNAL

Check ("POWER WINDOW DOWN") in ACTIVE TEST mode for "MULTI REMOTE ENT" with CONSULT–II. Refer to BL-73, "Active Test" .

When "ACTIVE TEST" is performed, are the front windows lowered?

OK or NG

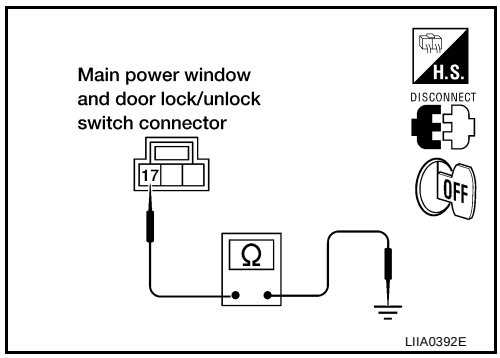
OK >> GO TO 3.
NG >> Replace BCM. Refer to BCS-20, "BCM" .



3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

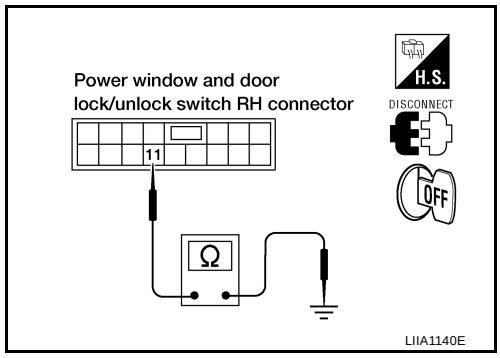
1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
3. Check continuity between main power window and door lock/unlock switch connector D8 terminal 17 and ground.

17 - Ground : Continuity should exist



4. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

11 - Ground : Continuity should exist



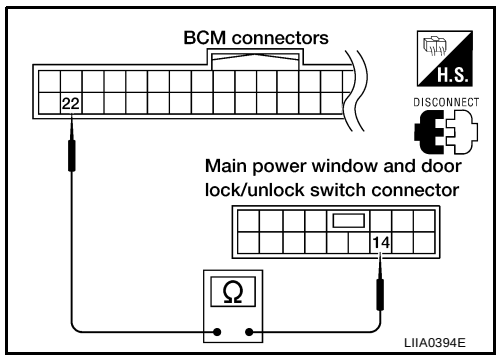
OK or NG

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

4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

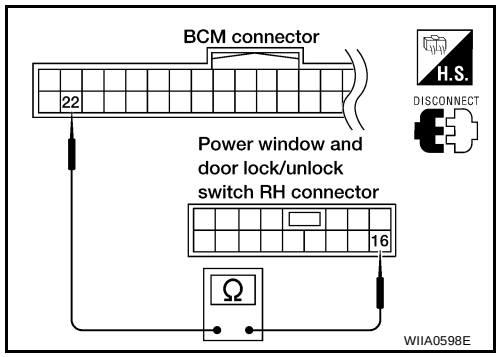
1. Disconnect BCM.
2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D7 terminal 14.

22 - 14 : Continuity should exist



3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

22 - 16 : Continuity should exist



OK or NG

OK >> Replace main power window and door lock/unlock switch or power window and door lock/unlock switch RH.

NG >> Repair or replace harness.

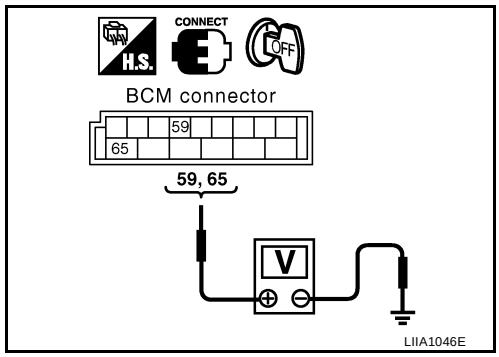
Door Lock Actuator Check (Front LH)

EIS0049B

1. CHECK DOOR LOCK ACTUATOR SIGNAL

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

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



OK or NG

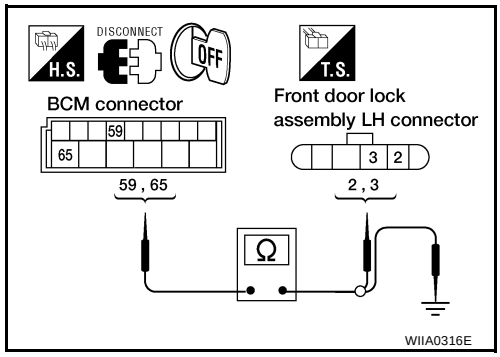
OK >> GO TO 2.

NG >> Replace BCM. Refer to BCS-20, "BCM" .

2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and front door lock assembly LH.
2. Check continuity between BCM connector M20 terminals 59, 65 and front door lock assembly LH connector D14 terminals 2, 3.

Connector	Terminals	Connector	Terminals	Continuity
M20	59	D14	2	Yes
	65		3	Yes



3. Check continuity between BCM connector M20 terminals 59, 65 and ground.

Connector	Terminals		Continuity
M20	59	Ground	No
	65		No

OK or NG

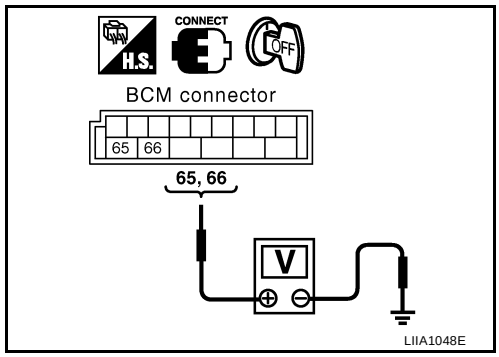
OK >> Replace front door lock assembly LH. Refer to BL-130, "Removal and Installation" .
NG >> Repair or replace harness.

Door Lock Actuator Check (Front RH)

EIS0049C

1. CHECK DOOR LOCK ACTUATOR SIGNAL

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



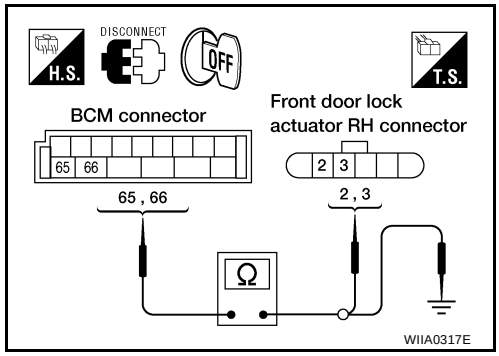
Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	66		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage

OK or NG

OK >> GO TO 2.
NG >> Replace BCM. Refer to BCS-20, "BCM" .

2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and door lock actuator RH.
2. Check continuity between BCM connector M20 terminals 65, 66 and front door lock actuator RH terminals 2, 3.



Terminals		Continuity
65	3	Yes
66	2	Yes

3. Check continuity between BCM connector M20 terminals 65, 66 and ground.

Terminals		Continuity
65	Ground	No
66		No

OK or NG

OK >> Replace front door lock actuator RH. Refer to BL-130, "Removal and Installation" .
NG >> Repair or replace harness.

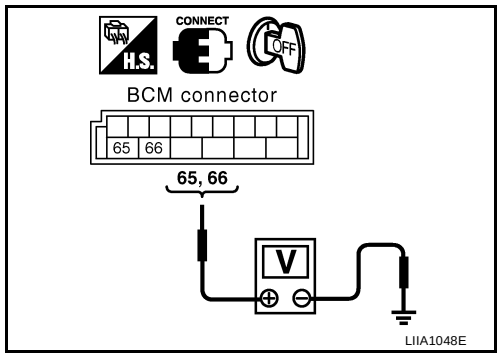
Door Lock Actuator Check (Rear RH/LH)

EIS0049D

1. CHECK DOOR LOCK ACTUATOR SIGNAL

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

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



OK or NG

OK >> GO TO 2.
NG >> Replace BCM. Refer to BCS-20, "BCM" .

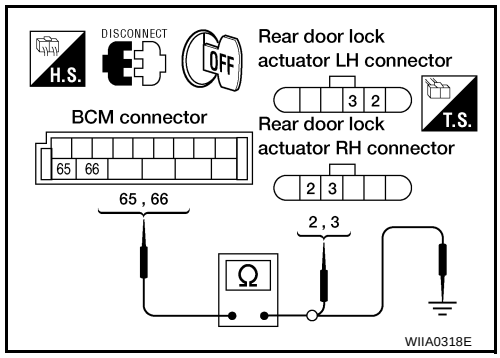
2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and inoperative door lock actuator.
2. Check continuity between BCM connector M20 terminals 65, 66 and rear door lock actuator connector terminals 2, 3.

Terminals		Continuity
65	3	Yes
66	2	Yes

3. Check continuity between BCM connector M20 terminals 65, 66 and ground.

Terminals		Continuity
65	Ground	No
66		No



OK or NG

OK >> Replace door lock actuator. Refer to BL-134, "Removal and Installation" .
NG >> Repair or replace harness.

Front Door Lock Assembly LH (Key Cylinder Switch) Check (King Cab)

EIS0049E

1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-II

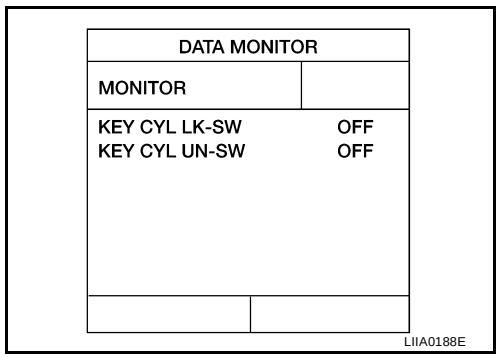
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- 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:

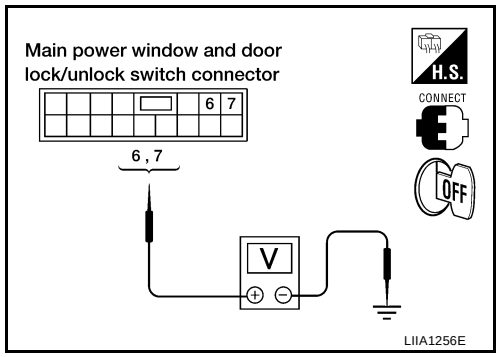
  KEY CYL UN-SW : ON



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 6, 7 and ground.

Connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
D7	6	Ground	Neutral/Unlock	5
			Lock	0
	7		Neutral/Lock	5
			Unlock	0



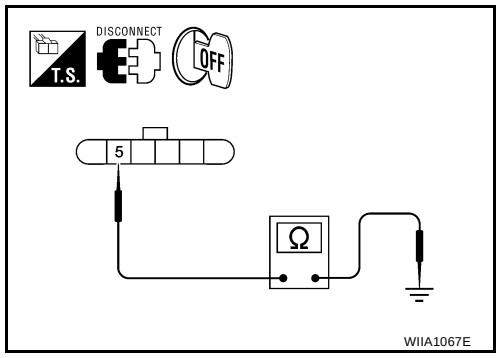
OK or NG

OK >> Front door lock assembly LH (key cylinder switch) signal is OK.
NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes

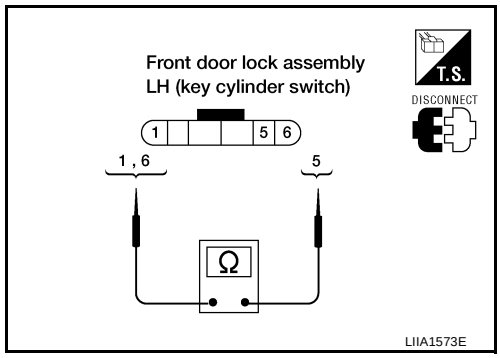


OK or NG

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door lock assembly LH (key cylinder switch) terminals.



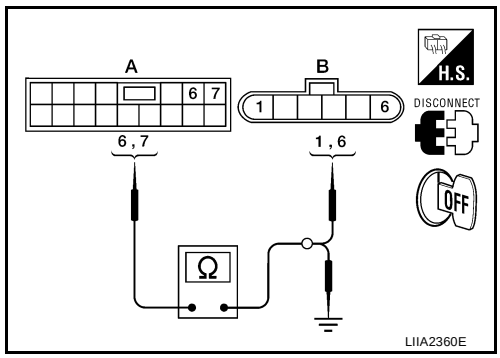
Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes

OK or NG

OK >> GO TO 4.
NG >> Replace front door lock assembly LH (key cylinder switch). Refer to BL-130, "Removal and Installation" .

4. CHECK DOOR KEY CYLINDER HARNESS

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 6, 7 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.



Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	6	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	7		6	Yes
	6, 7	Ground		No

OK or NG

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

Front Door Lock Assembly LH (Key Cylinder Switch) Check (Crew Cab)

EIS0049F

1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-II

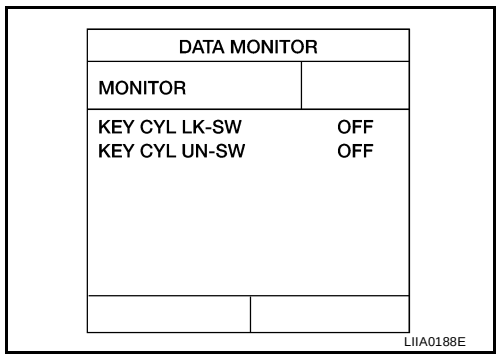
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- 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:

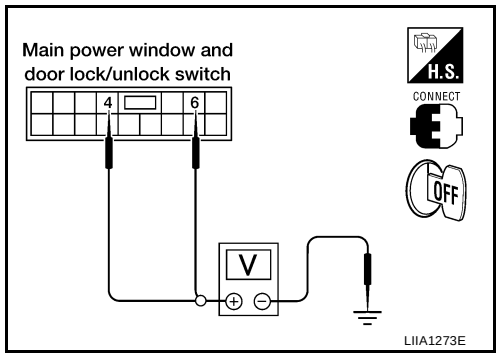
  KEY CYL UN-SW : ON



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 4, 6 and ground.

Connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
D7	4	Ground	Neutral/Unlock	5
			Lock	0
	6		Neutral/Lock	5
			Unlock	0



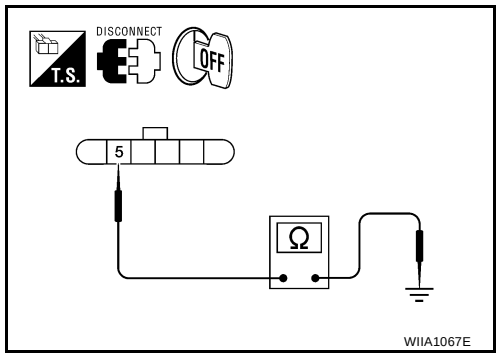
OK or NG

OK >> Front door lock assembly LH (key cylinder switch) signal is OK.
NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes

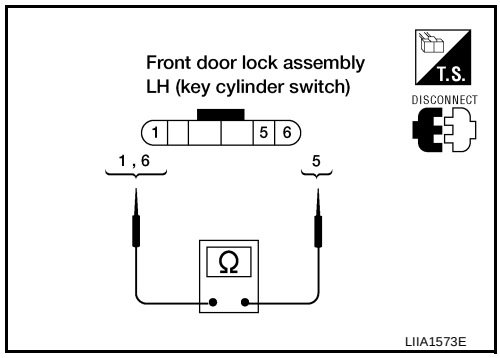


OK or NG

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door lock assembly LH (key cylinder switch) terminals.



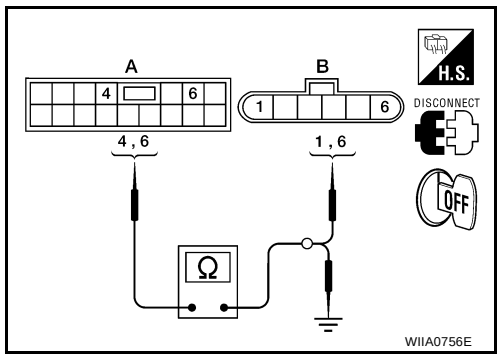
Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes

OK or NG

OK >> GO TO 4.
NG >> Replace front door lock assembly LH (key cylinder switch). Refer to BL-130, "Removal and Installation" .

4. CHECK DOOR KEY CYLINDER HARNESS

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.



Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	4	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	6		6	Yes
	4, 6	Ground		No

OK or NG

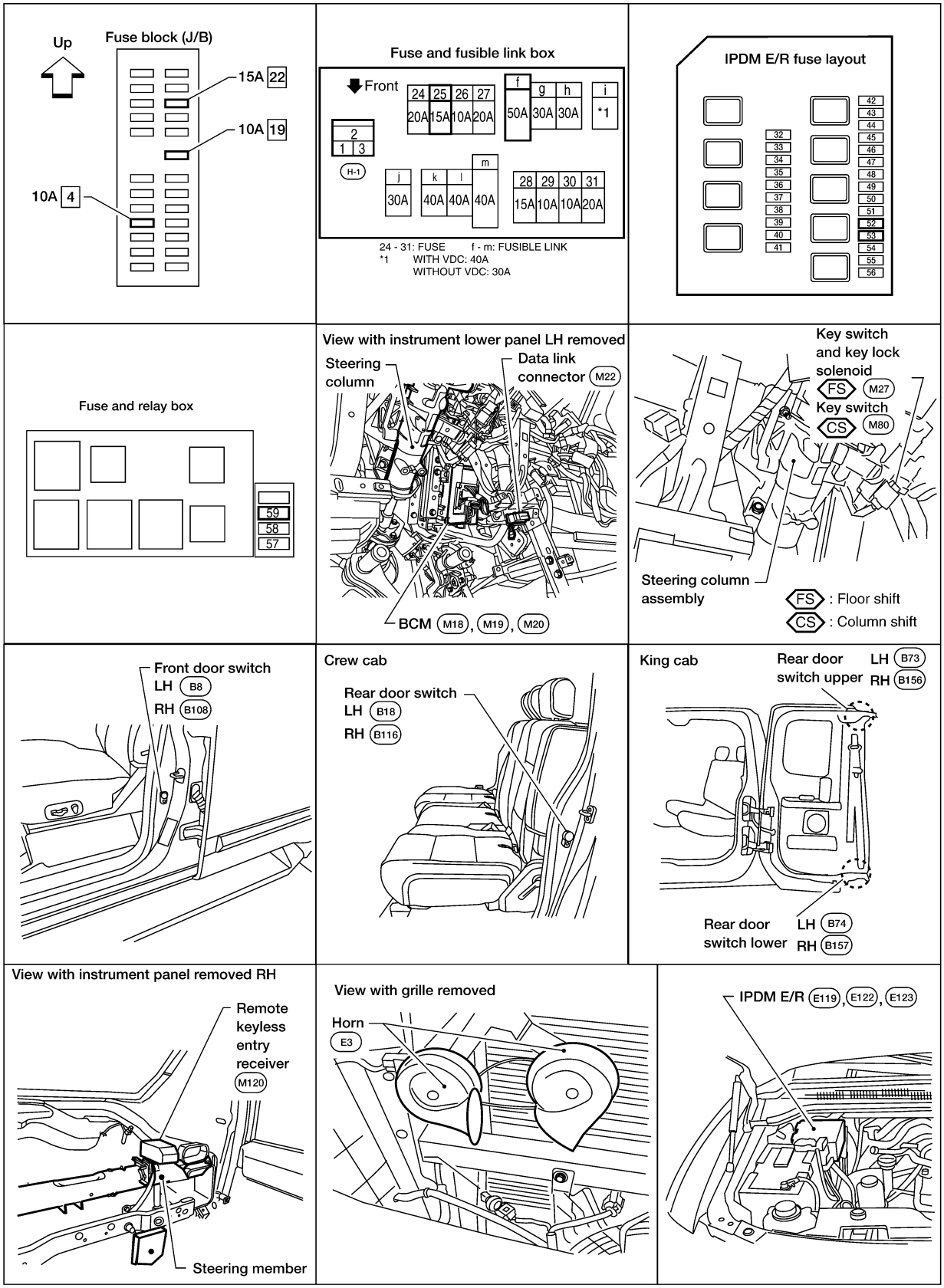
OK >> Replace main power window and door lock/unlock switch.
NG >> Repair or replace harness.

REMOTE KEYLESS ENTRY SYSTEM

PFP:28596

Component Parts and Harness Connector Location

EIS0049G



WIIA0580E

System Description

EIS0049H

INPUTS

Power is supplied at all times

- to BCM terminal 70
- through 50A fusible link (letter **f** , located in the fuse and fusible link box).
- to BCM terminal 57
- through 15A fuse [No. 22, located in the fuse block (J/B)].

When the key switch and key lock solenoid (floor shift) or key switch (column shift) is ON (inserted), power is supplied

- to BCM terminal 37
- through key switch and key lock solenoid (floor shift) or key switch (column shift) terminals 3 and 4
- through 10A fuse [No. 19, located in the fuse block (J/B)].

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

- to BCM terminal 11
- through 10A fuse [No. 4, located in the fuse block (J/B)].

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

- to BCM terminal 38
- through 10A fuse (No. 59, located in the fuse and relay box).

KING CAB

BCM is connected to main power window and door lock/unlock switch and power window and door lock/unlock switch RH through a serial link.
When the front door switch LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through front door switch LH terminals 2 and 3
- through grounds B7 and B19.

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

- to BCM terminal 47
- through rear door switch upper LH terminals 1 and 2
- through grounds B7 and B19.

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

- to BCM terminal 47
- through rear door switch lower LH terminals 1 and 2
- through grounds B7 and B19.

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

- to BCM terminal 12
- through front door switch RH terminals 2 and 3
- through grounds B117 and B132.

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

- to BCM terminal 12
- through rear door switch upper RH terminals 1 and 2
- through grounds B117 and B132.

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

- to BCM terminal 12
- through rear door switch lower RH terminals 1 and 2
- through grounds B117 and B132.

CREW CAB

BCM is connected to main power window and door lock/unlock switch and power window and door lock/unlock switch RH through a serial link.
When the front door switch LH is ON (door is open), ground is supplied

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

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

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

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

- to BCM terminal 48
- through rear door switch LH terminal 2
- through rear door switch LH case ground.

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

- to BCM terminal 13
- through rear door switch RH terminal 2
- through rear door switch RH case ground.

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

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

OPERATED PROCEDURE

- When the keyfob is operated, the signal from the keyfob is sent and the remote keyless entry receiver receives the signal and sends it to the BCM. The BCM only locks/unlocks the doors if the ID number matches. (Remote control entry functions)
- Using the keyfob, the transmitter sends radio waves to the remote keyless entry receiver, which then sends the received waves to the BCM. Only if the ID number matches does the BCM lock/unlock the doors. (Remote control door function)
- Unless the key is inserted into the ignition key cylinder or one of the doors is opened within 1 minute after the UNLOCK switch on the keyfob is pressed, all the doors are automatically locked. (Auto lock function)
- When a door is locked or unlocked, the vehicle turn signal lamps flash and the horn sounds to verify operation. (Active check function)
- When the key is in the ignition key cylinder [when the key switch and key lock solenoid (floor shift) or key switch (column shift) is ON (inserted)] and one of the doors is open, the door lock function does not work even when the door lock is operated with the keyfob.
- Keyfob ID set up is available.
- If a keyfob is lost, a new keyfob can be set up. A maximum of 5 IDs can be set up simultaneously.

Remote Control Entry Functions

Operation Description

- When a button on the keyfob is operated, the signal is sent from the keyfob and received by the remote keyless entry receiver.
- The received signal is sent to the BCM and compared with the registered ID number.
- If the ID number matches, the BCM sends the lock/unlock signal to each door lock actuator.
- When the door lock actuators receive this signal, each operates to lock/unlock its door.
- BCM locks all doors with input of LOCK signal from keyfob.
- When an UNLOCK signal is sent from keyfob once, driver's door will be unlocked.
- Then, if an UNLOCK signal is sent from keyfob again within 5 seconds, all other doors will be unlocked.

Remote control entry operation conditions

Keyfob operation	Operation condition
Door lock operation (locking)	● With key removed (key switch: OFF) ● Closing all doors (door switch: OFF)
Door lock operation (unlocking)	With key removed (key switch: OFF)

Auto Lock Function

Operation Description

- Unless the key is inserted into the ignition key cylinder, one of the doors is opened, or the keyfob is operated within 1 minute after a door lock is unlocked by keyfob operation, all the doors are automatically locked.
  The 1 minute timer count is executed by the BCM and after 1 minute, the BCM sends the lock signal to all doors.
  Lock operations are the same as for the remote control entry function.

Active Check Function

Operation Description

When a door is locked or unlocked by keyfob operation, the vehicle turn signals flash and the horn sounds to verify operation.

- When a button on the keyfob is operated, the signal is sent from the remote controller and received by the keyless remote entry receiver.
- The received signal is sent to the BCM and compared with the registered ID number.
- If the ID number matches, the BCM uses communication to send the turn signal flashing and horn signal to the IPDM E/R.
- The IPDM E/R flashes the turn signal lamps and sounds the horn for each keyfob operation.

Operating function of hazard and horn reminder

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

Hazard and Horn Reminder

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

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

Refer to Owner's Manual for instructions.

Interior Lamp Operation

When the following input signals are both supplied:

- all door switches are in the OFF position (when all the doors are closed) and
- interior lamp switch is in DOOR position.

Remote keyless entry system turns on interior lamp and (for 30 seconds) with input of UNLOCK signal from keyfob.
For detailed description, refer to LT-134, "ROOM LAMP TIMER OPERATION" .

Panic Alarm Operation

When key switch is OFF (when ignition key is removed from the key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from keyfob.
The alarm automatically turns off after 25 seconds or when BCM receives any signal from keyfob.

Keyless Power Window Down (open) Operation

When keyfob unlock switch is turned ON with ignition switch OFF, and the switch is detected to be ON continuously for more than 1 second, the driver's door and passenger's door power windows are simultaneously opened.
Power window is operated to open and the operation continues as long as the keyfob unlock switch is pressed.

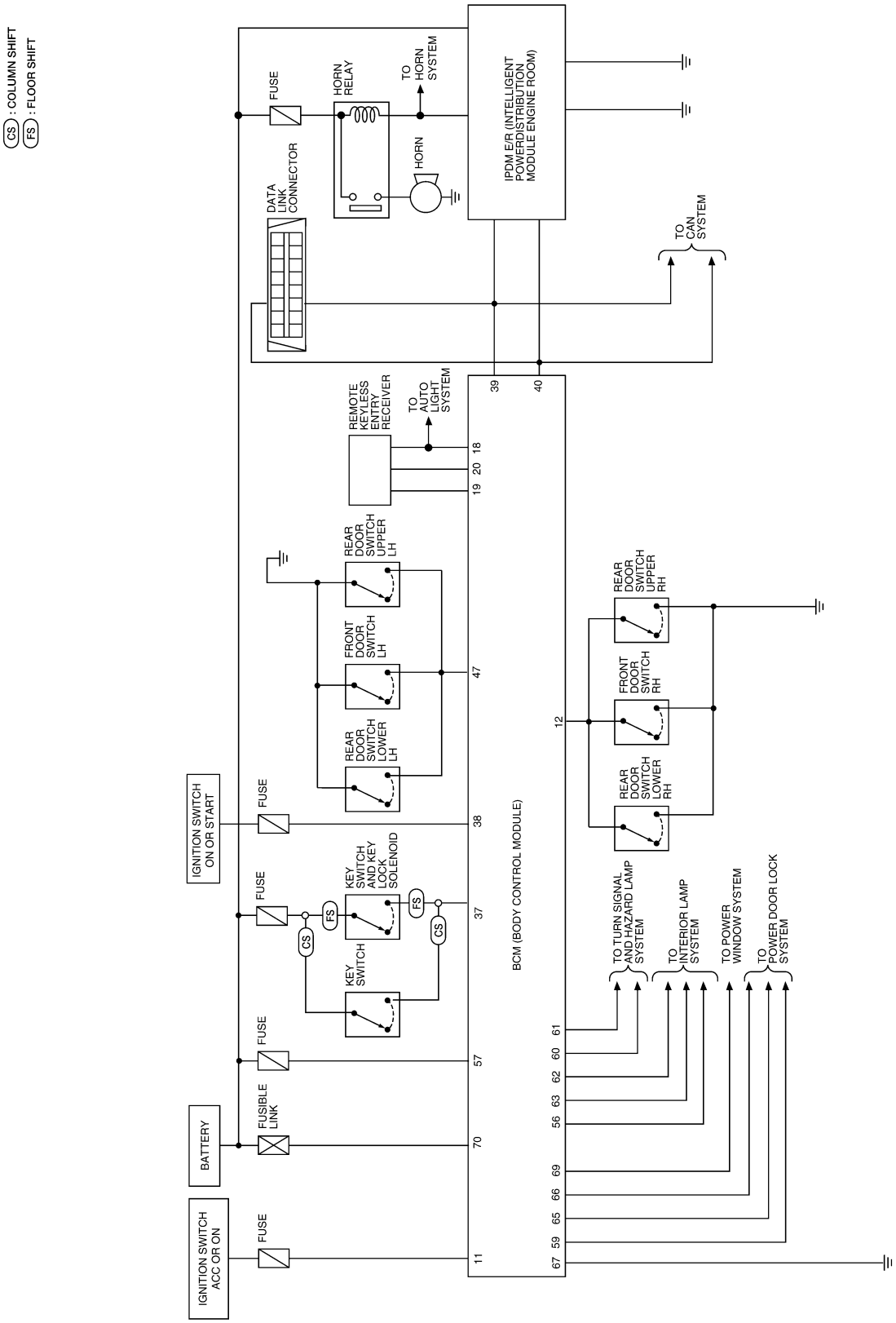
CAN Communication System Description

EIS0049I

Refer to LAN-25, "CAN COMMUNICATION" .

Schematic (King Cab)

EIS0049J

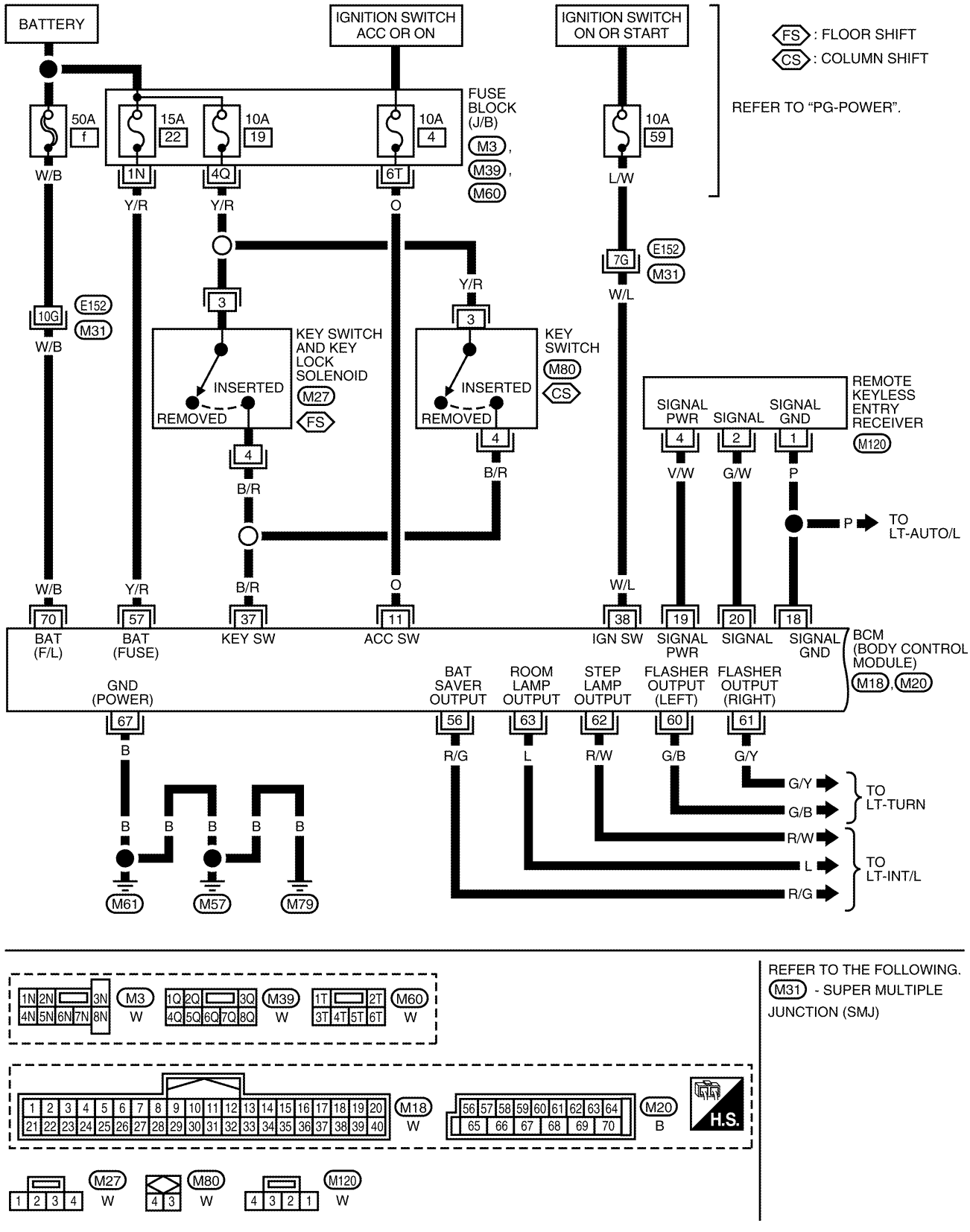


WIWA1344E

Wiring Diagram — KEYLES — (King Cab)

EIS0049K

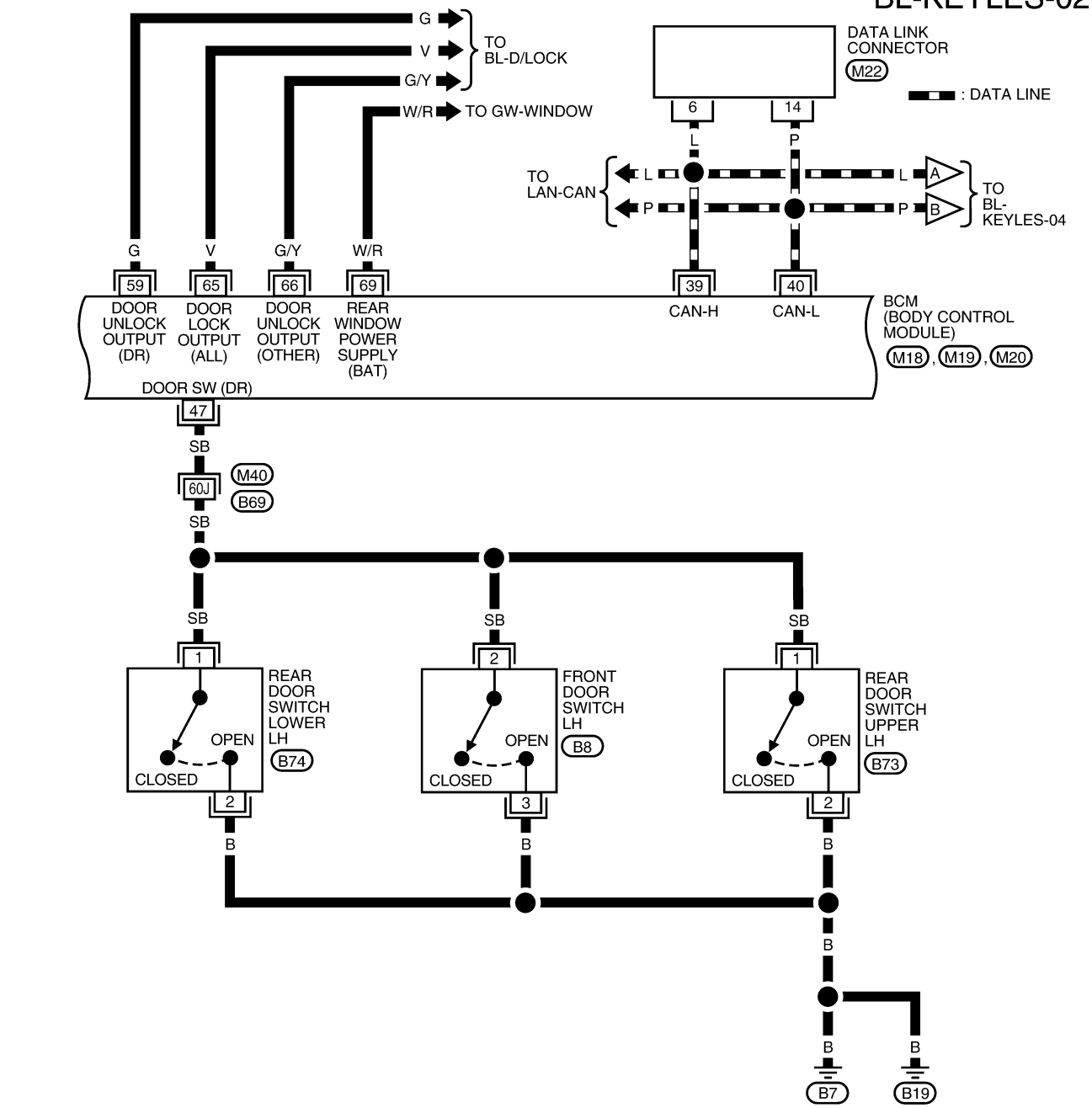
BL-KEYLES-01

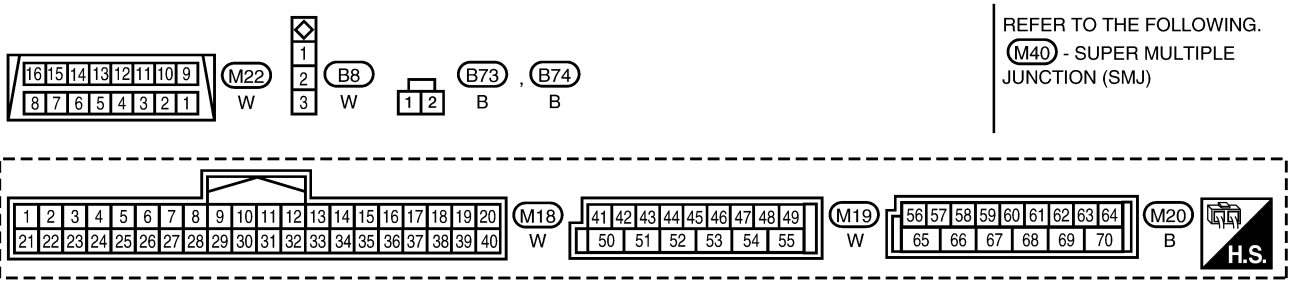


REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1345E

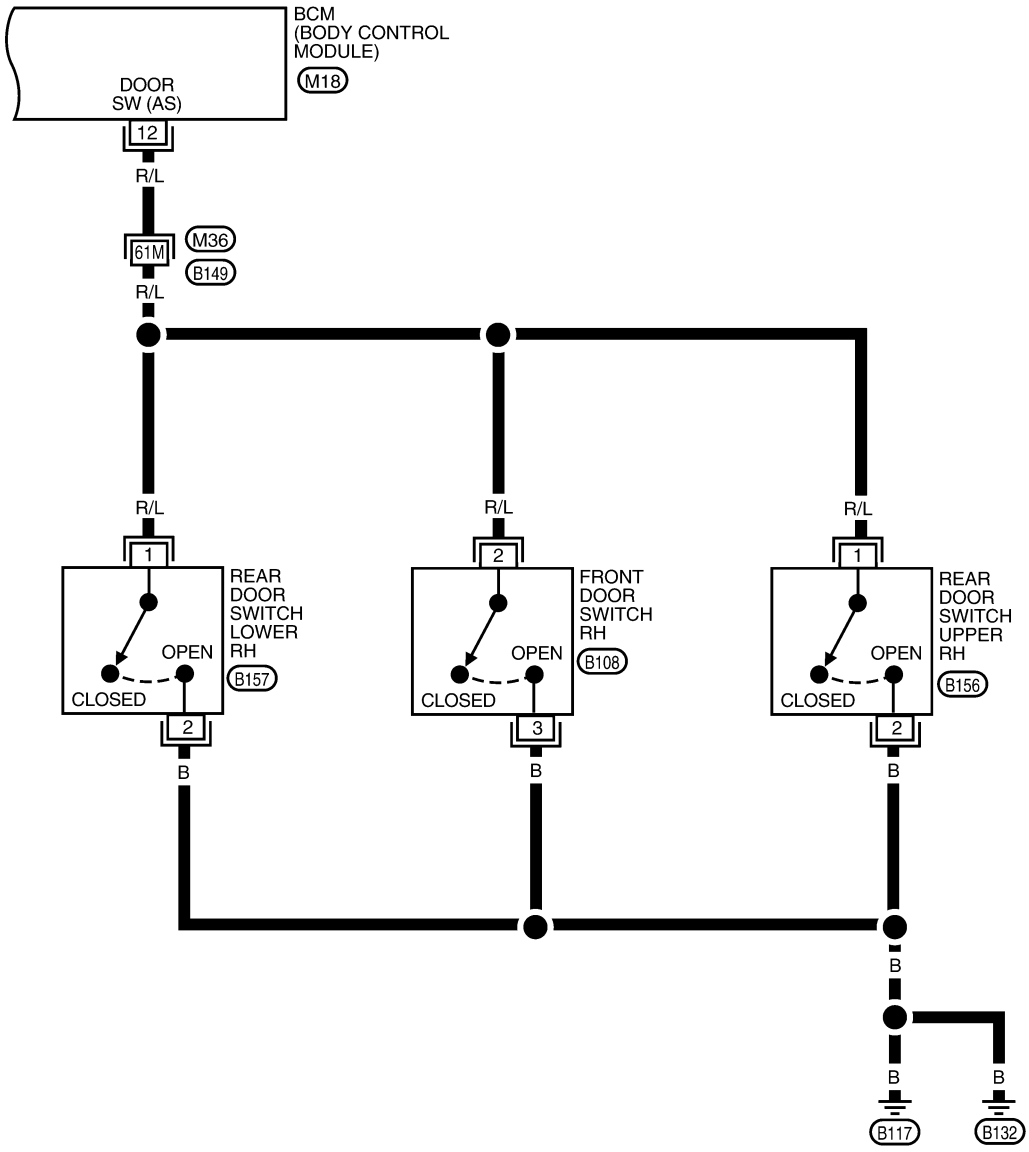
BL-KEYLES-02

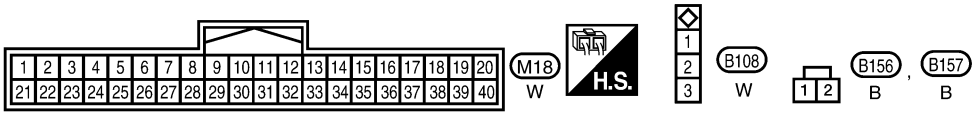




WIWA1346E

BL-KEYLES-03

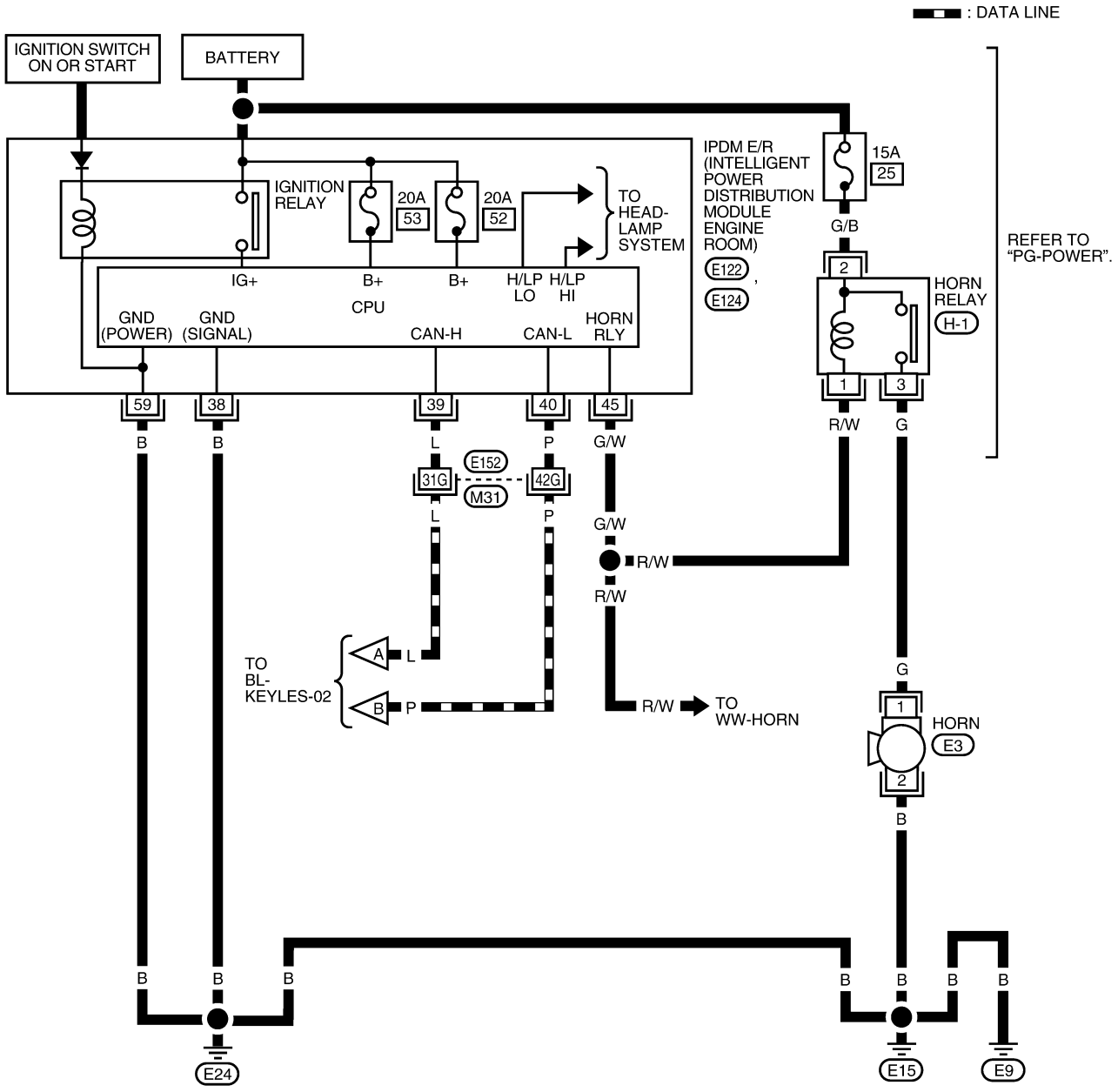


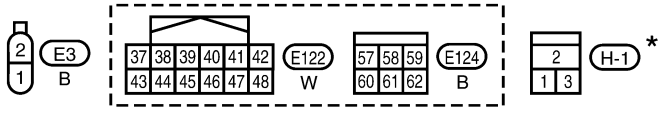


REFER TO THE FOLLOWING.
M36 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA2218E

BL-KEYLES-04





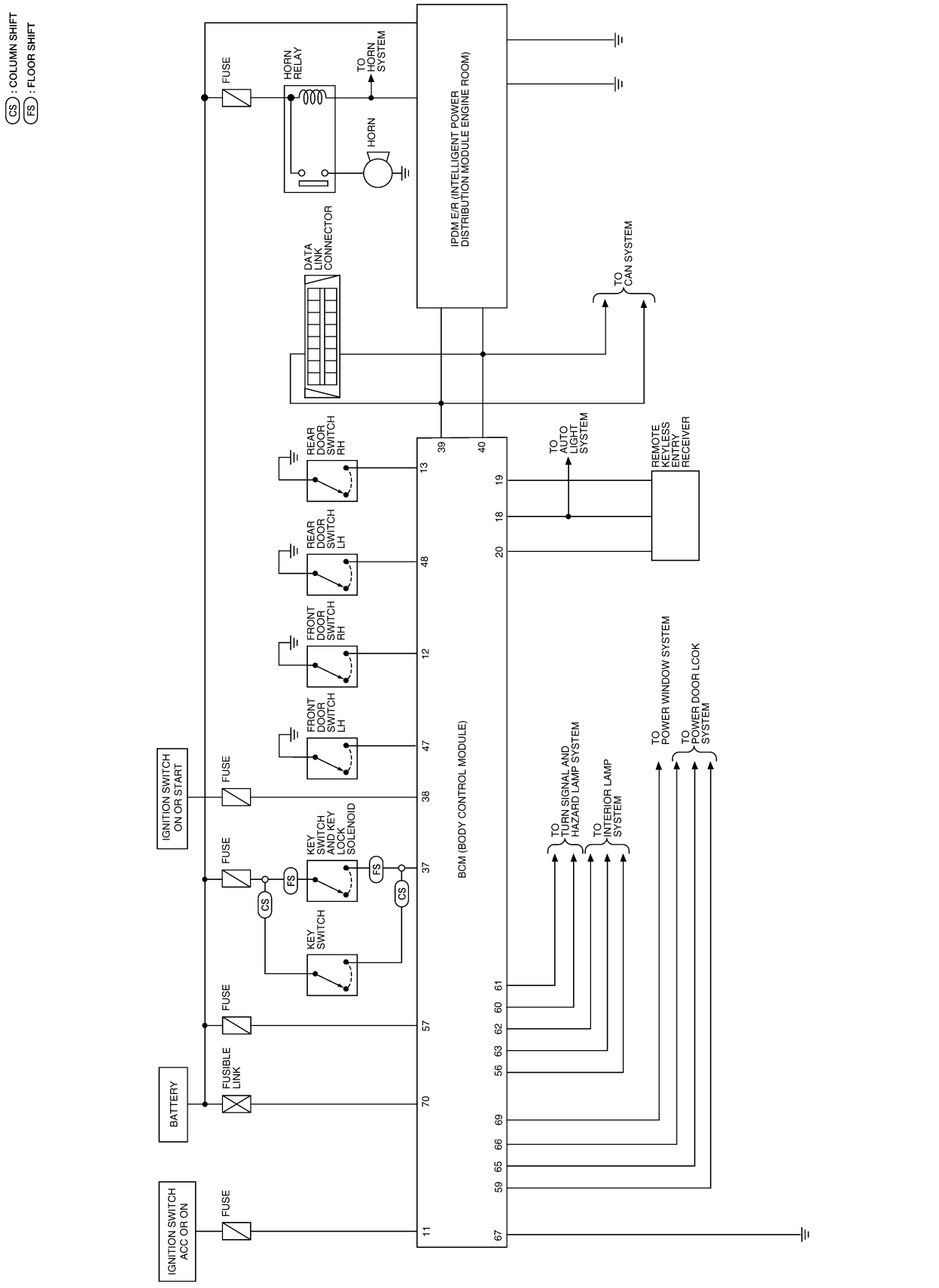
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

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

WIWA1348E

Schematic (Crew Cab)

EIS0049L

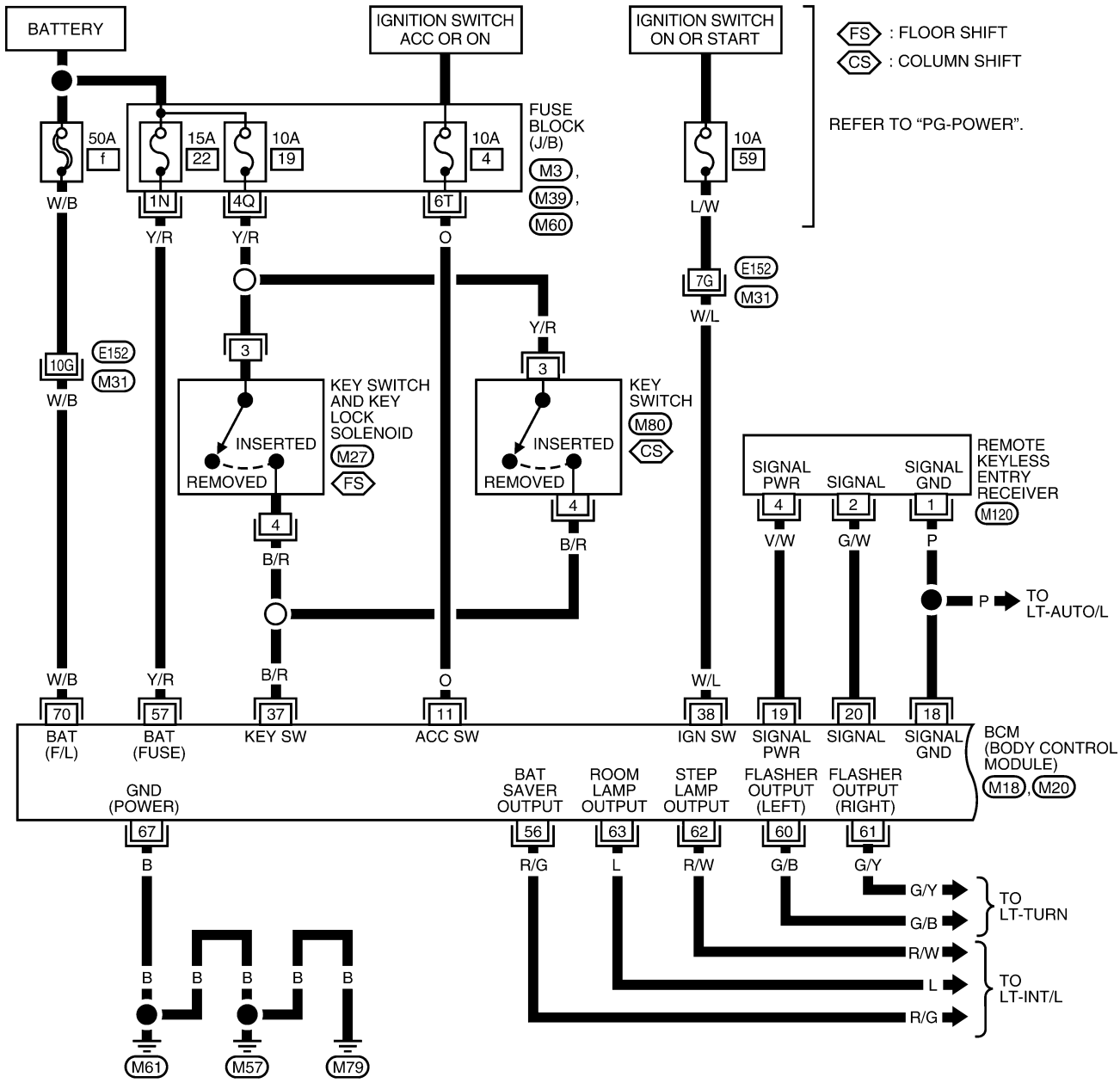


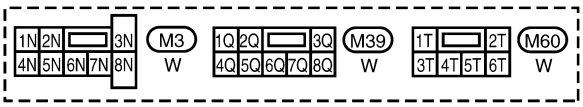
WIWA1349E

Wiring Diagram — KEYLES — (Crew Cab)

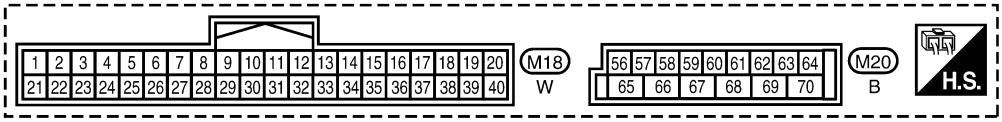
EIS0049M

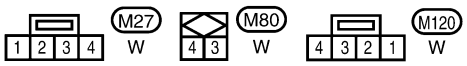
BL-KEYLES-05





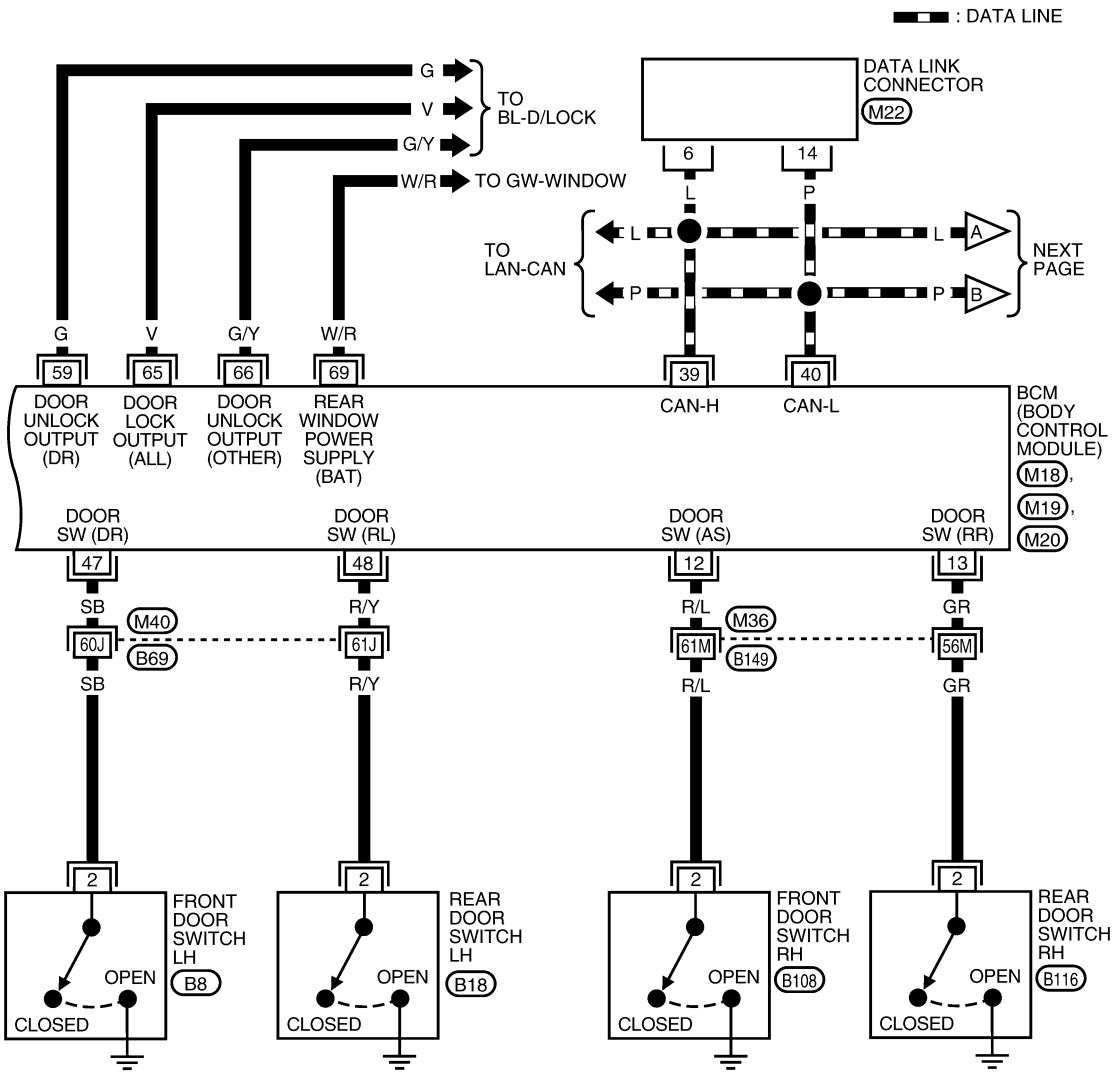
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

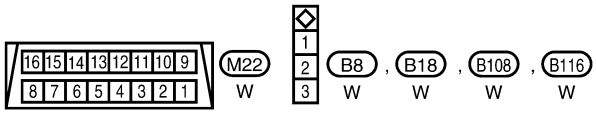




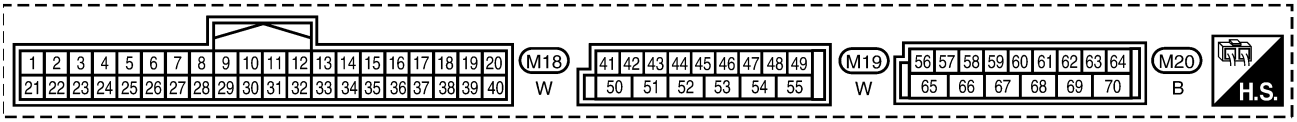
WIWA1350E

BL-KEYLES-06



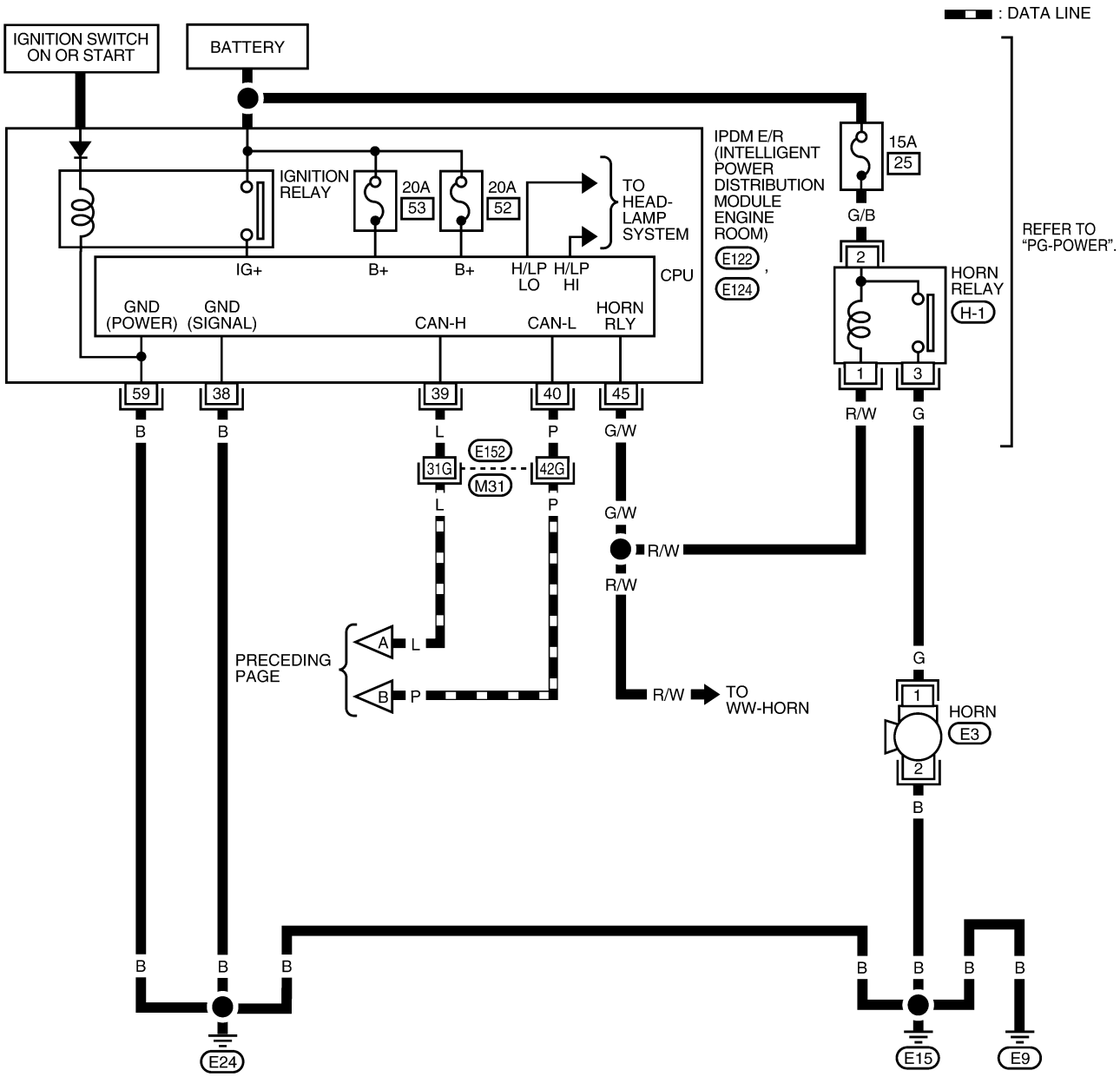


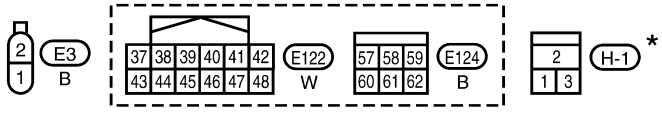
REFER TO THE FOLLOWING.
M36, M40- SUPER MULTIPLE JUNCTION (SMJ)



WIWA2219E

BL-KEYLES-07





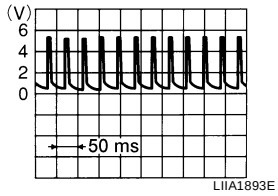
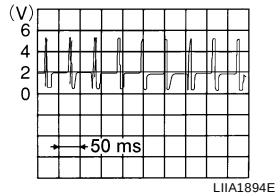
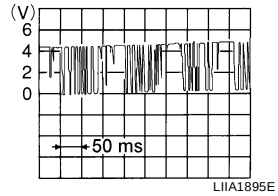
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

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

WIWA1352E

Terminals and Reference Value for BCM

EIS0049N

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
11	O	Ignition switch (ACC)	Ignition switch in ACC	Battery voltage
12	R/L	Front door switch RH (All) Rear door switch upper RH (King Cab) Rear door switch lower RH (King Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
13	GR	Rear door switch RH (Crew Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
18	P	Remote keyless entry receiver ground	—	0
19	V/W	Remote keyless entry receiver (Power supply)	Ignition switch OFF	 LIIA1893E
20	G/W	Remote keyless entry receiver signal (Signal)	Stand-by (keyfob buttons released)	 LIIA1894E
			When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
37	B/R	Key switch	Key inserted in IGN key cylinder → Key removed from IGN key cylinder	Battery voltage → 0
38	W/L	Ignition switch (ON)	Ignition switch ON	Battery voltage
39	L	CAN-H	—	—
40	P	CAN-L	—	—
47	SB	Front door switch LH (All) Rear door switch upper LH (King Cab) Rear door switch lower LH (King Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
48	R/Y	Rear door switch LH (Crew Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
56	R/G	Battery saver (Interior lamp)	Battery saver does operated → Does not operated (ON → OFF)	Battery voltage → 0
57	Y/R	Power source (BAT)	—	Battery voltage
59	G	Driver door lock actuator	Door lock & unlock switch (Neutral → Unlock)	0 → Battery voltage

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
60	G/B	Turn signal LH	When doors are locked or unlocked using keyfob (OFF → ON) *2	0 → Battery voltage
61	G/Y	Turn signal RH	When doors are locked or unlocked using keyfob (OFF → ON) *2	0 → Battery voltage
62	R/W	Step lamp LH and RH	Step lamp ON	0
			Step lamp OFF	Battery voltage
63	L	Room lamp	Room lamp ON *1	Battery voltage
			Room Lamp OFF *1	0
65	V	Door lock actuators	Door lock & unlock switch (Neutral → Lock)	0 → Battery voltage
66	G/Y	Passenger and rear doors lock actuator	Door lock & unlock switch (Neutral → Unlock)	0 → Battery voltage
67	B	Ground	—	0
69	W/R	Power window power source	—	Battery voltage
70	W/B	Power source (BAT)	—	Battery voltage

- *1: when room lamp switch is in "DOOR" position.
- *2: when hazard reminder is ON.

Terminals and Reference Value for IPDM E/R

EIS0049O

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
38	B	Ground	—	0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
45	G/W	Horn relay	When doors locks are operated using keyfob (OFF → ON) *	Battery voltage → 0
59	B	Ground	—	0

*: when horn reminder is ON.

CONSULT-II Function (BCM)

EIS0049P

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

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

CONSULT-II Inspection Procedure

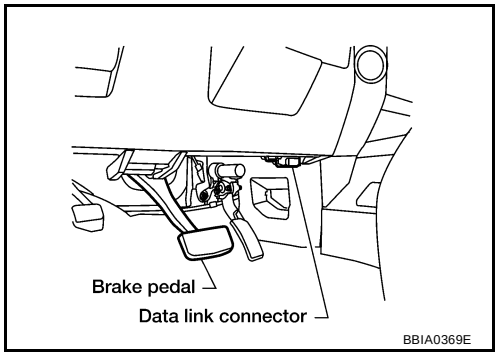
EIS0049Q

“MULTI REMOTE ENT”

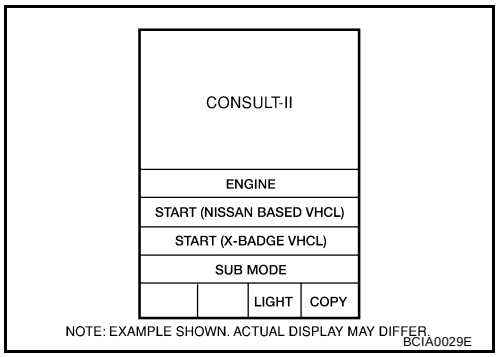
CAUTION:

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

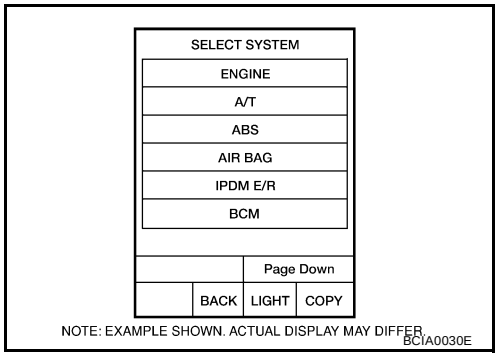
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



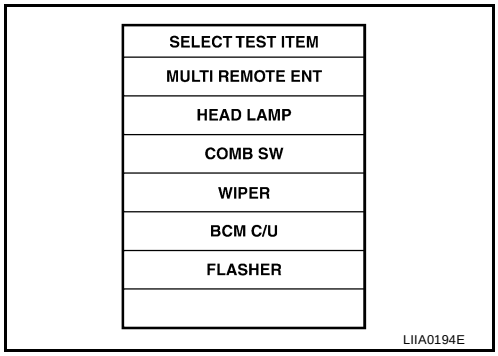
3. Turn ignition switch ON.
4. Touch “START (NISSAN BASED VHCL)”.



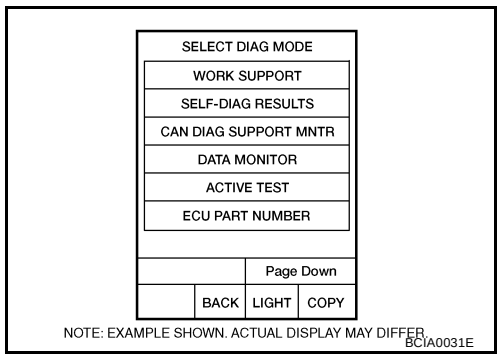
5. Touch “BCM”.
   If “BCM” is not indicated, refer to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “MULTI REMOTE ENT”.



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



CONSULT-II Application Items

EIS0049R

“MULTI REMOTE ENT”

Data Monitor

Monitored Item	Description
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
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.
KEYLESS PANIC	Indicates [ON/OFF] condition of panic signal from keyfob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.
RKE LCK-UNLCK	Indicates [ON/OFF] condition of lock/unlock signal at the same time from keyfob.
RKE KEEP UNLK	Indicates [ON/OFF] condition of unlock signal from keyfob.

Active Test

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

Work Support

Test Item	Description
REMO CONT ID REGIST	Keyfob ID code can be registered.
REMO CONT ID ERASUR	Keyfob ID code can be erased.
REMO CONT ID CONFIR	It can be checked whether keyfob ID code is registered or not in this mode.
HORN CHIRP SET	Horn chirp function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-II screen is touched.

Test Item	Description
HAZARD LAMP SET	Hazard lamp function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-II screen is touched.
MULTI ANSWER BACK SET	Hazard and horn reminder mode can be changed in this mode. The reminder mode will be changed when “CHANG SETT” on CONSULT-II screen is touched.
AUTO LOCK SET	Auto locking function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-II screen is touched.
PANIC ALRM SET	Panic alarm operation mode can be changed in this mode. The operation mode will be changed when "CHANG SETT" 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 "CHANG SETT" 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	
Keyfob 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 minute

Panic alarm operation mode

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

Keyless power window down operation mode

	MODE 1	MODE 2	MODE 3
Keyfob operation	3 seconds	Nothing	5 seconds

Trouble Diagnosis Procedure

EIS0049S

1. Check the symptom and customer's requests.
2. Understand outline of system. Refer to BL-57, "System Description" .
3. Confirm system operation.
   - Check that the power door lock system operates normally. Refer to BL-16, "POWER DOOR LOCK SYSTEM" .
4. Perform pre-diagnosis inspection. Refer to BL-75, "Pre-Diagnosis Inspection" .
5. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to BL-76, "Trouble Diagnoses" .
6. Inspection End.

Pre-Diagnosis Inspection

EIS0049T

1. CHECK BCM CONFIGURATION

Confirm BCM Configuration for "KEYLESS ENTRY" is set to "WITH". Refer to BCS-13, "READ CONFIGURATION PROCEDURE" .

OK or NG

OK >> Continue Trouble Diagnosis. Refer to BL-75, "BCM Power Supply and Ground Circuit Check" .
NG >> Change BCM Configuration for "KEYLESS ENTRY" to "WITH". Refer to BCS-16, "WRITE CONFIGURATION PROCEDURE" .

BCM Power Supply and Ground Circuit Check

EIS0049U

1. CHECK FUSE

Check the following BCM fuses and fusible link.

Component Parts	Terminal No. (SIGNAL)	Ampere	No.	Location
BCM	57 (BAT power supply)	15A	22	Fuse block (J/B)
	70 (BAT power supply)	50A	f	Fuse and fusible link box
	11 (ACC power supply)	10A	4	Fuse block (J/B)
	38 (IGN power supply)	10A	59	Fuse and relay box

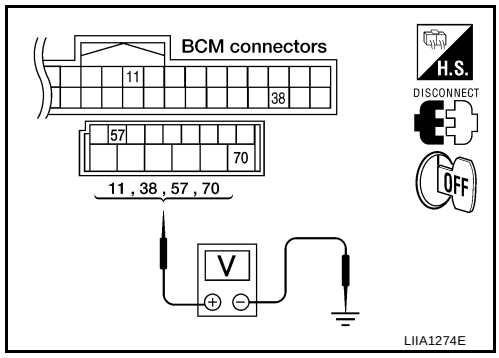
NOTE:
Refer to BL-16, "Component Parts and Harness Connector Location" .

OK or NG

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

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check voltage between BCM connectors M18, M20 terminals 11, 38, 57, 70 and ground.



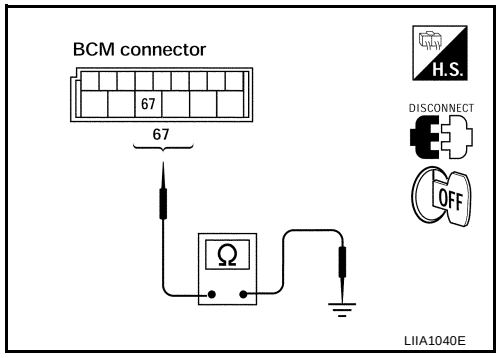
Connector	Terminals		Signal name	Ignition switch	Voltage
	(+)	(–)			
M20	70	Ground	Battery power supply	OFF	Battery voltage
	57		Battery power supply	OFF	Battery voltage
M18	11		ACC power supply	ACC	Battery voltage
	38		IGN power supply	ON	Battery voltage

OK or NG

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.



Connector	Terminals		Continuity
	(+)	(-)	
M20	67	Ground	Yes

OK or NG

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

Trouble Diagnoses

EIS0049V

SYMPTOM CHART

NOTE:

- Always check the "Trouble Diagnosis Procedure" before troubleshooting. Refer to BL-75, "Trouble Diagnosis Procedure" .
- Always check keyfob battery before replacing keyfob. Refer to BL-84, "Keyfob Battery and Function Check" .
- The panic alarm operation of remote keyless entry system does 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 keyfob before replacing keyfob.

Symptom	Diagnoses/service procedure	Reference page
All functions of remote keyless entry system do not operate.	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	BL-84
	2. Check BCM and keyless receiver.	BL-85

Symptom	Diagnoses/service procedure	Reference page
The new ID of keyfob cannot be entered.	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	BL-84
	2. Key switch (insert) check	BL-78, BL-80
	3. Door switch check	BL-81, BL-83
	4. ACC power check	BL-87
	5. Replace BCM.	BCS-20
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. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	BL-84
	2. Replace BCM.	BCS-20
Hazard and horn reminder does not activate properly when pressing lock or unlock button of keyfob.	1. Check hazard and horn reminder mode with CONSULT-II **NOTE:** Hazard and horn reminder mode can be changed. First check the hazard and horn reminder mode setting.	BL-73
	2. Door switch check	BL-81, BL-83
	3. Replace BCM.	BCS-20
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob. (Horn reminder OK)	1. Check hazard reminder mode with CONSULT-II **NOTE:** Hazard reminder mode can be changed. First check the hazard reminder mode setting.	BL-73
	2. Check hazard function with hazard switch	—
	3. Replace BCM.	BCS-20
Horn reminder does not activate properly when pressing lock or unlock button of keyfob. (Hazard reminder OK)	1. Check horn reminder mode with CONSULT-II **NOTE:** Horn reminder mode can be changed. First check the horn reminder mode setting.	BL-73
	2. Check horn function with horn switch	—
	3. IPDM E/R operation check	BL-87
	4. Replace BCM.	BCS-20
Room lamp and step lamp operation do not activate properly.	1. Room lamp operation check	BL-88
	2. Step lamp operation check	LT-132
	3. Door switch check	BL-81, BL-83
	4. Replace BCM.	BCS-20
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	BL-84
	2. Key switch (insert) check	BL-78, BL-80
	3. Replace BCM.	BCS-20

Symptom	Diagnoses/service procedure	Reference page
Auto door lock operation does not activate properly. (All other remote keyless entry functions OK.)	1. Check auto door lock operation mode with CONSULT-II **NOTE:** Auto door lock operation mode can be changed. First check the auto door lock operation mode setting.	BL-73
	2. Replace BCM.	BCS-20
Keyless power window down (open) operation does not activate properly. (All other remote keyless entry functions OK.)	1. Check power window down operation mode with CONSULT-II **NOTE:** Power window down operation mode can be changed. First check the power window down operation mode setting.	BL-73
	2. Check power window function with switch.	—
	3. Replace BCM.	BCS-20

Key Switch (Insert) Check (Column Shift)

EIS0049W

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

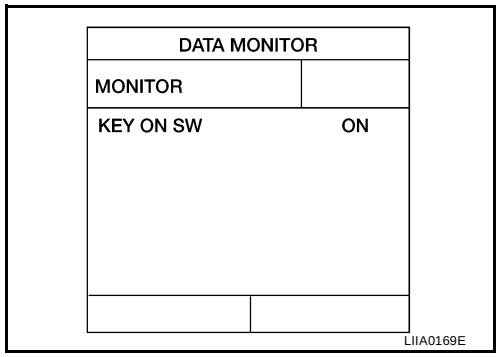
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When key is inserted to ignition key cylinder:

  KEY ON SW :ON

- When key is removed from ignition key cylinder:

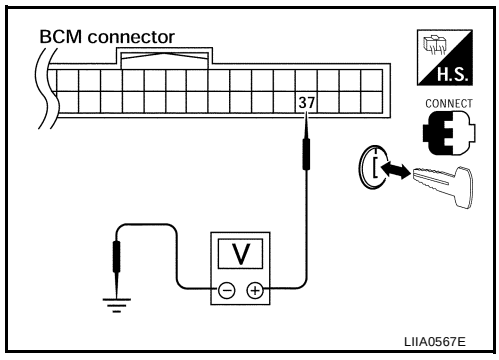
  KEY ON SW :OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

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



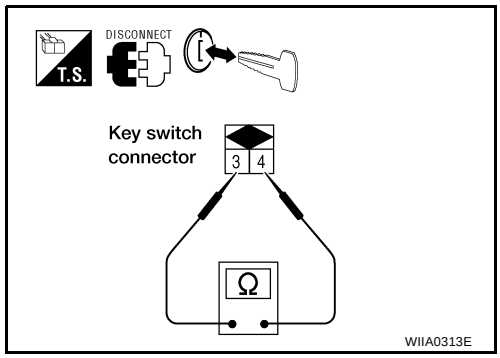
OK or NG

OK >> Key switch (insert) circuit is OK.
NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

1. Turn ignition switch OFF.
2. Disconnect key switch connector.
3. Check continuity between key switch terminals 3 and 4.

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



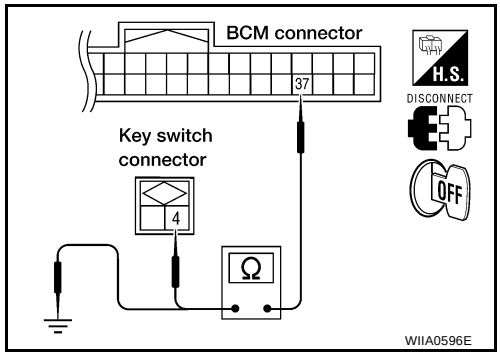
OK or NG

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

3. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between the BCM harness connector M18 terminal 37 and key switch harness connector M80 terminal 4.
3. Check continuity between BCM harness connector M18 terminal 37 (B/R) and ground.

37 - 4 : Continuity should exist
37 - Ground : Continuity should not exist



OK or NG

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

NG >> Repair or replace harness.

Key Switch (Insert) Check (Floor Shift)

EIS0049X

1. CHECK KEY SWITCH AND KEY LOCK SOLENOID INPUT SIGNAL

With CONSULT-II

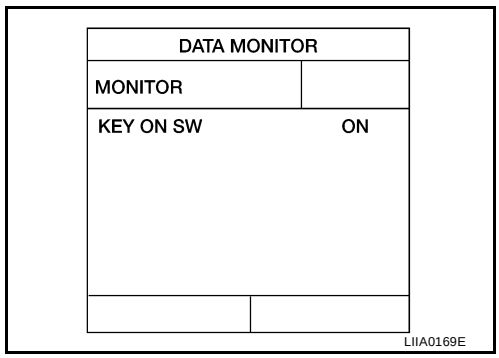
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When key is inserted to ignition key cylinder:

  KEY ON SW :ON

- When key is removed from ignition key cylinder:

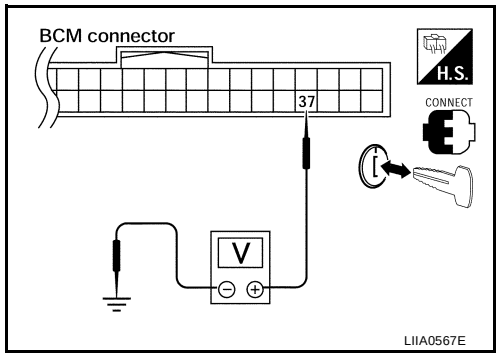
  KEY ON SW :OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

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



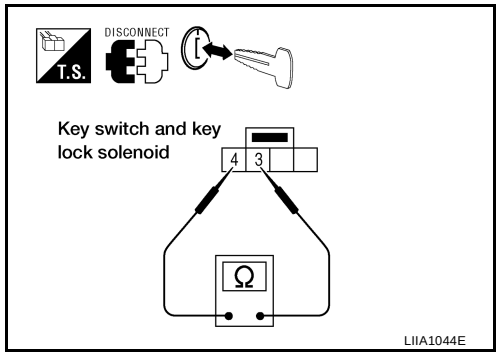
OK or NG

OK >> Key switch (insert) circuit is OK.
NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

1. Turn ignition switch OFF.
2. Disconnect key switch and key lock solenoid connector.
3. Check continuity between key switch and key lock solenoid terminals 3 and 4.

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



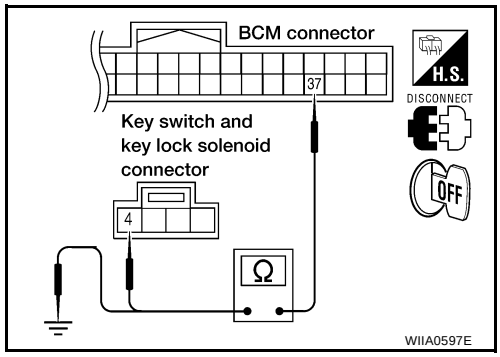
OK or NG

OK >> GO TO 3.
NG >> Replace key switch and key lock solenoid.

3. CHECK KEY SWITCH AND KEY LOCK SOLENOID CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between the BCM harness connector M18 terminal 37 and key switch and key lock solenoid harness connector M27 terminal 4.
3. Check continuity between BCM harness connector M18 terminal 37 (B/R) and ground.

37 - 4 : Continuity should exist
37 - Ground : Continuity should not exist



OK or NG

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

NG >> Repair or replace harness.

Door Switch Check (King Cab)

EIS0049Y

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

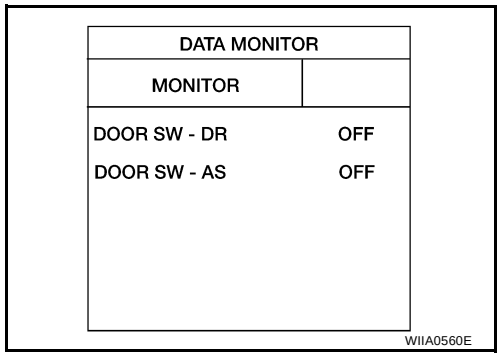
Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

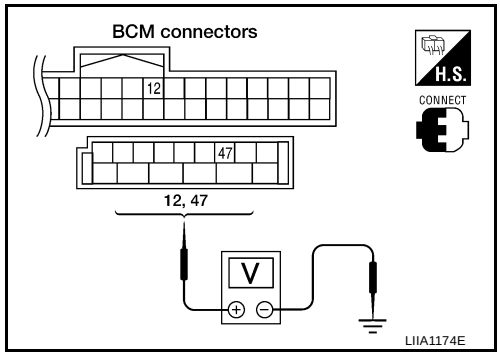
DOOR SW-DR :OFF
DOOR SW-AS :OFF



Without CONSULT-II

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

Connector	Item	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M19	Door switches LH	47	Ground	Open ↓ Closed	0 ↓ Battery voltage
M18	Door switches RH	12			



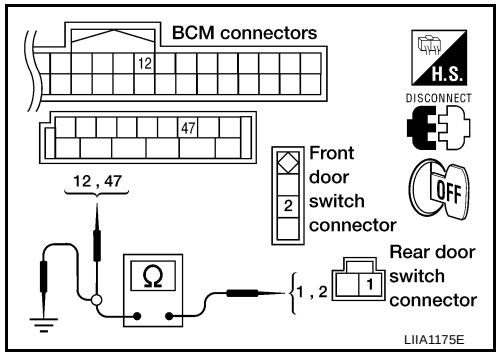
OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and BCM connector M18, M19 terminals 12, and 47.

2 - 47 :Continuity should exist
2 - 12 :Continuity should exist
1 - 47 :Continuity should exist
1 - 12 :Continuity should exist



4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and ground.

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

OK or NG

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

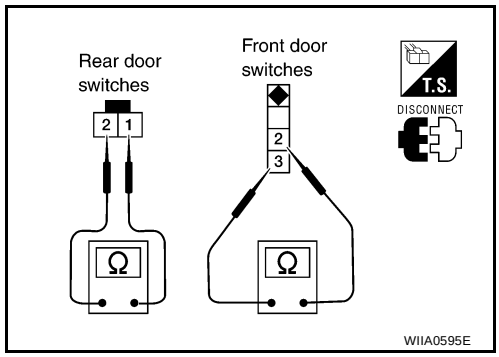
3. CHECK DOOR SWITCHES

1. Disconnect door switch.
2. Check continuity between door switch terminals.

	Terminals	Condition	Continuity
Door switches (front)	2 – 3	Open	No
		Closed	Yes
Door switches (rear upper and lower)	1 – 2	Open	No
		Closed	Yes

OK or NG

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



Door Switch Check (Crew Cab)

EIS0049Z

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

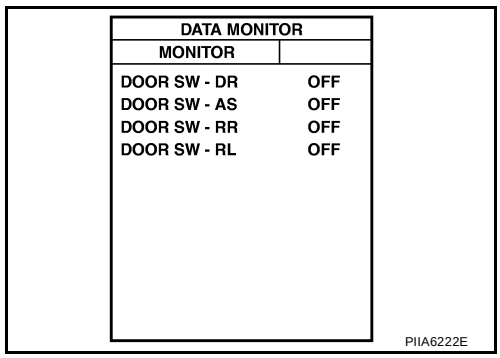
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

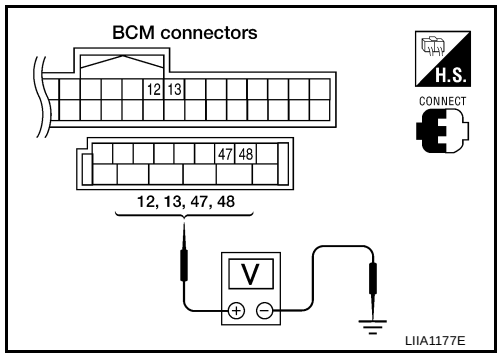
DOOR SW-DR :OFF
DOOR SW-AS :OFF
DOOR SW-RL :OFF
DOOR SW-RR :OFF



Without CONSULT-II

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

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



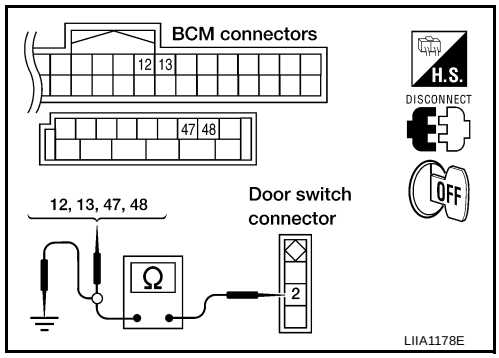
OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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



4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and ground.

2 - Ground :Continuity should not exist

OK or NG

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

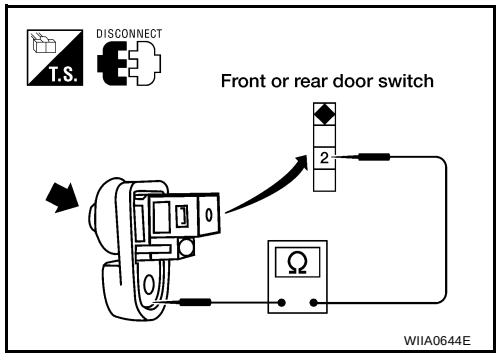
3. CHECK DOOR SWITCHES

Check continuity between door switch terminal 2 and exposed metal of switch while pressing and releasing switch.

	Terminals	Condition	Continuity
Door switch (front and rear)	2 – Ground	Released	Yes
		Pressed	No

OK or NG

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



Keyfob Battery and Function Check

EIS004A0

1. CHECK KEYFOB BATTERY

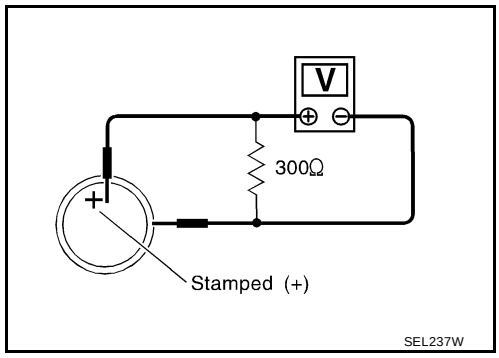
Remove battery and measure voltage across battery positive and negative terminals, (+) and (–).

Voltage : 2.5V - 3.0V

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

OK or NG

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



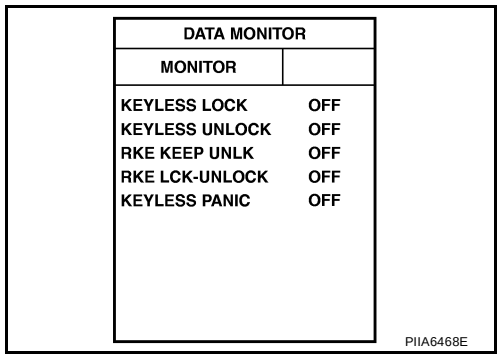
2. CHECK KEYFOB FUNCTION

With CONSULT-II

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

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

Condition	Monitor item	
Pushing LOCK	KEYLESS LOCK	: ON
Pushing UNLOCK	KEYLESS UNLOCK	: ON
Keep pushing UNLOCK	RKE KEEP UNLK turns to ON 3 seconds after UNLOCK button is pushed.	: ON
Pushing PANIC	KEYLESS PANIC	: ON
Pushing LOCK and UNLOCK at the same time	RKE LCK-UNLCK	: ON



Without CONSULT-II

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

OK or NG

OK >> WITH CONSULT-II: Keyfob, remote keyless entry receiver and wiring harness between BCM and remote keyless entry receiver are OK. Replace BCM. Refer to BCS-20, "BCM" .

OK >> WITHOUT CONSULT-II: Keyfob is OK. Further inspection is necessary. Refer to BL-76, "SYMPTOM CHART" .

NG >> WITH CONSULT-II: Further inspection is necessary. Refer to BL-76, "SYMPTOM CHART" .

NG >> WITHOUT CONSULT-II: Replace keyfob. Refer to BL-89, "ID Code Entry Procedure" .

Remote Keyless Entry Receiver System Check

EIS0061Y

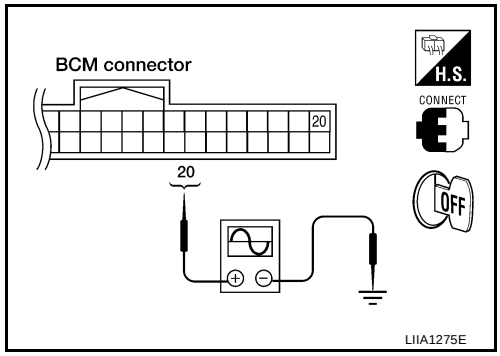
1. REMOTE KEYLESS ENTRY RECEIVER SIGNAL

Check signal voltage waveform between BCM connector M18 terminal 20 and ground using an oscilloscope.

Condition:

Keyfob buttons released : Refer to BL-70, "Terminals and Reference Value for BCM" .

Keyfob buttons pressed : Refer to BL-70, "Terminals and Reference Value for BCM" .



OK or NG

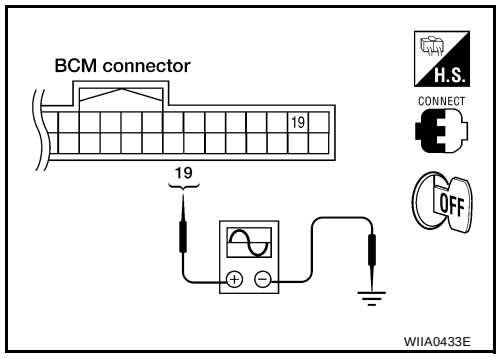
OK >> Remote keyless entry receiver signal power supply, ground and signal circuits are OK. Replace BCM. Refer to BCS-20, "BCM" .

NG >> GO TO 2.

2. REMOTE KEYLESS ENTRY RECEIVER POWER SUPPLY INSPECTION

Check signal voltage waveform between BCM connector M18 terminal 19 and ground using an oscilloscope.

19 - Ground **: Refer to BL-70, "Terminals and Reference Value for BCM" .**



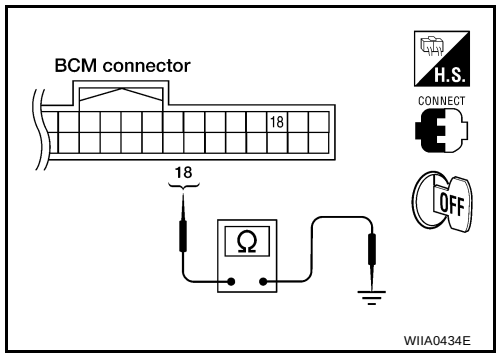
OK or NG

OK >> GO TO 3.
NG >> Replace BCM. Refer to BCS-20, "BCM" .

3. REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT INSPECTION (BCM)

Check continuity between BCM connector M18 terminal 18 and ground.

18 - Ground **: Continuity should exist.**



OK or NG

OK >> GO TO 4.
NG >> Replace BCM. Refer to BCS-20, "BCM" .

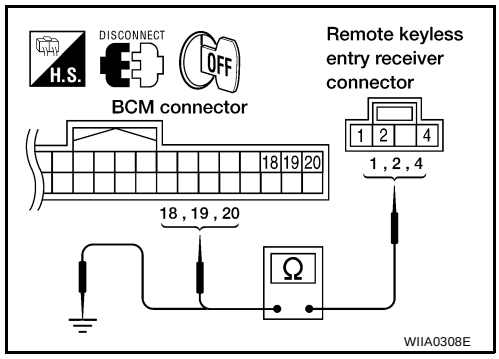
4. HARNESS INSPECTION BETWEEN BCM AND REMOTE KEYLESS ENTRY RECEIVER

1. Disconnect remote keyless entry receiver and BCM connectors.
2. Check continuity between remote keyless entry receiver connector M120 terminals 1, 2, 4 and BCM connector M18 terminals 18, 19, 20.

1 - 18 **: Continuity should exist.**
2 - 20 **: Continuity should exist.**
4 - 19 **: Continuity should exist.**

3. Check continuity between remote keyless entry receiver terminals 1, 2 and 4 and ground.

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



OK or NG

OK >> Replace remote keyless entry receiver.
NG >> Repair or replace harness.

ACC Power Check

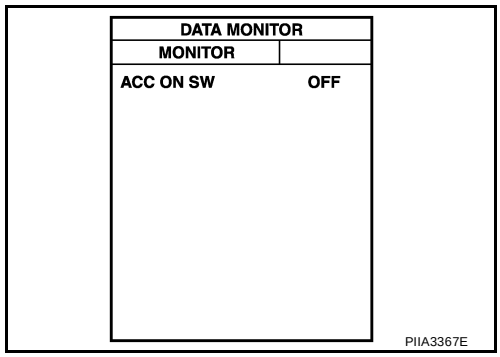
EIS004A2

1. CHECK ACC POWER

With CONSULT-II

Check "ACC ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

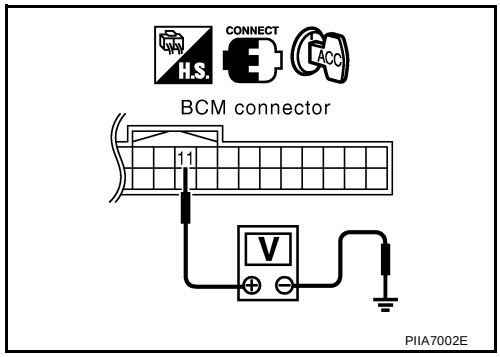
Monitor Item	Condition	
ACC ON SW	Ignition switch position is ACC	: ON
	Ignition switch position is OFF	: OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 11 and ground.

Connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M18	11	Ground	ACC	Battery voltage
			OFF	0



OK or NG

OK >> ACC power circuit is OK.

NG >> Check the following:

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

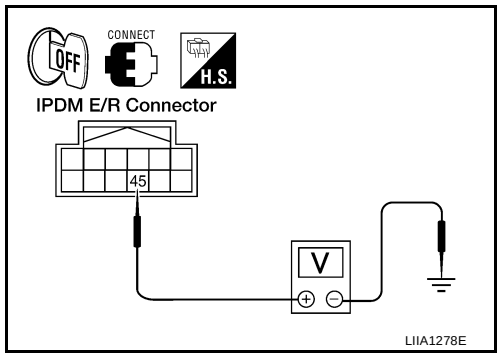
IPDM E/R Operation Check

EIS004A3

1. CHECK IPDM E/R INPUT VOLTAGE

Check voltage between IPDM E/R connector E122 terminal 45 and ground.

Connector	Terminals (+)	Terminals (–)	Voltage (V) (Approx.)
E122	45	Ground	Battery voltage



OK or NG

OK >> Replace IPDM E/R. Refer to PG-31, "Removal and Installation of IPDM E/R" .

NG >> GO TO 2.

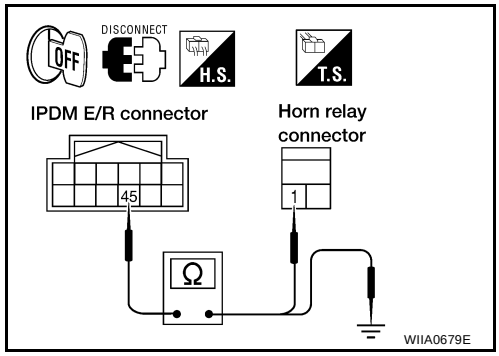
2. CHECK IPDM E/R INPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay.
3. Check continuity between IPDM E/R connector E122 terminal 45 and horn relay connector H-1 terminal 1.

45 - 1 : Continuity should exist

4. Check continuity between IPDM E/R connector E122 terminal 45 and ground.

45 - Ground : Continuity should not exist



OK or NG

OK >> Further inspection is necessary. Refer to BL-76, "SYMPTOM CHART" .
NG >> Repair or replace harness

Check Hazard Function

EIS004A4

1. CHECK HAZARD WARNING LAMP

Does hazard indicator flash with hazard switch?

Yes or No

Yes >> Hazard warning lamp circuit is OK.
No >> Check hazard indicator. Refer to LT-76, "TURN SIGNAL AND HAZARD WARNING LAMPS" .

Check Horn Function

EIS004A5

First, perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated in "SELF-DIAG RESULTS" of "BCM".

1. CHECK HORN FUNCTION

Does horn sound with horn switch?

Yes or No

Yes >> Horn circuit is OK.
No >> Check horn circuit. Refer to WW-36, "HORN" .

Check Headlamp Function

EIS004A6

First, perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated in "SELF-DIAG RESULTS" of "BCM".

1. CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch ON?

Yes or No

Yes >> Headlamp operation circuit is OK.
No >> Check headlamp circuit. Refer to LT-5, "HEADLAMP (FOR USA)" .

Check Front Room/Map Lamp Illumination Function

EIS004A7

1. CHECK MAP LAMP ILLUMINATION FUNCTION

When front room/map lamp switch is in DOOR position, open the front door LH or RH.

Front room/map lamp should illuminate.

OK or NG

OK >> Front room/map lamp illumination circuit is OK.
NG >> Check front room/map lamp illumination circuit. Refer to LT-156, "ILLUMINATION" .

ID Code Entry Procedure

EIS004A8

KEYFOB ID SET UP WITH CONSULT-II

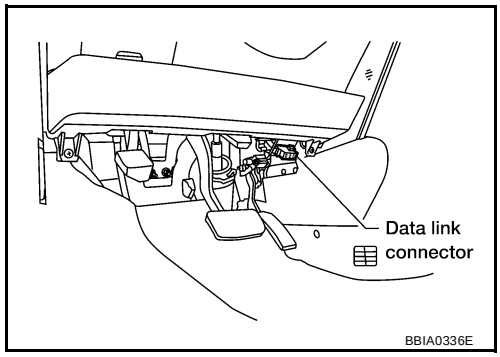
NOTE:

- **If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.**
- **When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If five ID codes are stored in memory when an additional code is registered, only the oldest code is erased. If less than five codes are stored in memory when an additional code is registered, the new ID code is added and no ID codes are erased.**
- **Entry of a maximum of five ID codes is allowed. When more than five codes are entered, the oldest ID code will be erased.**
- **Even if the same ID code that is already in memory is input, the same ID code can be entered. The code is counted as an additional code.**

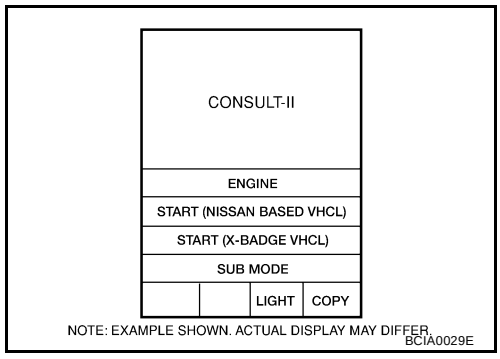
CAUTION:

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

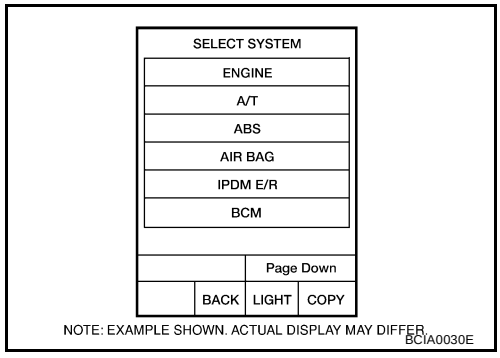
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



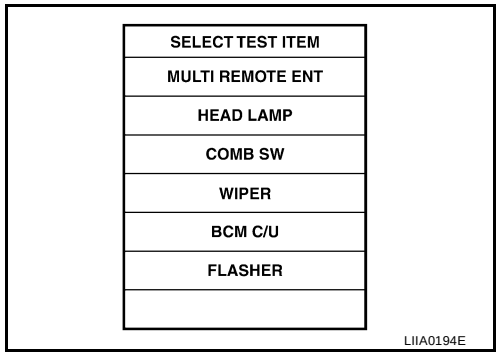
3. Turn ignition switch ON.
4. Touch “START (NISSAN BASED VHCL)”.



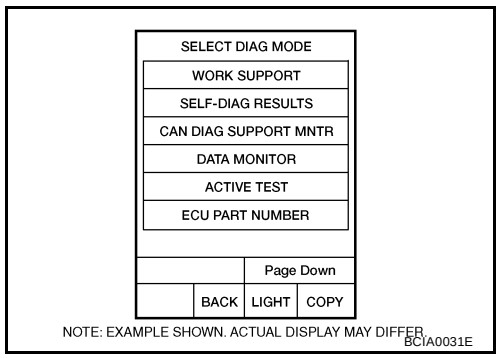
5. Touch “BCM”.
   If “BCM” is not indicated, refer toGI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “MULTI REMOTE ENT”.

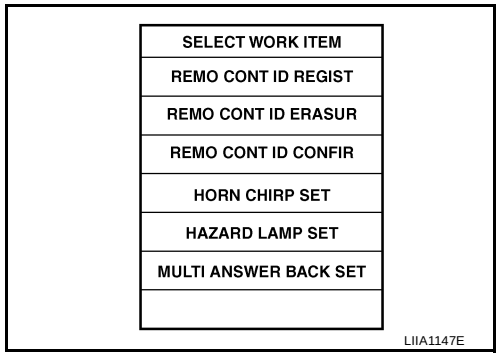


7. Touch “WORK SUPPORT”.

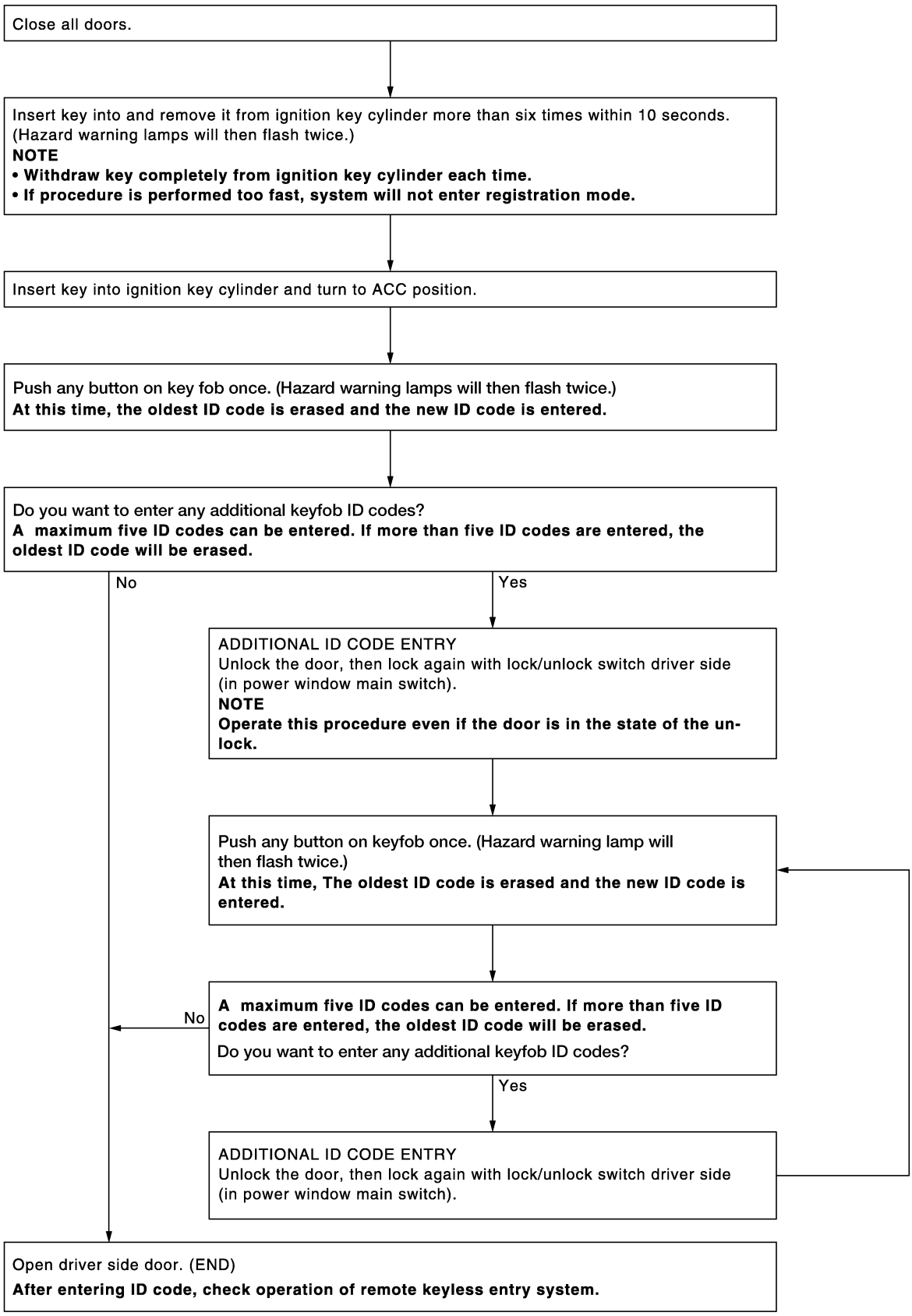


8. The items are shown on the figure at left can be set up.
   - “REMO CONT ID REGIST”
     Use this mode to register a keyfob ID code.

     NOTE:
     Register the ID code when keyfob or BCM is replaced, or when additional keyfob is required.
   - “REMO CONT ID ERASUR”
     Use this mode to erase a keyfob ID code.
   - “REMO CONT ID CONFIR”
     Use this mode to confirm if a keyfob ID code is registered or not.



KEYFOB ID SET UP WITHOUT CONSULT-II



LIIA1670E

NOTE:

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

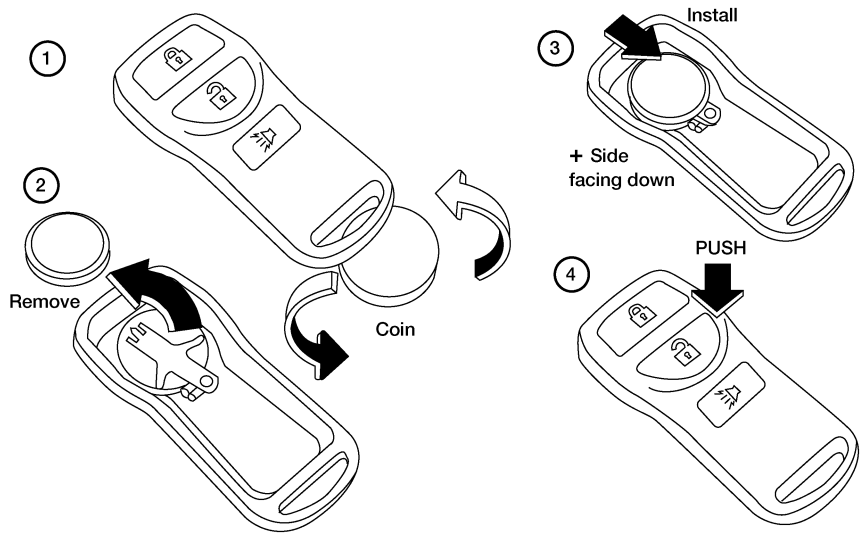
Keyfob Battery Replacement

EIS004A9

NOTE:

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

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 keyfob buttons two or three times to check operation.



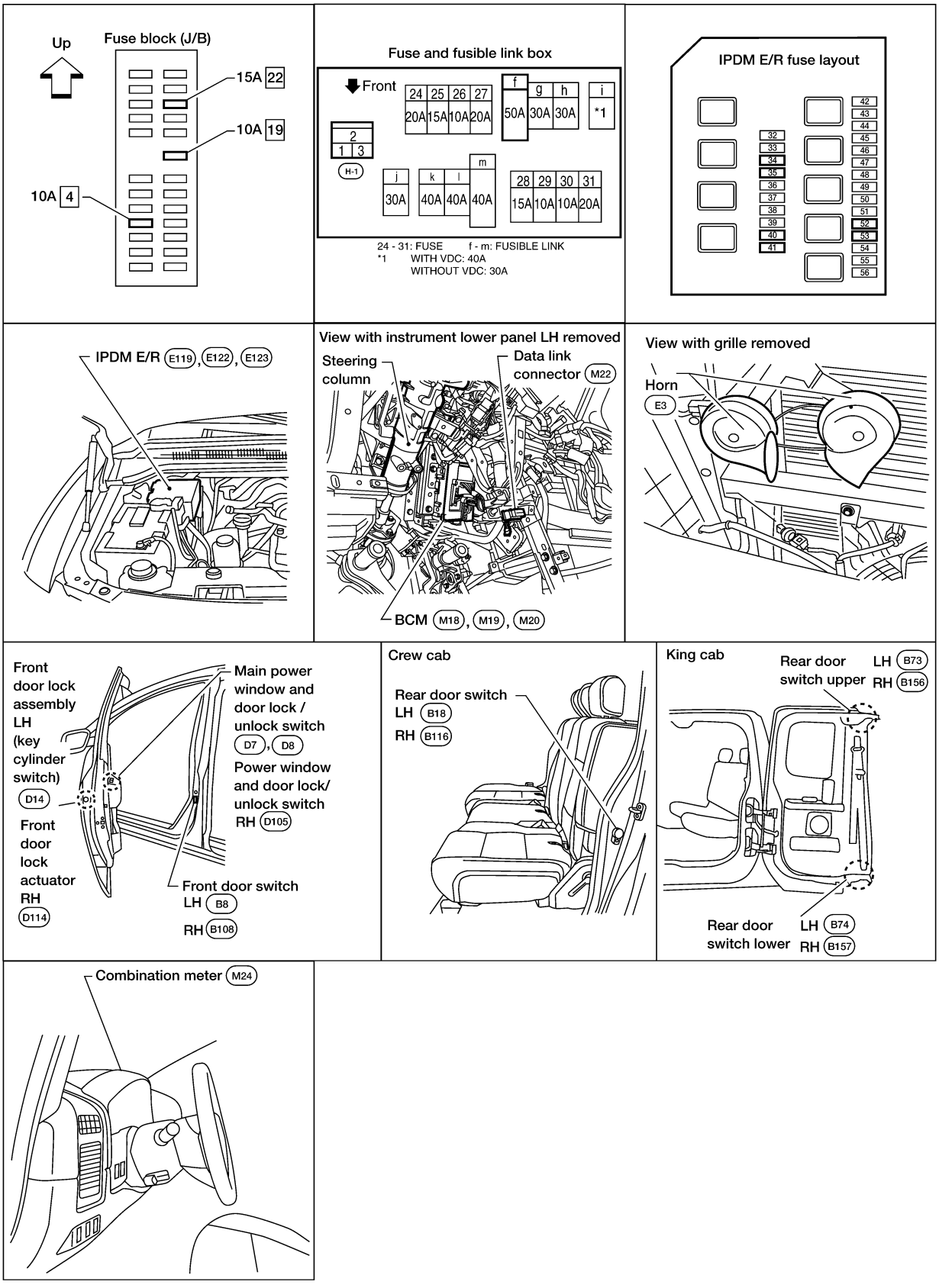
LIIA1514E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

PFP:28491

Component Parts and Harness Connector Location

EIS004AA



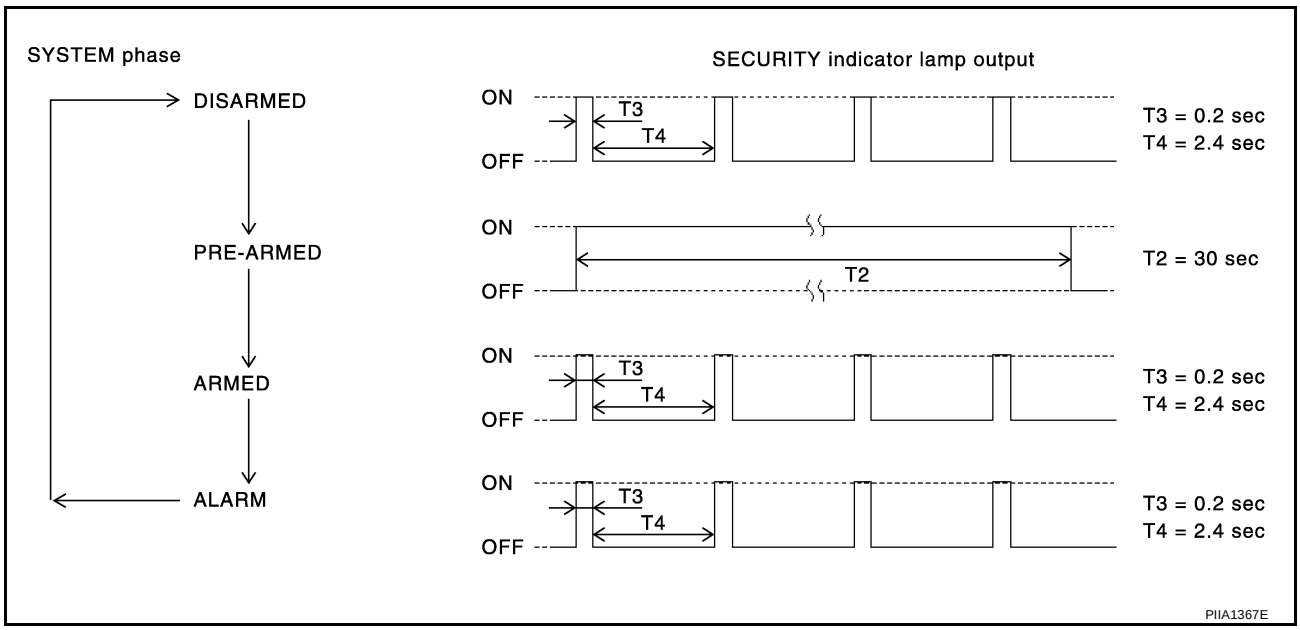
WIIA0581E

System Description

EIS004AB

DESCRIPTION

Operation Flow



Setting the vehicle security system

Initial condition

- Ignition switch is in OFF position.

Disarmed phase

- When the vehicle is being driven or when doors are 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 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.

- Unlock the doors with the key or the keyfob.

Activating the alarm operation of the vehicle security system

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

1. Engine hood or any door is opened before unlocking door with key or keyfob.
2. Door is unlocked without using key or keyfob.

POWER SUPPLY AND GROUND CIRCUIT

Power is supplied at all times

- through 10A fuse [No.19, located in the fuse block (J/B)]
- to combination meter (security indicator lamp) terminal 8 and
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to BCM terminal 57
- through 15A fuse (No. 25, located in the fuse and fusible link box)
- to horn relay terminal 2

- through 20A fuse (No. 52, located in the IPDM E/R) and
- through 20A fuse (No. 53, located in the IPDM E/R),
- to IPDM E/R internal CPU.

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

- through 10A fuse [No. 4, located in the fuse box (J/B)]
- to BCM terminal 11.

Ground is supplied

- to BCM terminal 67
- through body grounds M57, M61 and M79 and
- to IPDM E/R terminals 38 and 59
- through body ground E9, E15 and E24.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors and hood.
To activate the vehicle security system, BCM must receive signals indicating the doors and hood are closed and the doors are locked.
When a door is open, BCM terminal 12, 13, 47 or 48 receives a ground signal from each door switch.
When front door LH is unlocked, BCM terminal 22 receives a signal from terminal 12 (King Cab) or 14 (Crew Cab) of main power window and door lock/unlock switch.
When front door RH is unlocked, BCM terminal 22 receives a signal from terminal 16 of power window and door lock/unlock switch RH or the rear power window switch LH or RH.

VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

- opening a door
- unlocking door without using the driver key cylinder or keyfob.

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

- when BCM receives a ground signal at terminals 12, 13, 47, 48 (door switch).

Power is supplied at all times

- to horn relay terminal 2
- 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 45
- to headlamp high relay and
- to horn relay terminal 1.

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

VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, the driver door must be unlocked with the key or keyfob.
When the key is used to unlock the driver door, BCM terminal 22 receives signal

- from terminal 12 (King Cab) or 14 (Crew Cab) of the main power window and door lock/unlock switch.

When the BCM receives either one of these signals or unlock signal from keyfob or the driver key cylinder switch, 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 45
- to headlamp high relay and
- to horn relay terminal 1.

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

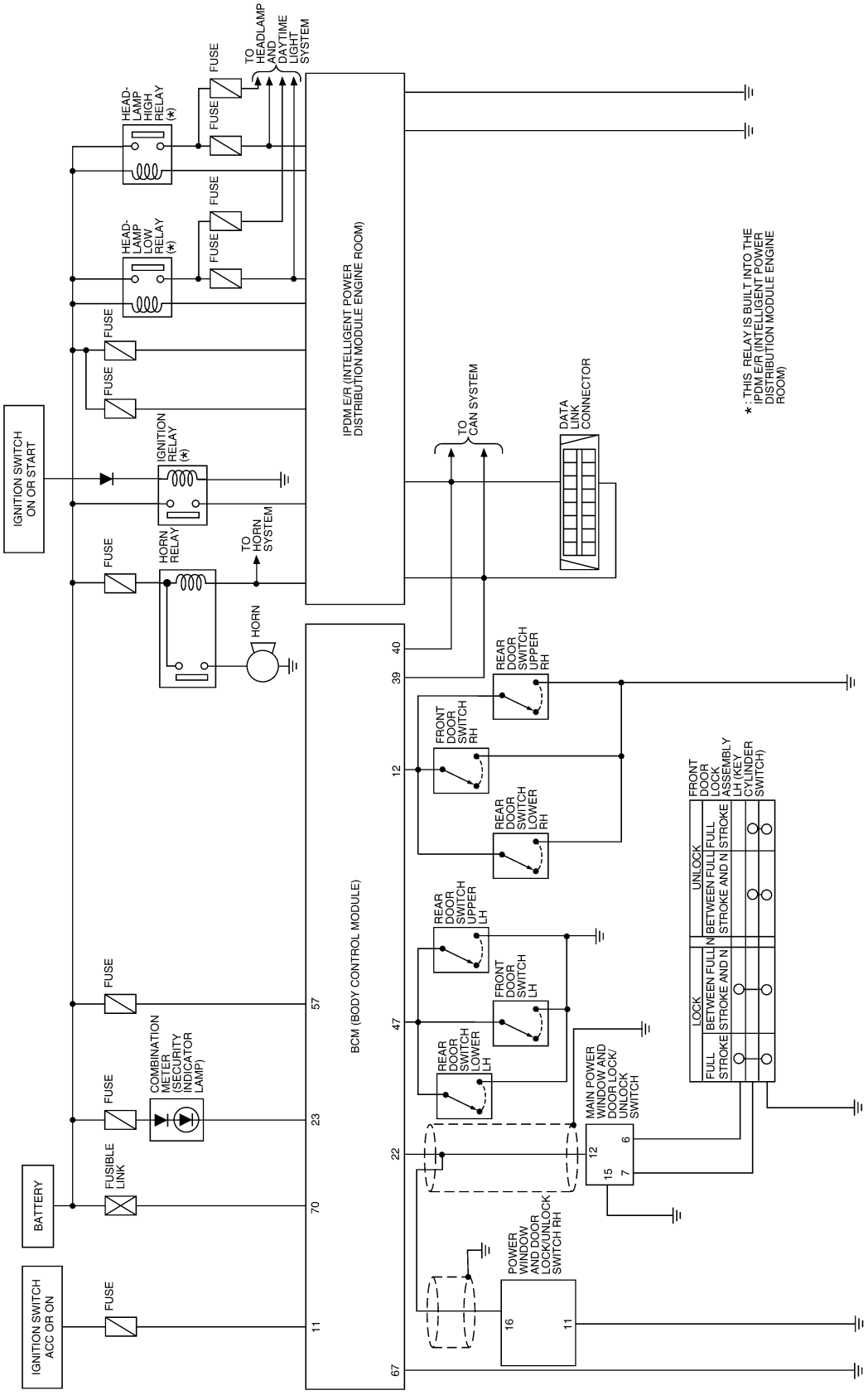
CAN Communication System Description

EIS004AC

Refer to LAN-25, "CAN COMMUNICATION" .

Schematic (King Cab)

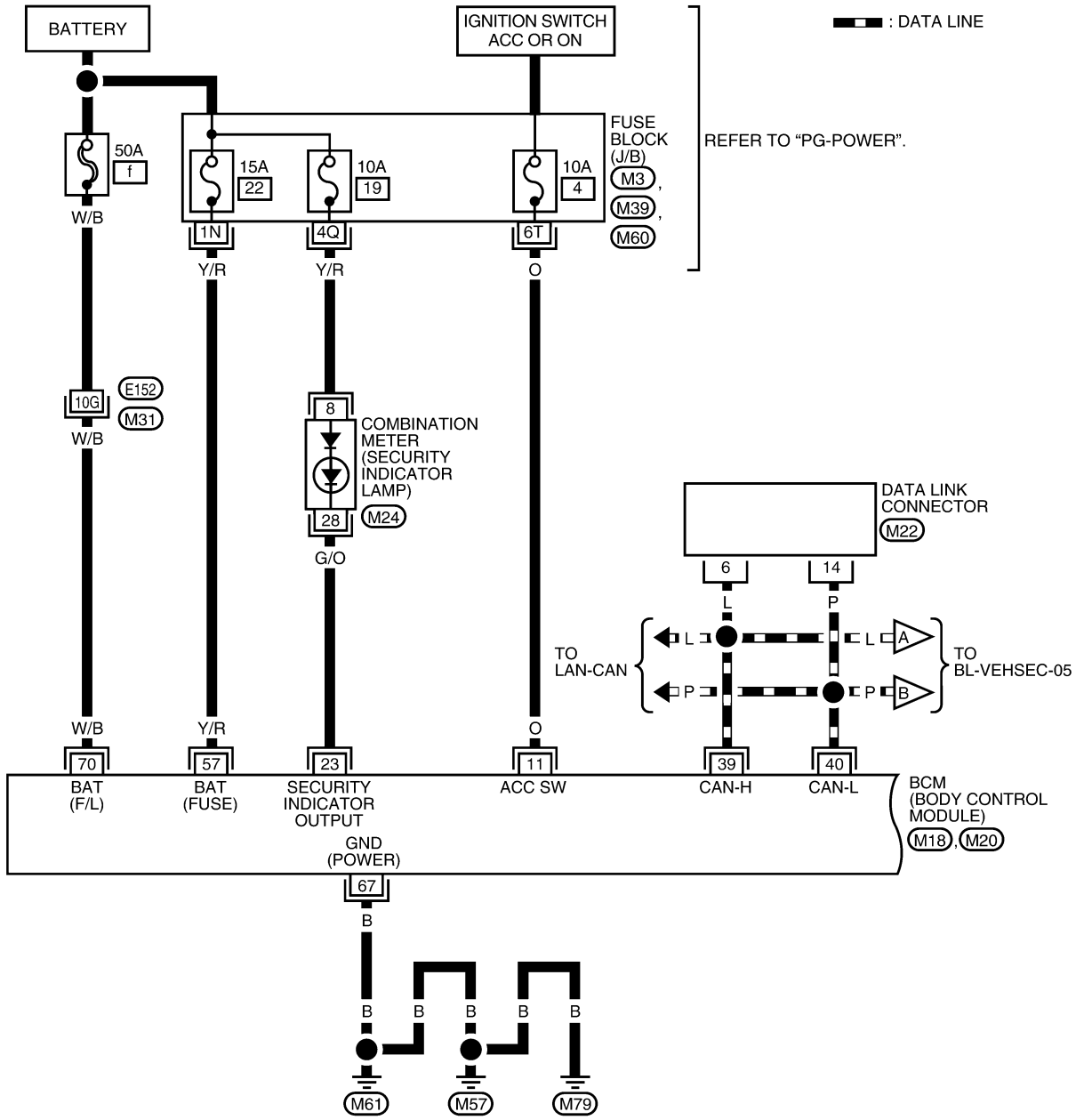
EIS004AD

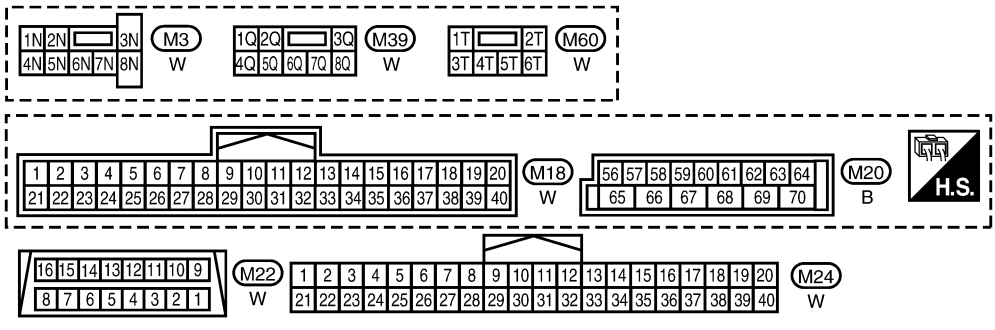


Wiring Diagram — VEHSEC — (King Cab)

EIS004AE

BL-VEHSEC-01

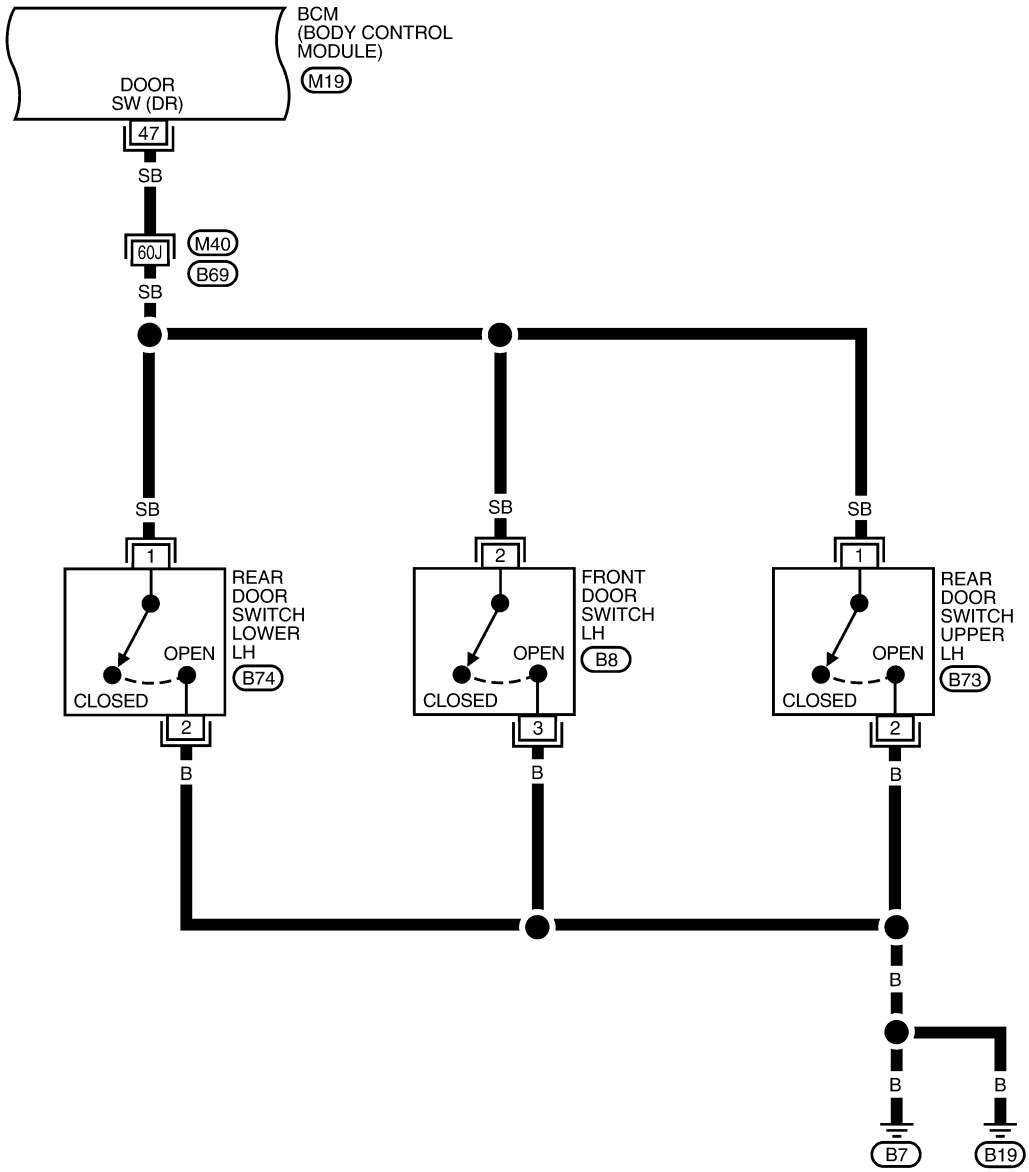




REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1354E

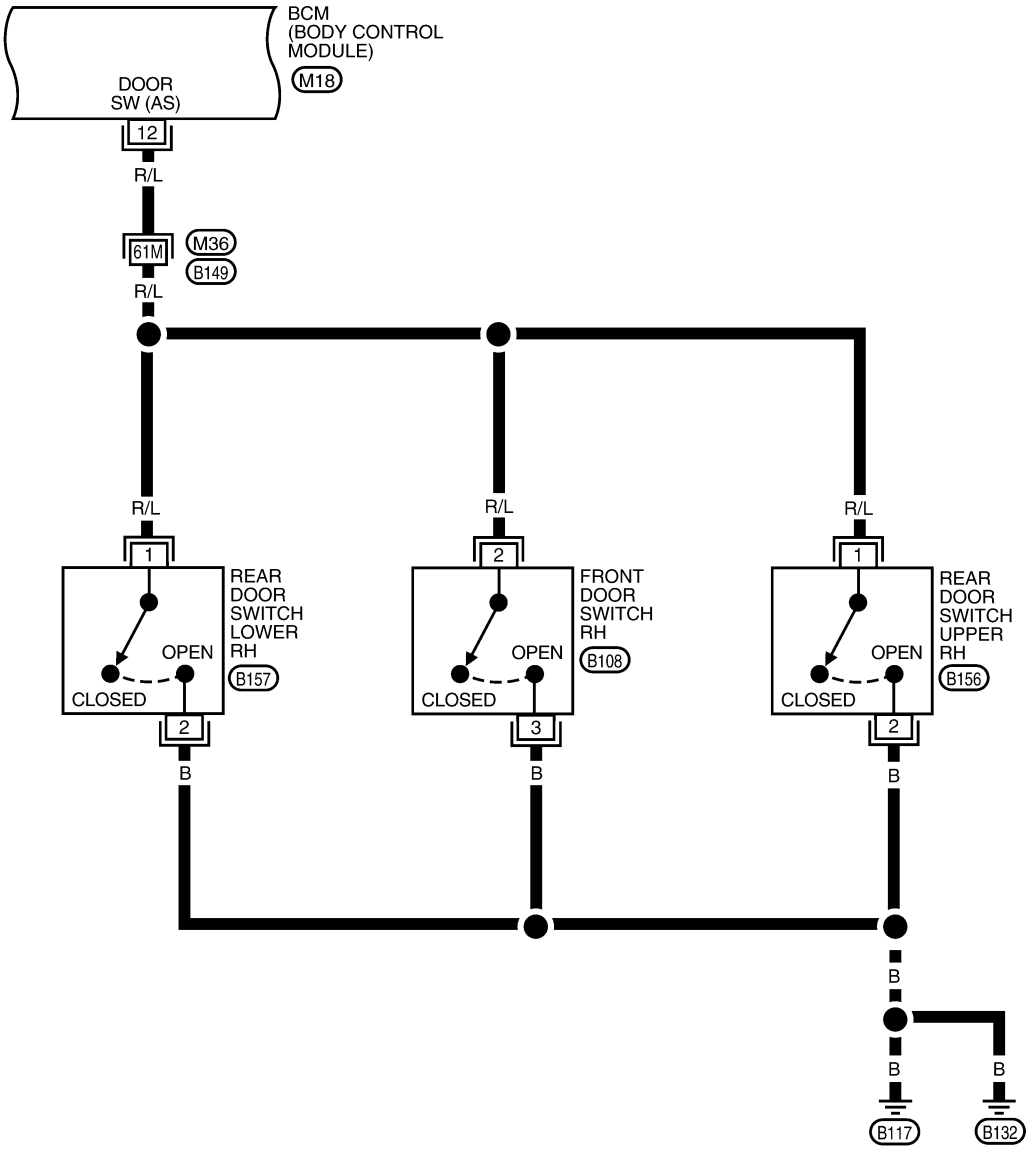
BL-VEHSEC-02

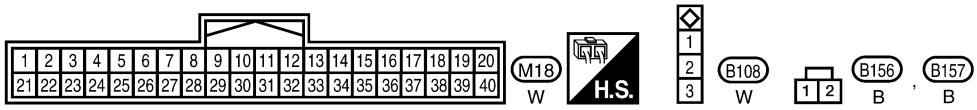


REFER TO THE FOLLOWING.
M40 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1355E

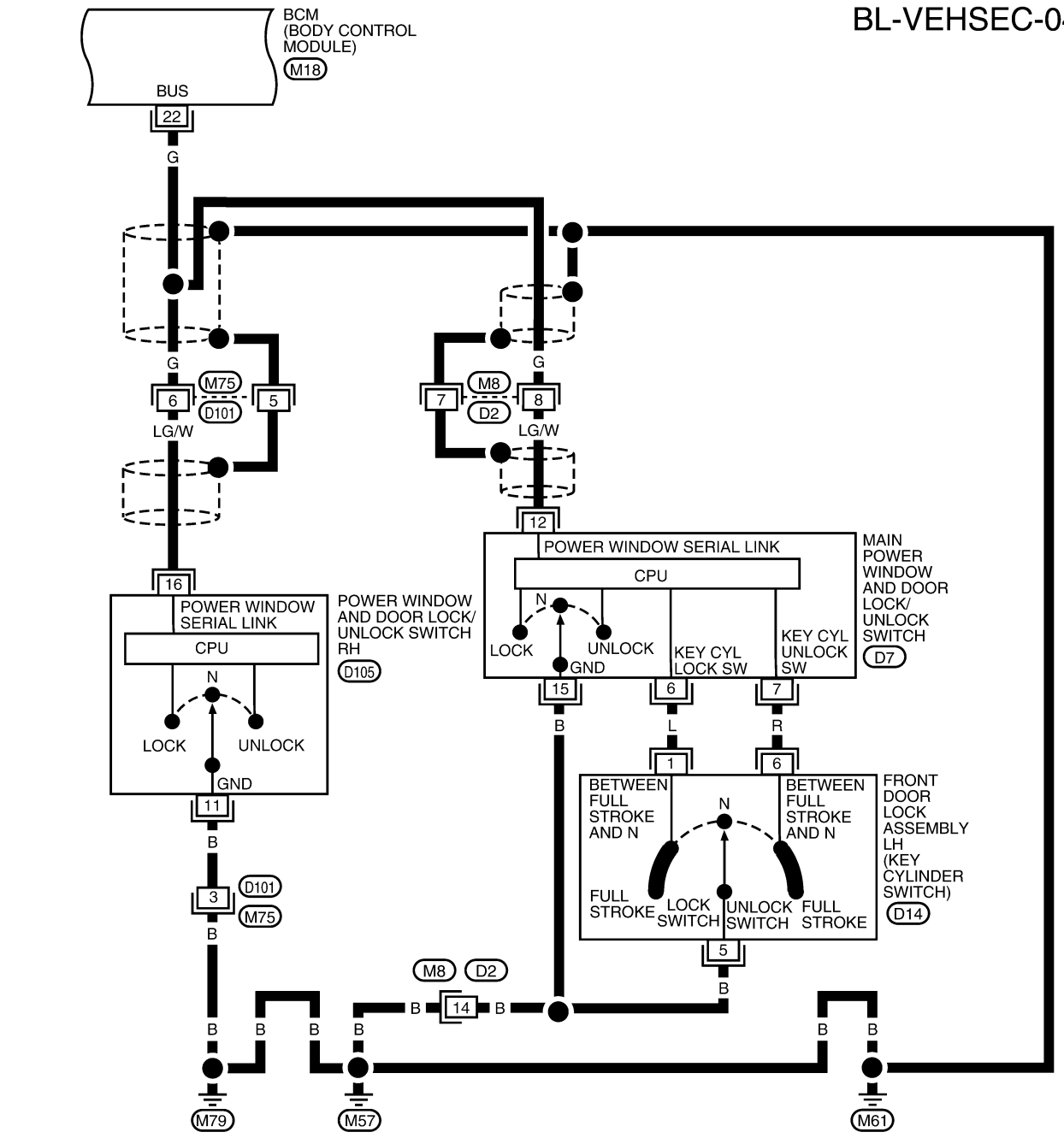
BL-VEHSEC-03

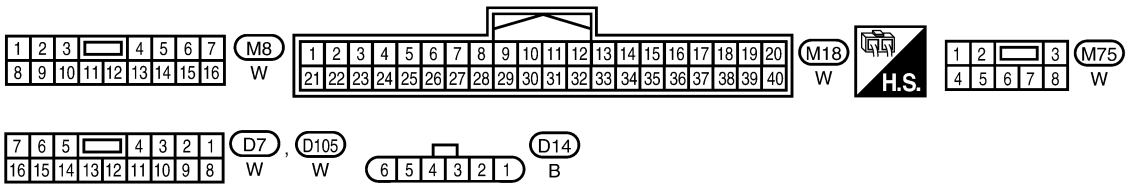




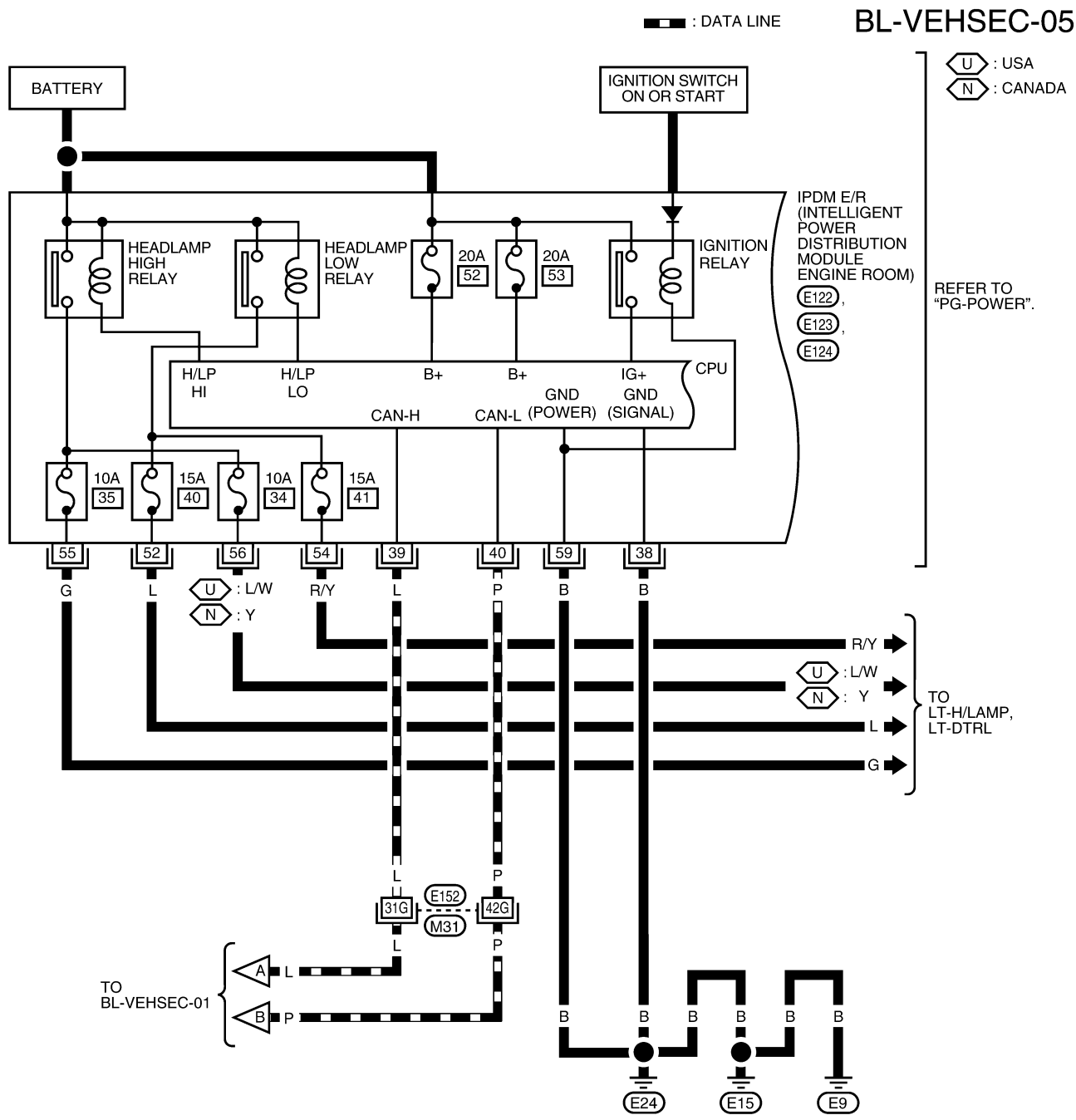
REFER TO THE FOLLOWING.
M36 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1356E

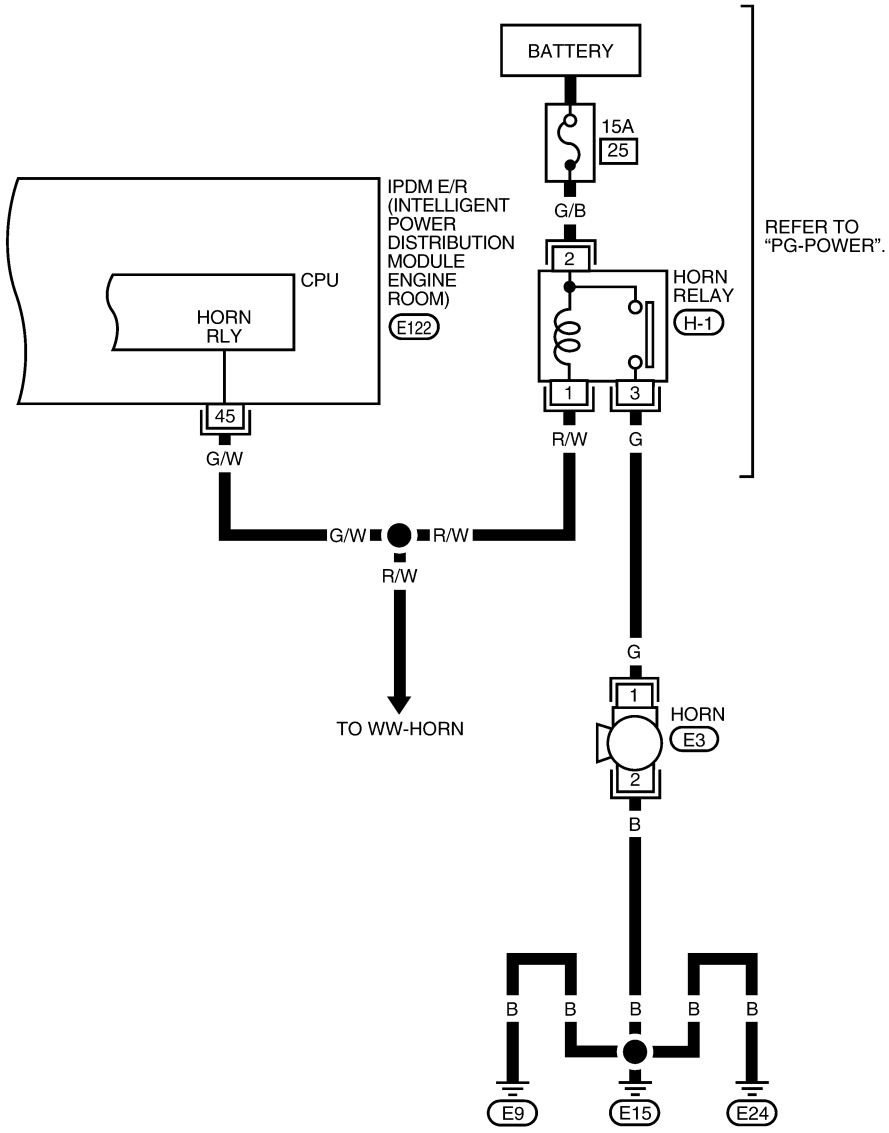

BL-VEHSEC-04
BCM
(BODY CONTROL
MODULE)
M18
BUS
22
G
M75
6
D101
5
LG/W
M8
7
D2
8
LG/W
12
POWER WINDOW SERIAL LINK
CPU
N
LOCK
UNLOCK
GND
KEY CYL
LOCK SW
KEY CYL
UNLOCK
SW
MAIN
POWER
WINDOW
AND DOOR
LOCK/
UNLOCK
SWITCH
D7
15
6
7
B
L
R
16
POWER WINDOW
SERIAL LINK
CPU
N
LOCK
UNLOCK
GND
POWER WINDOW
AND DOOR LOCK/
UNLOCK SWITCH
RH
D105
11
B
3
D101
M75
B
1
6
BETWEEN
FULL
STROKE
AND N
BETWEEN
FULL
STROKE
AND N
N
FULL
STROKE
LOCK
SWITCH
UNLOCK
SWITCH
FULL
STROKE
FRONT
DOOR
LOCK
ASSEMBLY
LH
(KEY
CYLINDER
SWITCH)
D14
5
B
M8
D2
B
14
B
B
B
B
B
B
B
B
M79
M57
M61

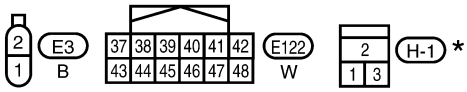

M8
W
M18
W
H.S.
M75
W
D7
W
D105
W
D14
B

WIWA2220E


: DATA LINE
BL-VEHSEC-05
BATTERY
IGNITION SWITCH ON OR START
U : USA
N : CANADA
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E122, E123, E124
REFER TO "PG-POWER".
HEADLAMP HIGH RELAY
HEADLAMP LOW RELAY
20A 52
20A 53
IGNITION RELAY
H/LP HI
H/LP LO
B+
B+
IG+
GND (POWER)
GND (SIGNAL)
CAN-H
CAN-L
CPU
10A 35
15A 40
10A 34
15A 41
55 52 56 54 39 40 59 38
G
L
U : L/W
N : Y
R/Y
L
P
B
B
R/Y
U : L/W
N : Y
L
G
TO LT-H/LAMP, LT-DTRL
E152
31G
42G
M31
TO BL-VEHSEC-01
A L
B P
E24
E15
E9
37 38 39 40 41 42
43 44 45 46 47 48
E122
W
49 50 51
52 53 54 55 56
E123
BR
57 58 59
60 61 62
E124
B
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)
WIWA0767E

BL-VEHSEC-06



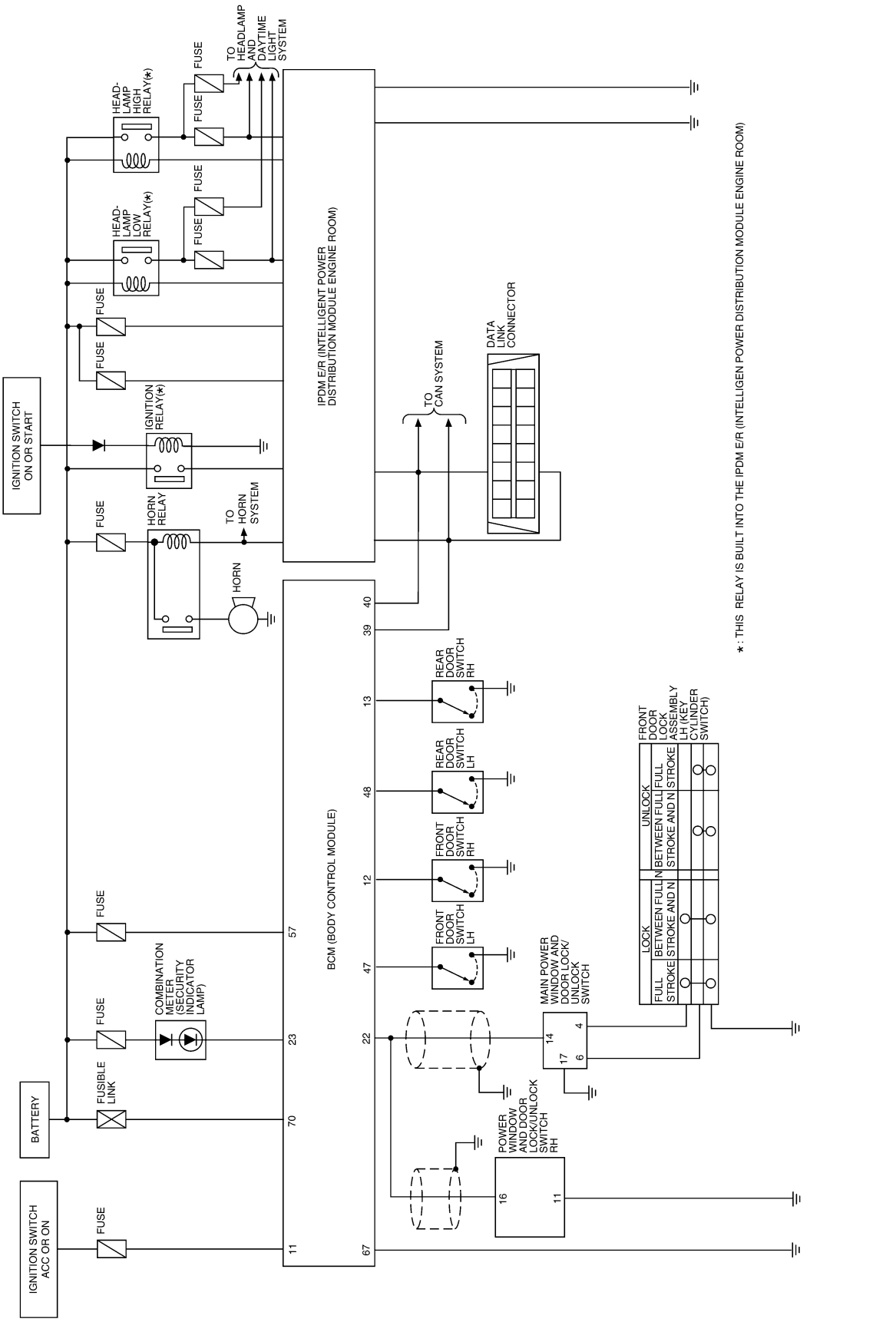


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WIWA1358E

Schematic (Crew Cab)

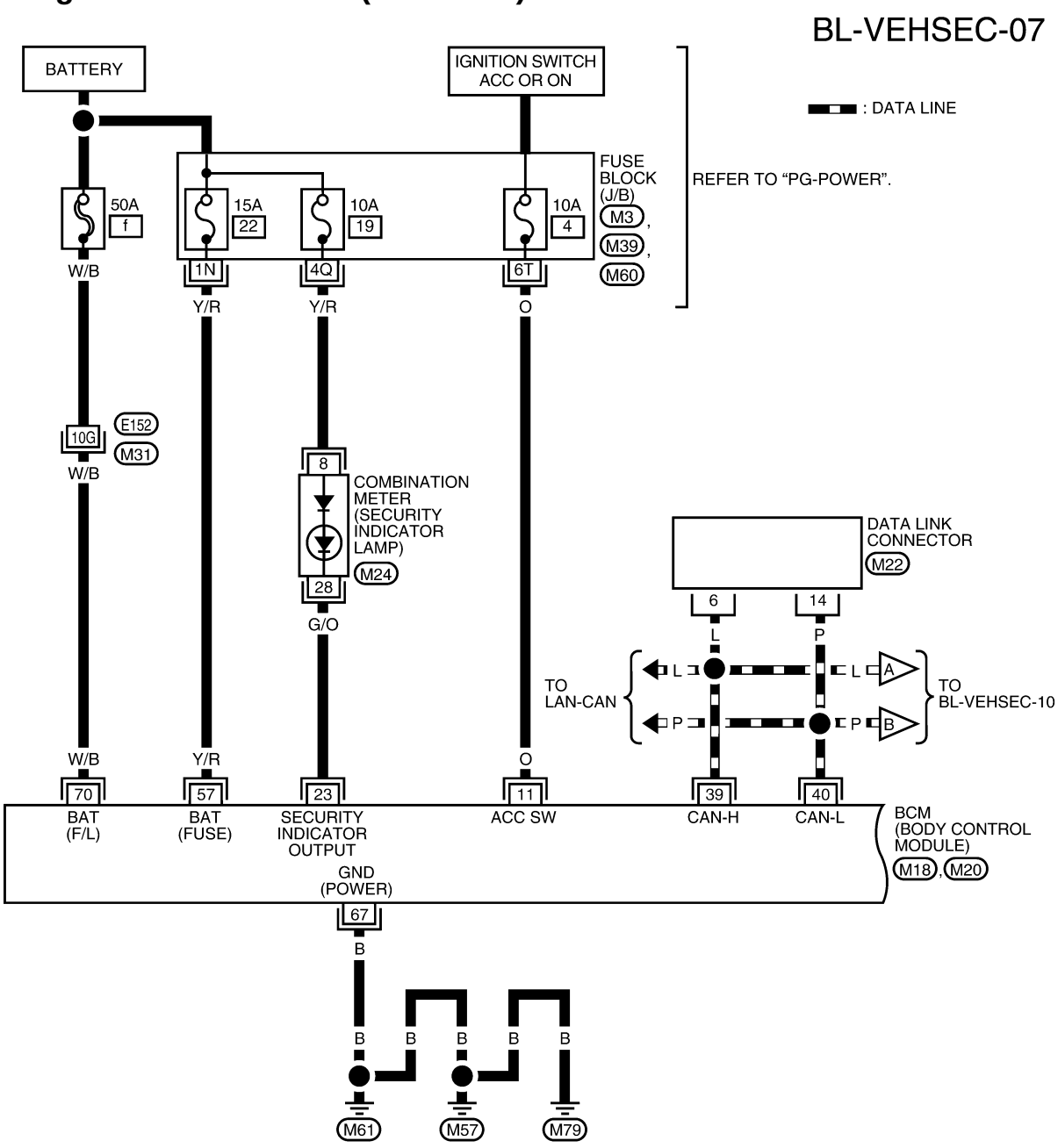
EIS004AF

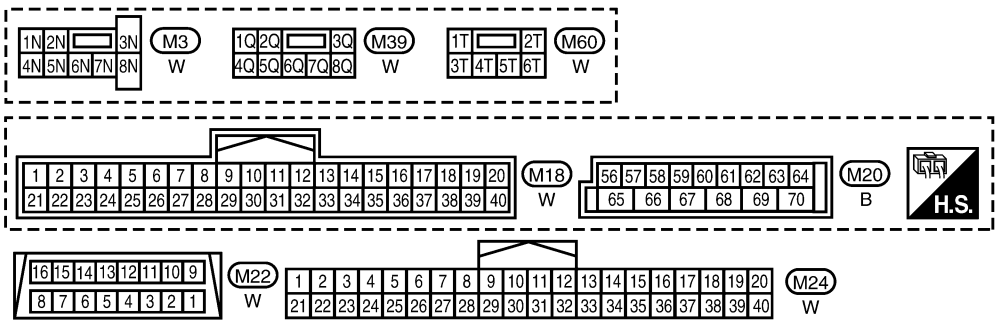


WIWA1359E

Wiring Diagram — VEHSEC — (Crew Cab)

EIS004AG

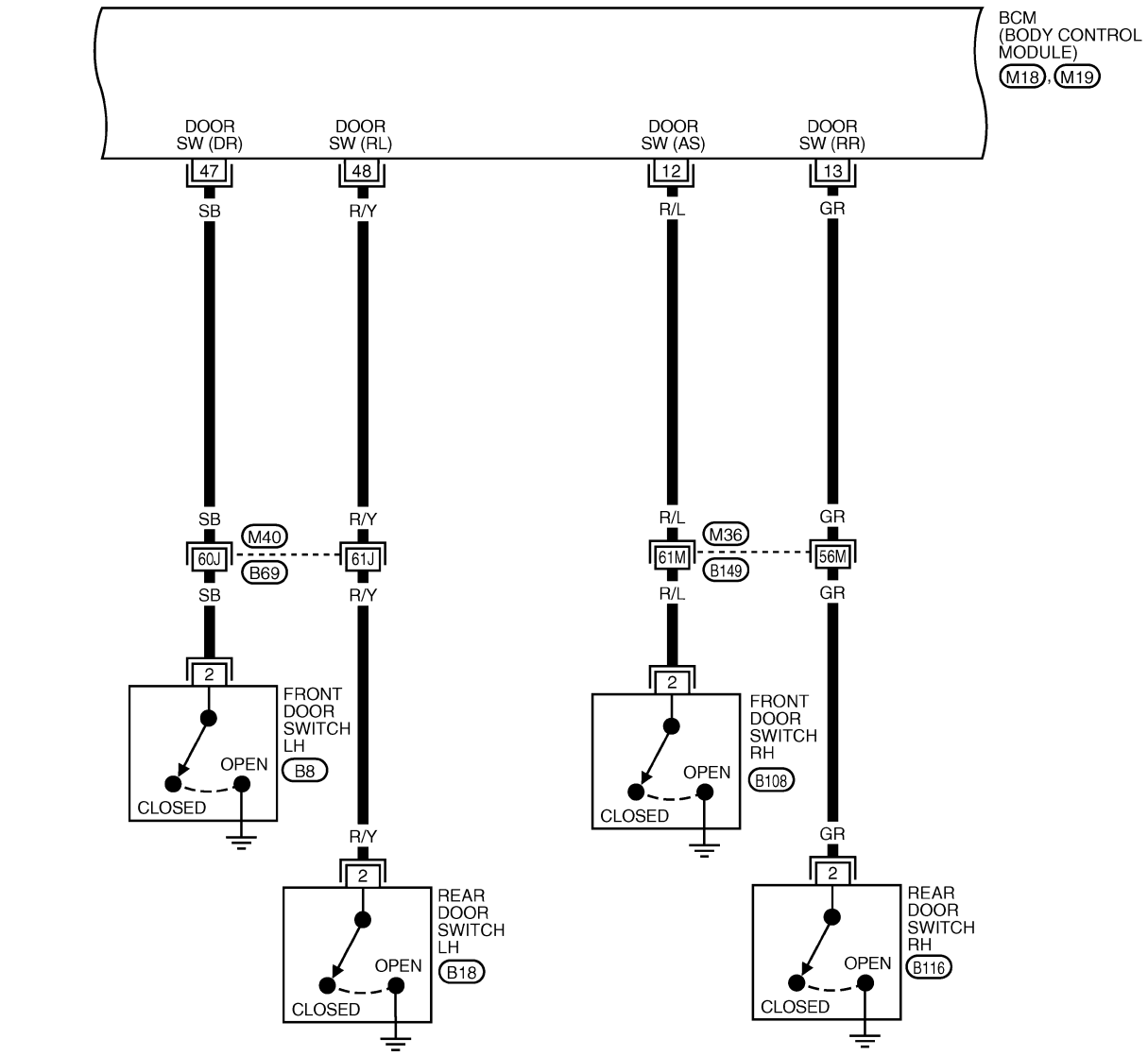


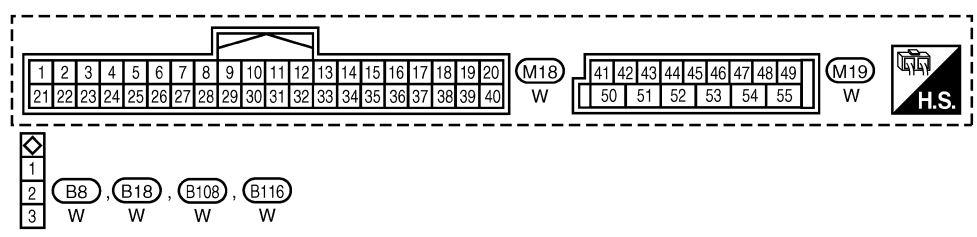


REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1360E

BL-VEHSEC-08

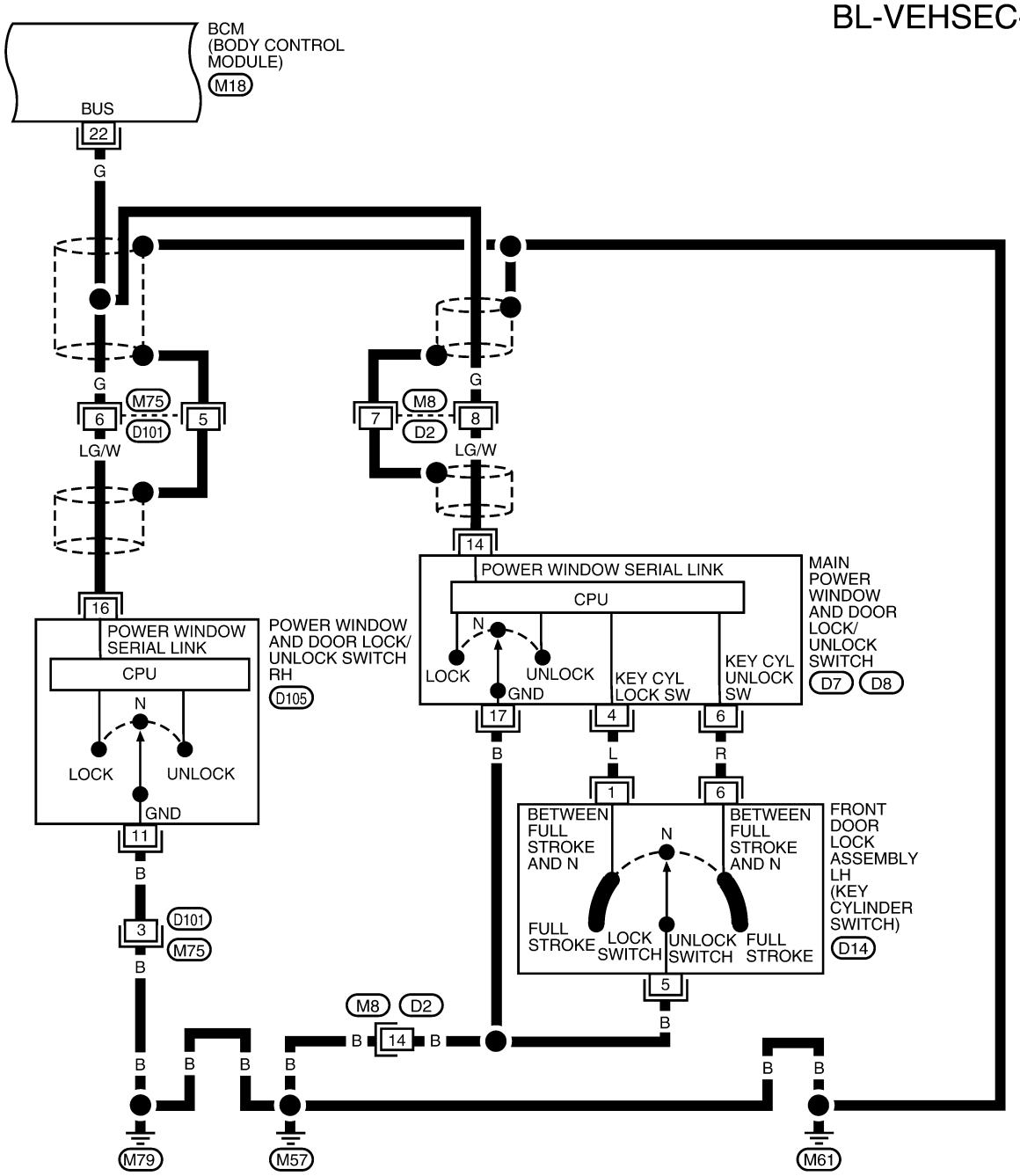


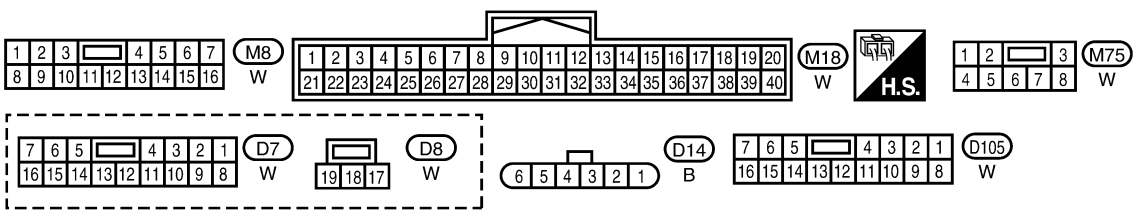


REFER TO THE FOLLOWING.
M36, M40 - SUPER MULTIPLE JUNCTION (SMJ)

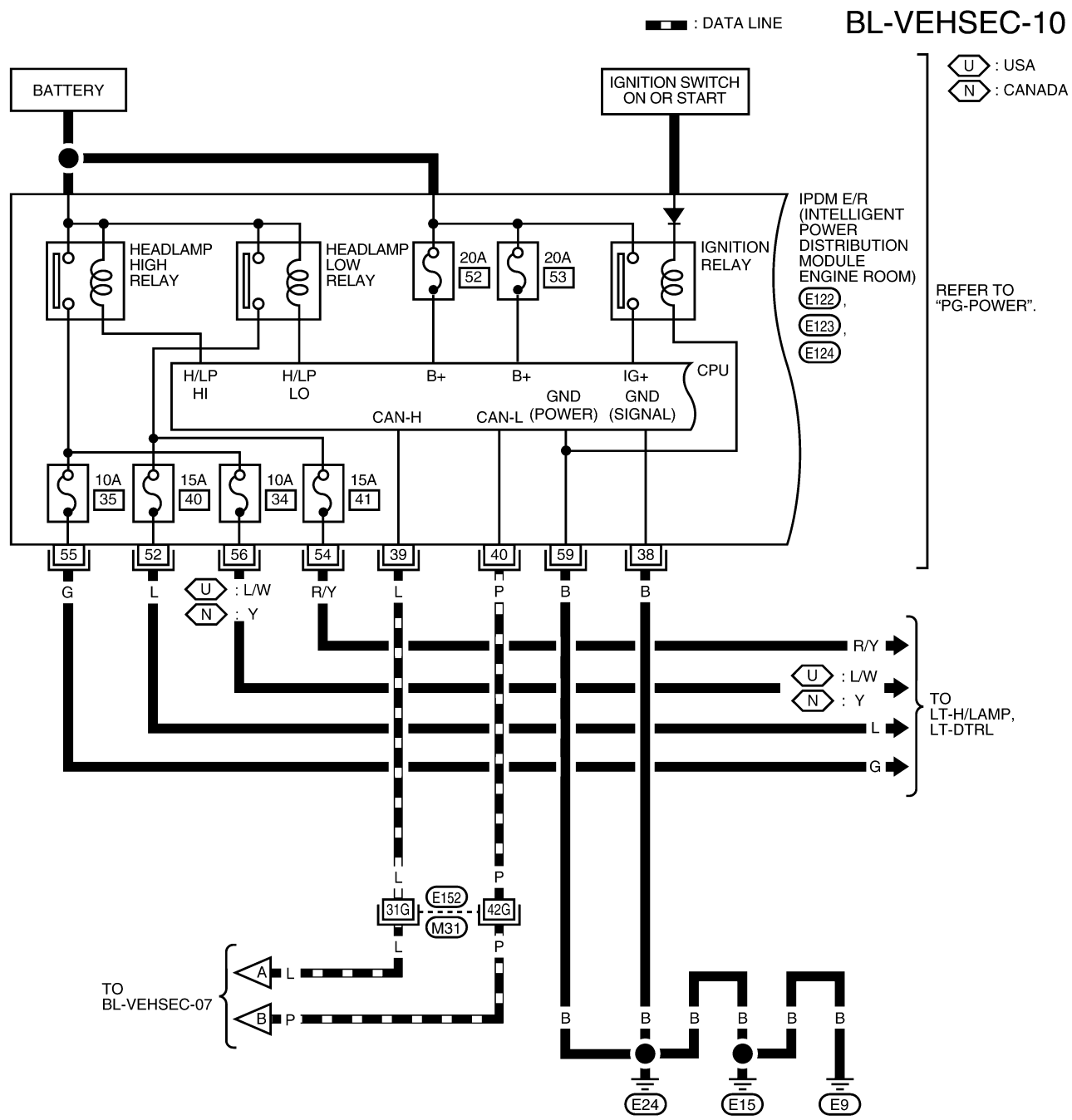
WIWA0295E

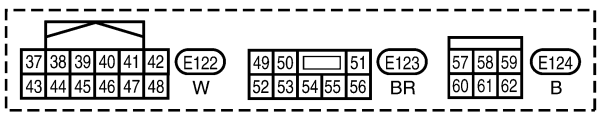
BL-VEHSEC-09





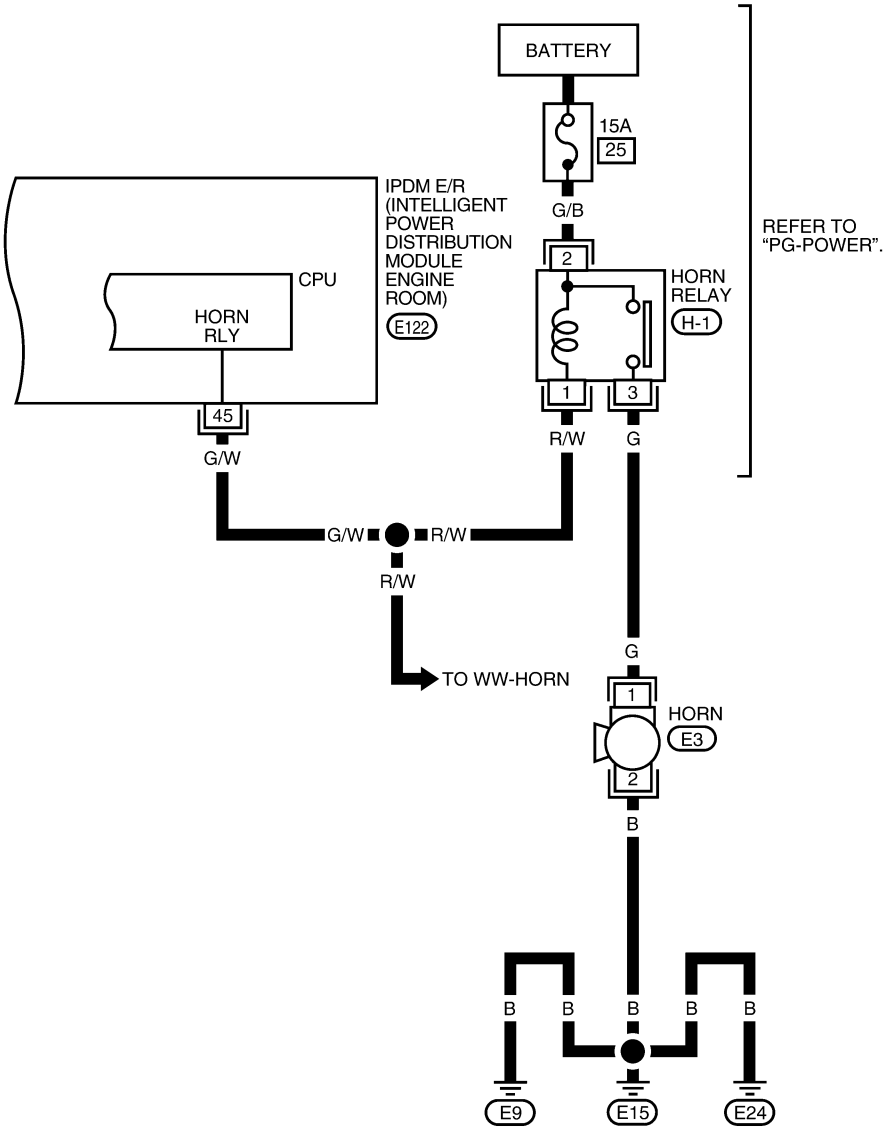
WIWA2221E

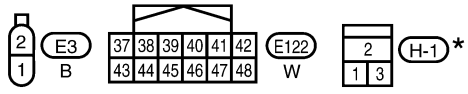




REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0769E



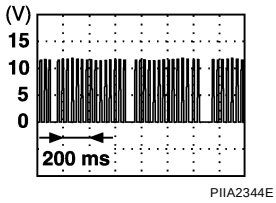


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WIWA1362E

Terminals and Reference Value for BCM

EIS004AH

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
11	O	Ignition switch (ACC)	Ignition switch in ACC	Battery voltage
12	R/L	Front door switch RH Rear door switch upper RH (King Cab) Rear door switch lower RH (King Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
13	GR	Rear door switch RH (Crew Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
22	G	Bus	When ignition switch is ON or power window timer operates	 PIIA2344E
23	G/O	Security indicator lamp	Goes off → illuminates (Every 2.4 seconds)	Battery voltage → 0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
48	R/Y	Rear door switch LH (Crew Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
47	SB	Front door switch LH Rear door switch upper LH (King Cab) Rear door switch lower LH (King Cab)	Door close (OFF) → Open (ON)	Battery voltage → 0
57	Y/R	Power source (BAT)	—	Battery voltage
67	B	Ground	—	0
70	W/B	Power source (BAT)	—	Battery voltage

Terminals and Reference Value for IPDM E/R

EIS004AI

Terminal	Wire Color	Item	Condition		Voltage (V) (Approx.)
38	B	Ground	—		0
39	L	CAN-H	—		—
40	P	CAN-L	—		—
45	G/W	Horn relay	When doors locks are operated using keyfob (OFF → ON) *1		Battery voltage → 0
52	L	Headlamp low (LH)	Lighting switch 2ND position	OFF	0V
				ON	Battery voltage
54	R/Y	Headlamp low (RH)	Lighting switch 2ND position	OFF	0V
				ON	Battery voltage
55	G	Headlamp high (LH)	Lighting switch HIGH or PASS position	OFF	0V
				ON	Battery voltage
56	L/W *2 Y *3	Headlamp high (RH)	Lighting switch HIGH or PASS position	OFF	0V
				ON	Battery voltage
59	B	Ground	—		0

*1: when horn reminder is ON.
*2: L/W is for USA.
*3: Y is for Canada.

CONSULT-II Function (BCM)

EIS004AJ

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

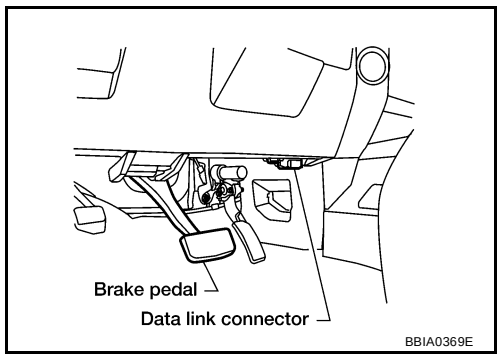
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received date is displayed.
	DATA MONITOR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

CONSULT-II INSPECTION PROCEDURE

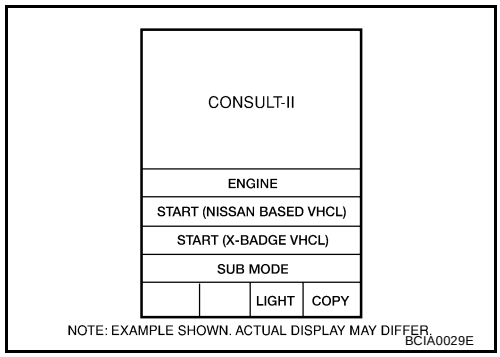
CAUTION:

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

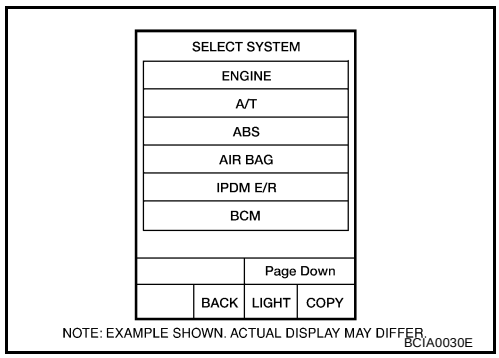
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



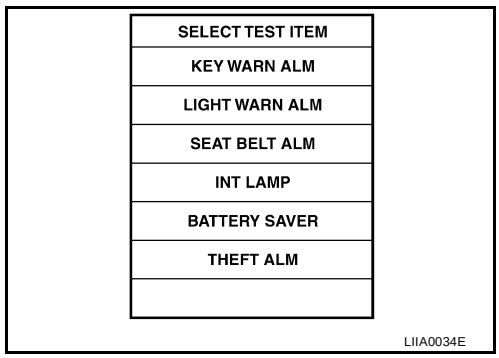
3. Turn ignition switch ON.
4. Touch “START (NISSAN BASED VHCL)”.



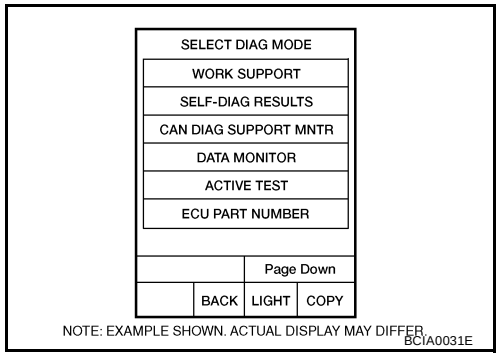
5. Touch “BCM”.
If “BCM” is not indicated, refer to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “THEFT ALM” on the “SELECT TEST ITEM” screen.



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



CONSULT-II APPLICATION ITEM

Data Monitor

Monitored Item	Description
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.

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 (HI)	This test is able to check vehicle security lamp operation. The highbeam headlamps will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.

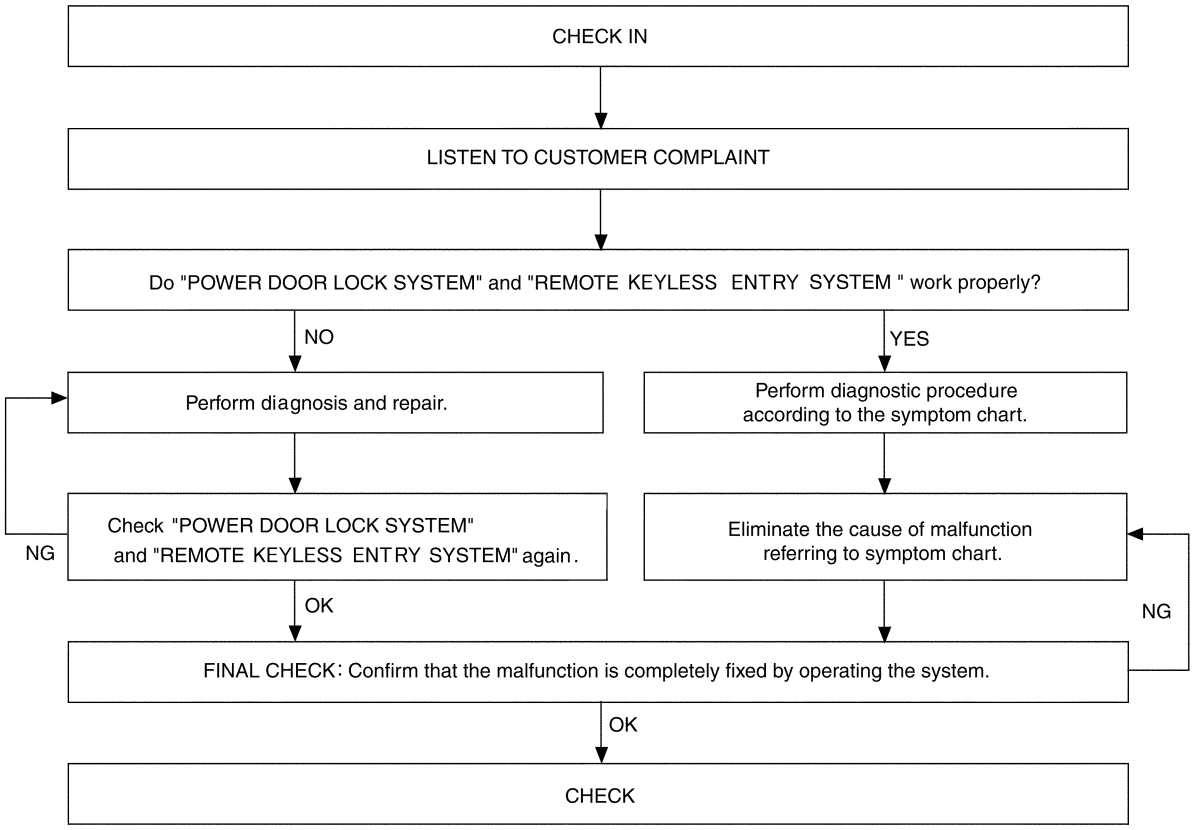
Work Support

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

Trouble Diagnosis

EIS004AK

WORK FLOW



WIIA0599E

- “POWER DOOR LOCK SYSTEM” Diagnosis refer to BL-16, "POWER DOOR LOCK SYSTEM" .
- “REMOTE CONTROL SYSTEM” Diagnosis refer to BL-56, "REMOTE KEYLESS ENTRY SYSTEM" .

Preliminary Check

EIS004AL

1. CHECK BCM CONFIGURATION

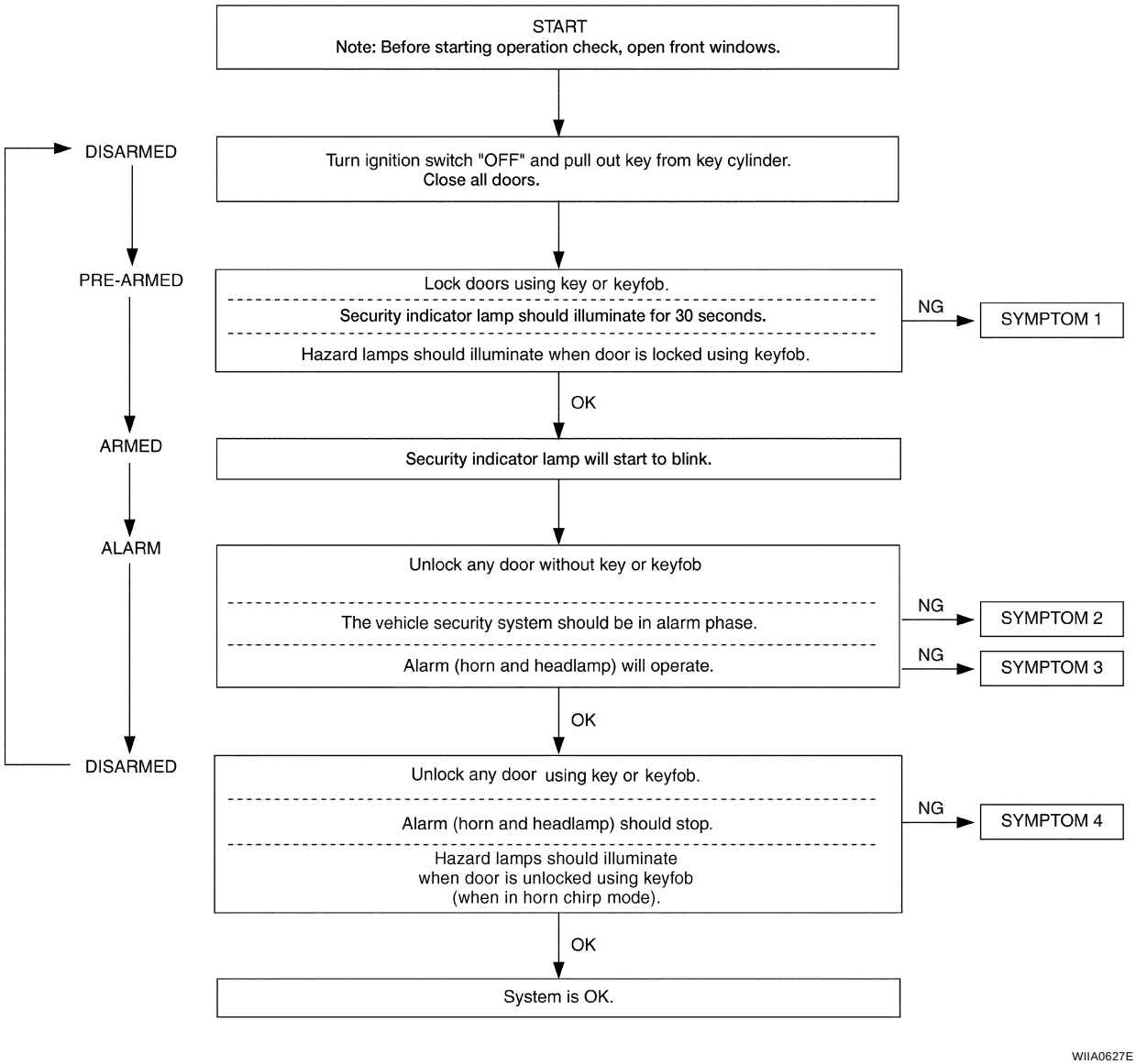
Confirm BCM Configuration for "THEFT ALARM" is set to "WITH". Refer to BCS-13, "READ CONFIGURATION PROCEDURE" .

OK or NG

OK >> GO TO 2.
NG >> Change BCM Configuration for "THEFT ALARM" to "WITH". Refer to BCS-16, "WRITE CONFIGURATION PROCEDURE" .

2. CHECK SYSTEM OPERATION

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



WIIA0627E

>> After performing preliminary check, go to symptom chart. Refer to BL-115, "Symptom Chart" .

Symptom Chart

EIS004AM

	SYMPTOM	PROCEDURE	Diagnostic procedure
1	Vehicle security system cannot be set by ····	Door switch	Refer to BL-116, "Door Switch Check (King Cab)" , BL-117, "Door Switch Check (Crew Cab)" .
			If the above systems are “OK”, replace BCM.
		Lock/unlock switch	Refer to BL-124, "Door Lock/Unlock Switch Check" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch.
		Door outside key	Refer to BL-120, "Front Door Lock Assembly LH (Key Cylinder Switch) Check (King Cab)" , BL-122, "Front Door Lock Assembly LH (Key Cylinder Switch) Check (Crew Cab)" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch.
2	Security indicator does not turn “ON”.	Security indicator lamp	Refer to BL-119, "Security Indicator Lamp Check" .
			If the above systems are “OK”, replace BCM.
3	*1 Vehicle security system does not alarm when ····	Any door is opened.	Refer to BL-116, "Door Switch Check (King Cab)" , BL-117, "Door Switch Check (Crew Cab)" .
			If the above systems are “OK”, replace BCM.
4	Vehicle security alarm does not activate.	Horn alarm	Refer to BL-123, "Vehicle Security Headlamp Alarm Check" .
			If the above systems are “OK”, check horn system. Refer to WW-36, "HORN" .
		Head lamp alarm	Refer to BL-123, "Vehicle Security Headlamp Alarm Check" .
			If the above systems are “OK”, replace BCM.
5	Vehicle security system cannot be canceled by ····	Door outside key	Refer to BL-120, "Front Door Lock Assembly LH (Key Cylinder Switch) Check (King Cab)" , BL-122, "Front Door Lock Assembly LH (Key Cylinder Switch) Check (Crew Cab)" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch.
		Keyfob	Check remote keyless entry function
			If the above systems are “OK”, replace BCM.

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

Door Switch Check (King Cab)

EIS004AN

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

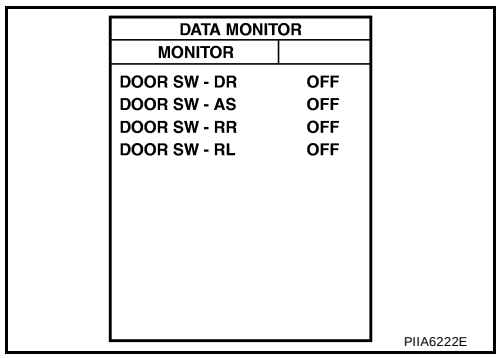
Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

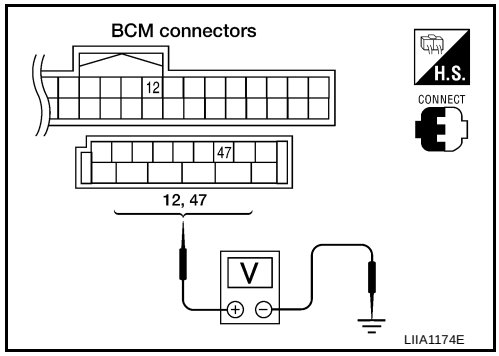
  DOOR SW-DR :OFF
  DOOR SW-AS :OFF



Without CONSULT-II

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

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(–)		
M19	Door switches LH	47	Ground	Open ↓ Closed	0 ↓ Battery voltage
M18	Door switches RH	12			



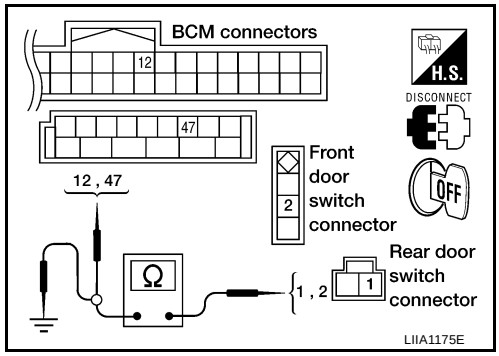
OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and BCM connector M18, M19 terminals 12, and 47.

   2 - 47 :Continuity should exist
   2 - 12 :Continuity should exist
   1 - 47 :Continuity should exist
   1 - 12 :Continuity should exist



4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and ground.

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

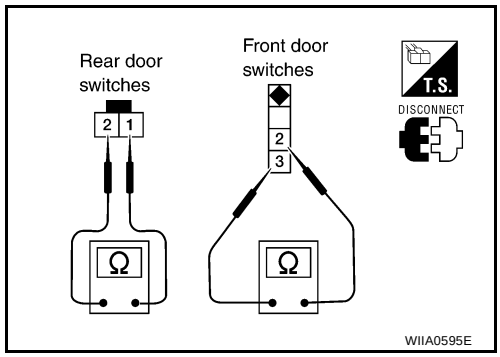
OK or NG

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

3. CHECK DOOR SWITCHES

1. Disconnect door switch.
2. Check continuity between door switch terminals.

Item	Terminals	Condition	Continuity
Door switches (front)	2 – 3	Open	No
		Closed	Yes
Door switches (rear upper and lower)	1 – 2	Open	No
		Closed	Yes



OK or NG

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

Door Switch Check (Crew Cab)

EIS004AO

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

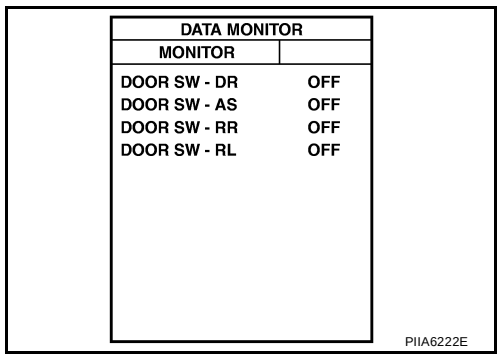
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

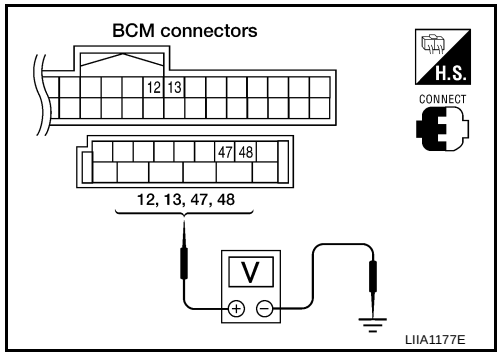
DOOR SW-DR :OFF
DOOR SW-AS :OFF
DOOR SW-RL :OFF
DOOR SW-RR :OFF



Without CONSULT-II

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

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



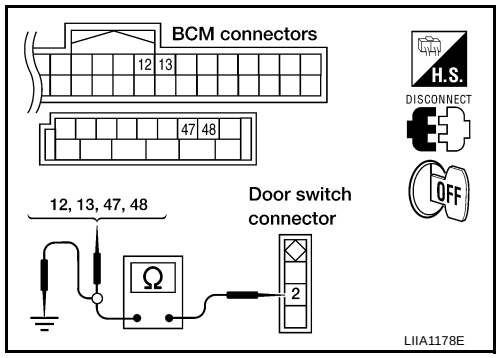
OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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



4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and ground.

2 - Ground :Continuity should not exist

OK or NG

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

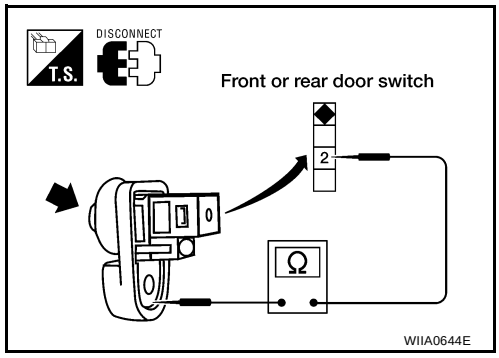
3. CHECK DOOR SWITCHES

Check continuity between door switch terminal 2 and exposed metal of switch while pressing and releasing switch.

	Terminals	Condition	Continuity
Door switch (front and rear)	2 – Ground	Released	Yes
		Pressed	No

OK or NG

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



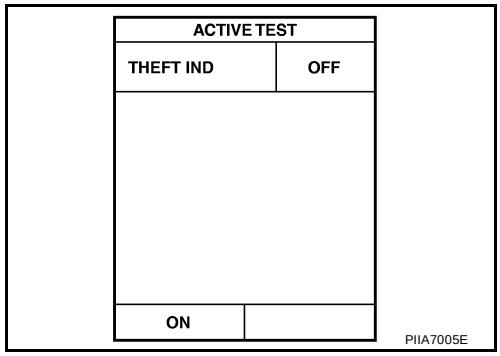
Security Indicator Lamp Check

EIS004AP

1. SECURITY INDICATOR LAMP ACTIVE TEST

With CONSULT-II

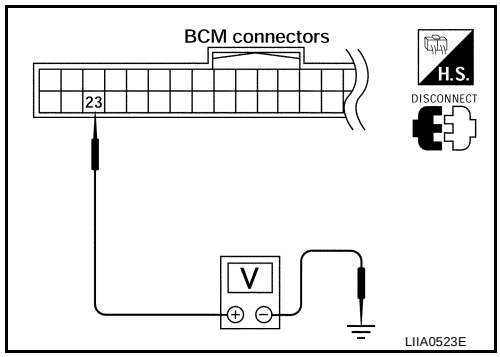
Check "THEFT IND" in "ACTIVE TEST" mode with CONSULT-II.



Without CONSULT-II

1. Disconnect BCM.
2. Check voltage between BCM harness connector M18 terminal 23 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	23	Ground	ON	0
			OFF	Battery voltage



OK or NG

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

2. SECURITY INDICATOR LAMP CHECK

Check indicator lamp condition.
Refer to BL-98, "Wiring Diagram — VEHSEC — (King Cab)" or BL-105, "Wiring Diagram — VEHSEC — (Crew Cab)" .

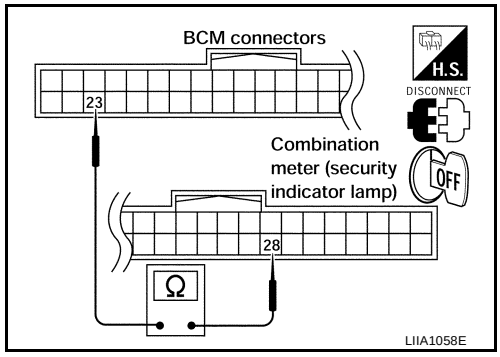
OK or NG

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

3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and combination meter (security indicator lamp) connector.
3. Check continuity between BCM connector M18 terminal 23 and combination meter (security indicator lamp) harness connector M24 terminal 28.

23 - 28 : Continuity should exist



OK or NG

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

NG >> Repair or replace harness.

Front Door Lock Assembly LH (Key Cylinder Switch) Check (King Cab)

EIS004AQ

1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-II

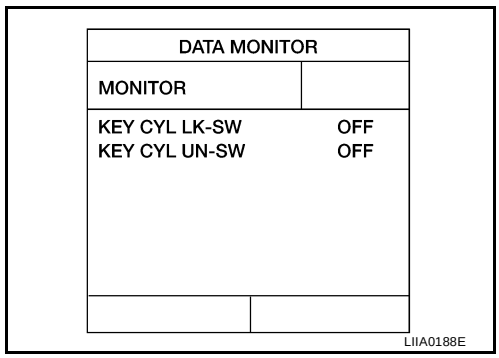
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode in CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- 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:

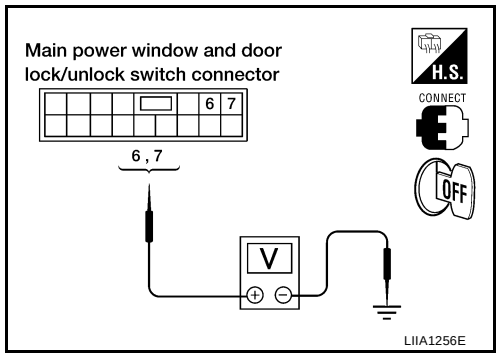
  KEY CYL UN-SW : ON



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 6, 7 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(–)		
D7	6	Ground	Neutral/Unlock	5
			Lock	0
	7		Neutral/Lock	5
			Unlock	0



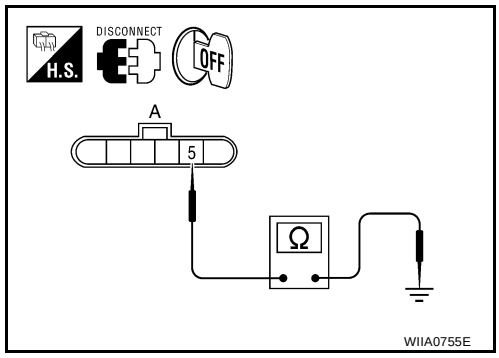
OK or NG

OK >> Front door lock assembly LH (key cylinder switch) signal is OK.
NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes

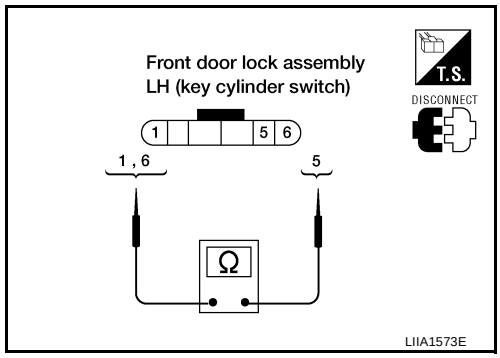


OK or NG

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door lock assembly LH (key cylinder switch) terminals.



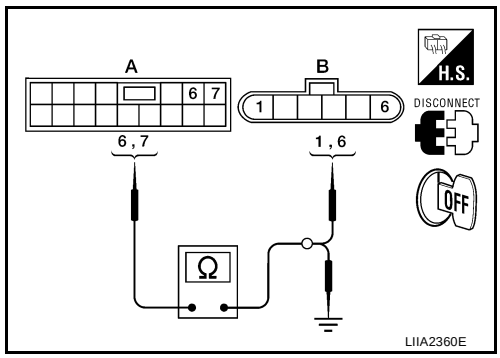
Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes

OK or NG

OK >> GO TO 4.
NG >> Replace front door lock assembly LH (key cylinder switch). Refer to BL-130, "Removal and Installation" .

4. CHECK DOOR KEY CYLINDER HARNESS

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 6, 7 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.



Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	6	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	7		6	Yes
	6, 7	Ground		No

OK or NG

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

Front Door Lock Assembly LH (Key Cylinder Switch) Check (Crew Cab)

EIS004AR

1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-II

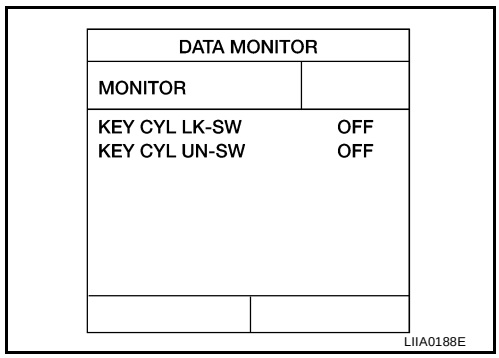
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode in CONSULT–II. Refer to BL-33, "DATA MONITOR" .

- 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:

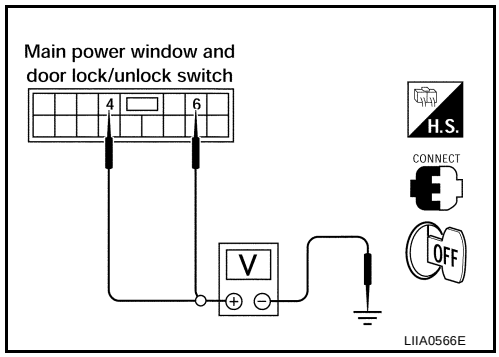
  KEY CYL UN-SW : ON



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 4, 6 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(–)		
D7	4	Ground	Neutral/Unlock	5
			Lock	0
	6		Neutral/Lock	5
			Unlock	0



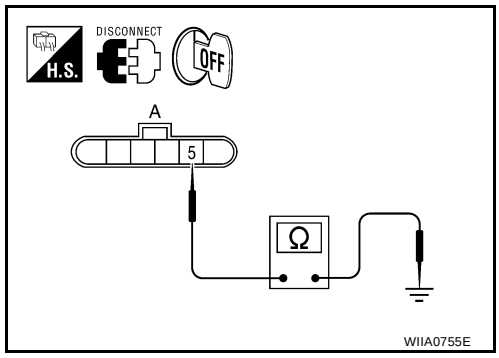
OK or NG

OK >> Front door lock assembly LH (key cylinder switch) signal is OK.
NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes

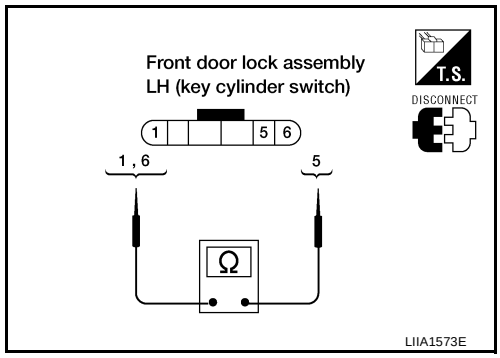


OK or NG

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door lock assembly LH (key cylinder switch) terminals.



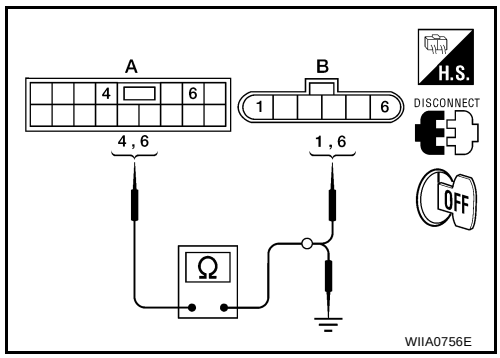
Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes

OK or NG

OK >> GO TO 4.
NG >> Replace front door lock assembly LH (key cylinder switch). Refer to BL-130, "Removal and Installation" .

4. CHECK DOOR KEY CYLINDER HARNESS

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.



Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	4	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	6		6	Yes
	4, 6	Ground		No

OK or NG

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

Vehicle Security Horn Alarm Check

EIS004AS

1. CHECK HORN OPERATION

Check if horn sounds with horn switch.

Does horn operate?

YES >> Check harness for open or short between IPDM E/R and horn relay.
NO >> Check horn circuit. Refer to WW-36, "HORN" .

Vehicle Security Headlamp Alarm Check

EIS004AT

1. CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION

Check if headlamps operate with lighting switch.

Do headlamps come on when turning switch ON?

YES >> Headlamp alarm is OK.
NO >> Check headlamp system. Refer to LT-5, "HEADLAMP (FOR USA)" .

Door Lock/Unlock Switch Check

EIS004AU

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

Check if power door lock operates with door lock/unlock switch.

Do doors lock/unlock when using each door lock/unlock switch?

YES >> Door lock/unlock switch is OK.
NO >> Refer to BL-124, "Door Lock/Unlock Switch Check" .

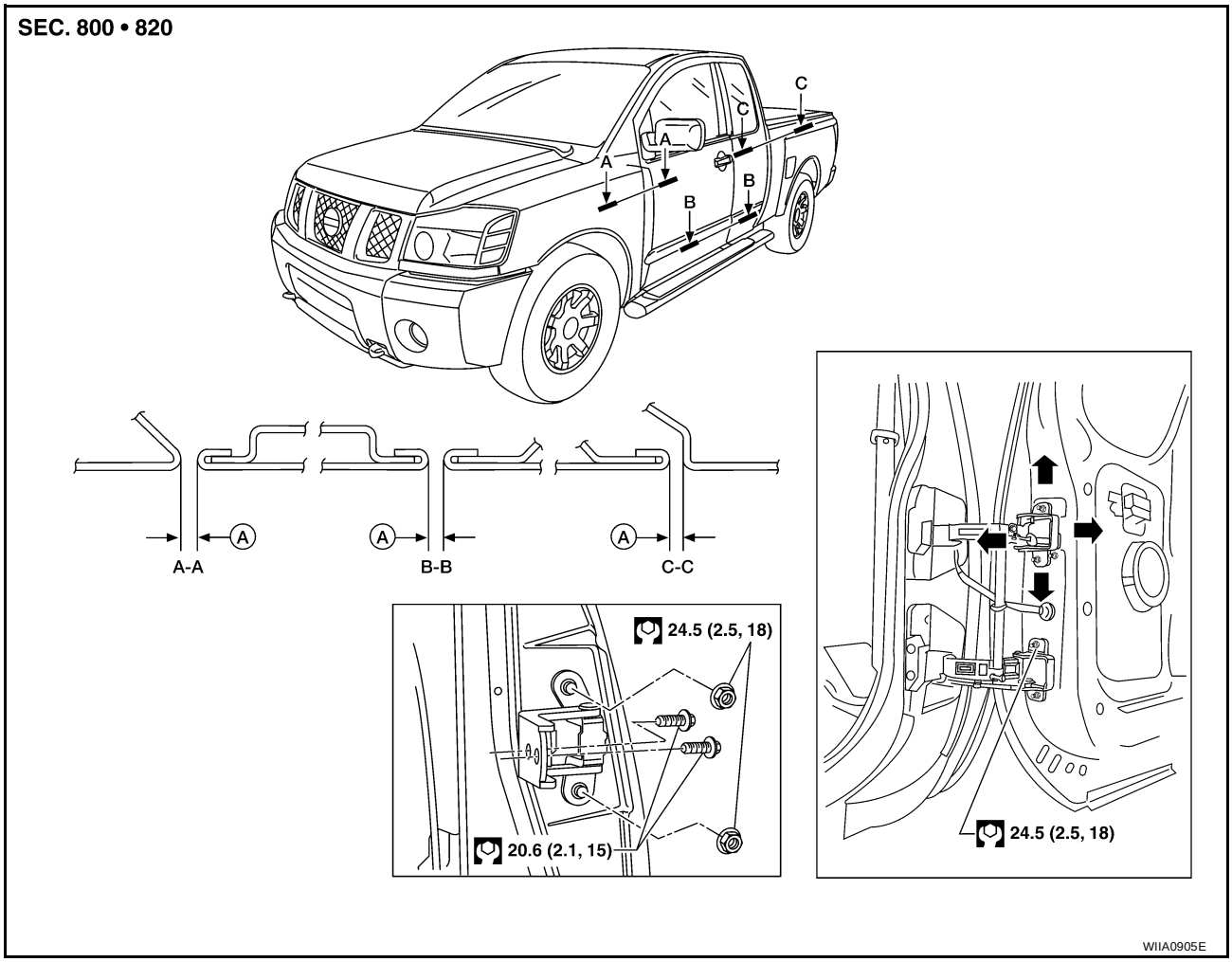
DOOR

PFP:80100

Fitting Adjustment

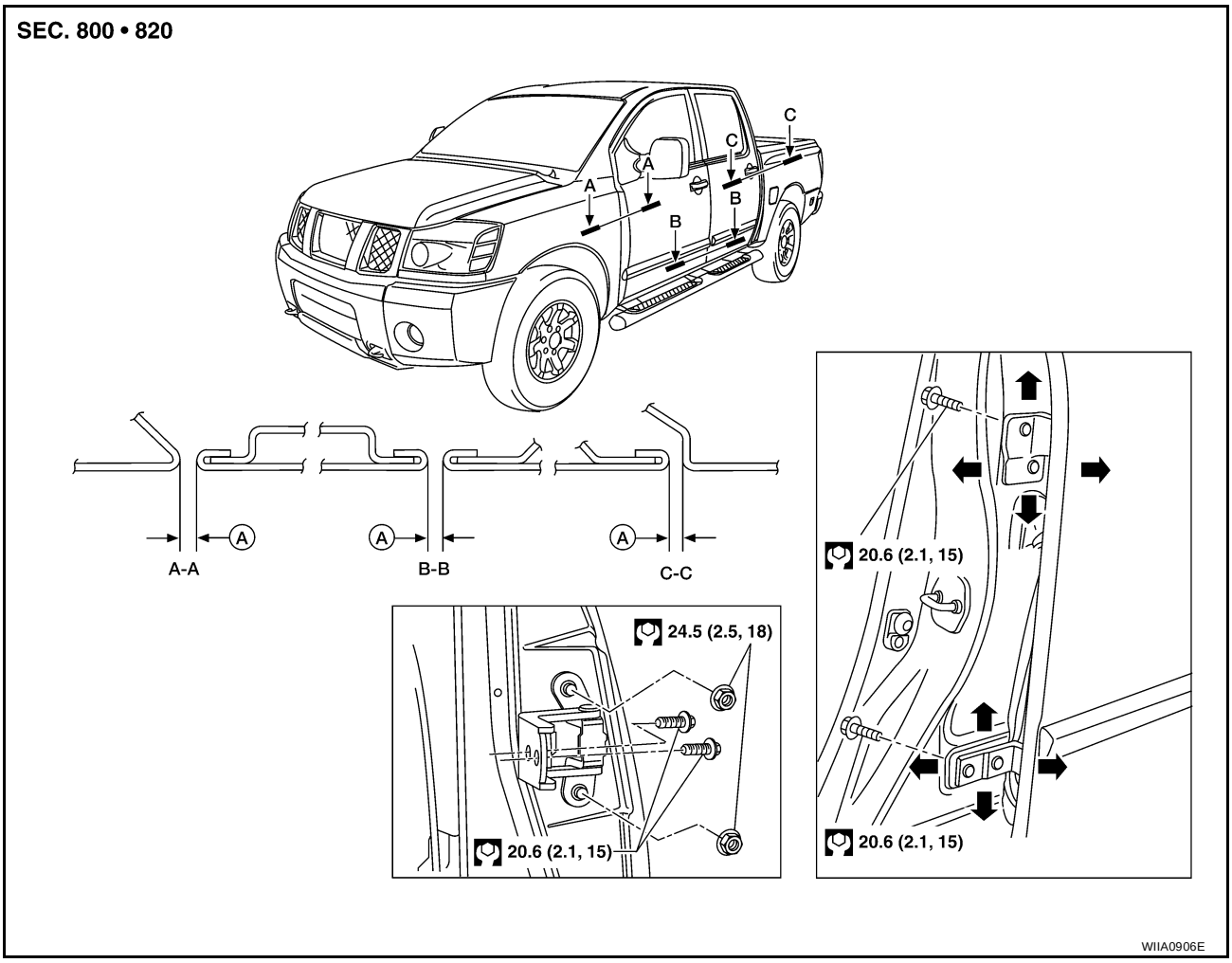
EIS004AV

KING CAB



A. 4.5 ± 1.0 mm (0.177 ± 0.039 in)

CREW CAB



A. 4.5 ± 1.0 mm (0.177 ± 0.039 in)

FRONT DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove the front fender. Refer to EI-23, "Removal and Installation" .
2. Loosen the hinge bolts. Raise the front door at rear end to adjust.
3. Install the front fender. Refer to EI-23, "Removal and Installation" .

REAR DOOR

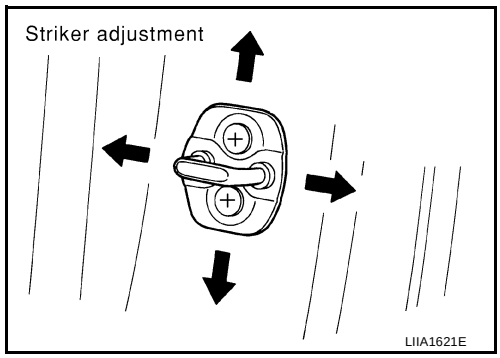
Longitudinal clearance and surface height adjustment at front end

1. Remove the center pillar upper garnish. Refer to EI-36, "Removal and Installation" .
2. Accessing from inside the vehicle, loosen the nuts. Open the rear door, and raise the rear door at rear end to adjust.
3. Install the center pillar upper garnish. Refer to EI-36, "Removal and Installation" .

STRIKER ADJUSTMENT

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

Striker Bolts **:16.6 N·m (1.7 kg–m, 12 ft–lb)**



Removal and Installation

EIS004AW

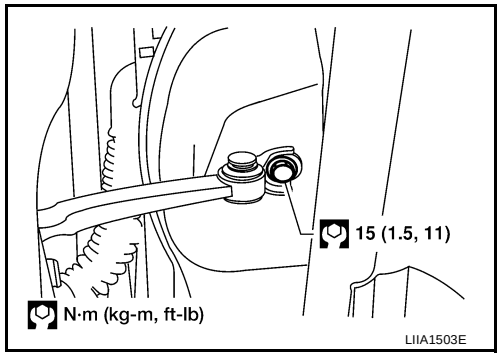
KING CAB

Front Door

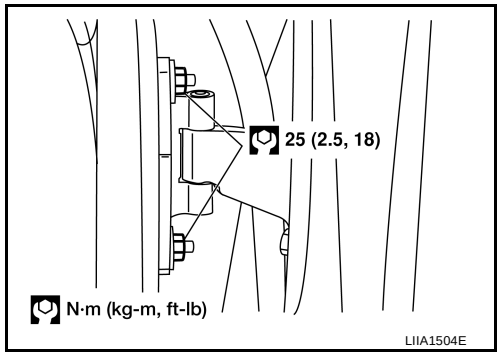
CAUTION:

- **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 front door glass and regulator assembly. Refer to GW-86, "FRONT DOOR GLASS REGULATOR ASSEMBLY" .
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.



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



Installation is in the reverse order of removal.

- Align the front door. Refer to BL-126, "Front door" .

Rear Door

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.**

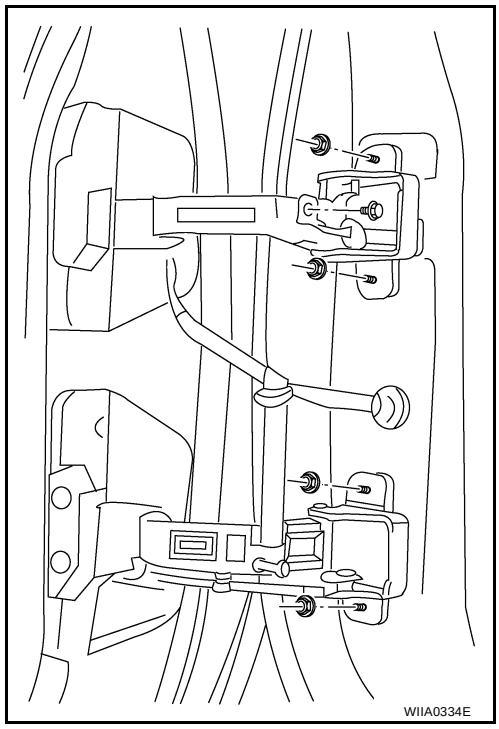
- **Check the hinge rotating part for poor lubrication. If necessary, apply body grease.**

1. Remove the door glass. Refer to GW-91, "SIDE WINDOW GLASS" .
2. Remove the speaker.
3. Remove the door handles and latch assembly. Refer to BL-133, "Component Structure" .
4. Remove the check link.
5. Remove the wire harness.
6. Remove the door assembly.

Installation is in the reverse order of removal.

- Align the rear door. Refer to BL-126, "Rear door" .

Door hinge nuts	**: 24.5 N·m (2.5 kg–m, 18 ft–lb)**
Check link bolt	**: 5.1 N·m (0.52 kg–m, 45 in–lb)**

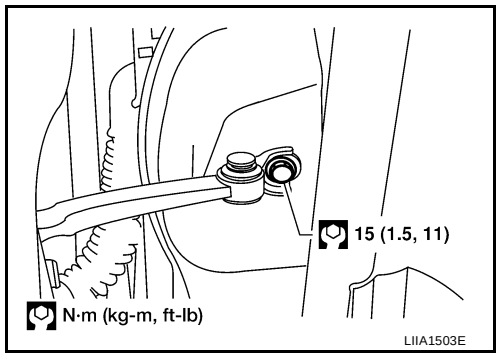


CREW CAB

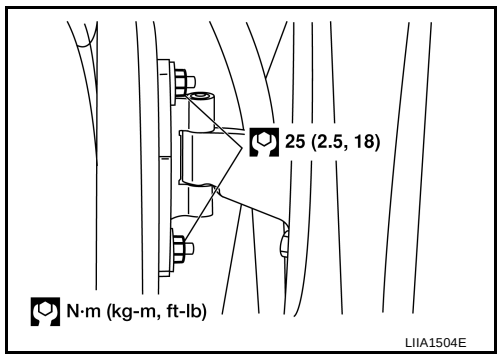
CAUTION:

- **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 window and regulator assembly. Refer to GW-86, "FRONT DOOR GLASS REGULATOR ASSEMBLY" , GW-88, "REAR DOOR GLASS AND REGULATOR" .
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.



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



Installation is in the reverse order of removal.

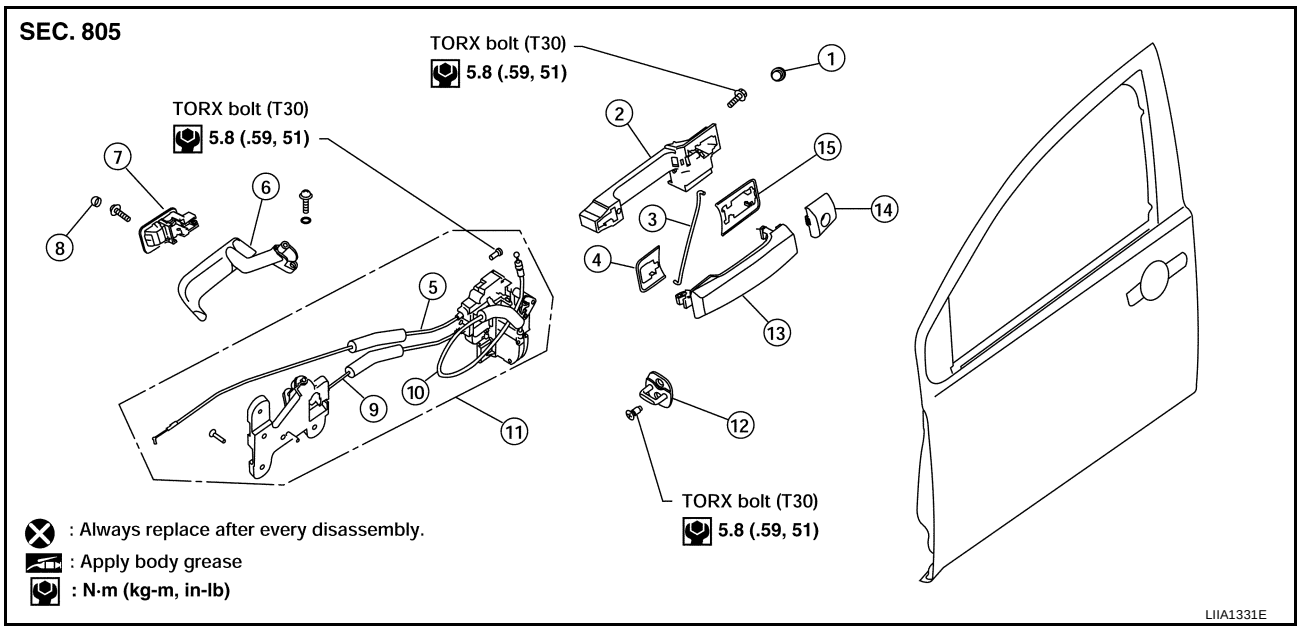
- Align the front door. Refer to BL-126, "Front door" .

FRONT DOOR LOCK

PFP:80502

Component Structure

EIS004AY



1. Grommet
2. Outside handle bracket
3. Key cylinder rod (Driver side only)
4. Front gasket
5. Lock knob cable
6. Inside handle
7. Door lock rocker switch
8. Screw cap
9. Inside handle cable
10. Outside handle cable
11. Door lock assembly
12. Striker
13. Outside handle
14. Door key cylinder assembly (Driver side)
    Outside handle escutcheon (Passenger side)
15. Rear gasket

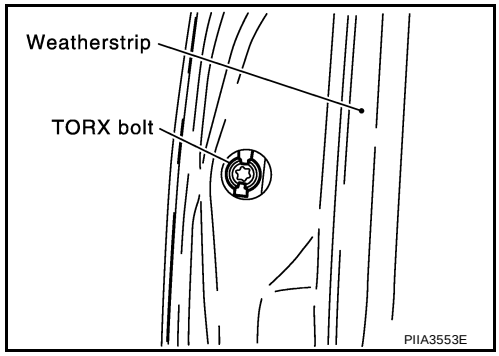
Removal and Installation

EIS004AZ

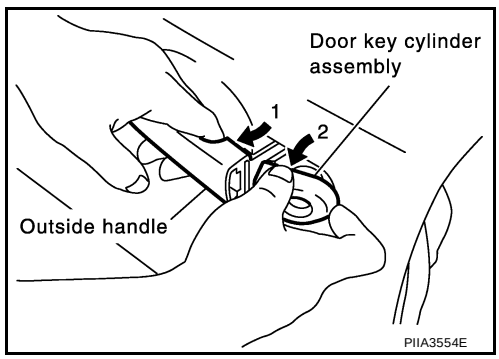
REMOVAL

1. Remove front door speaker. Refer to AV-75, "FRONT DOOR SPEAKER" .
2. Remove the front door speaker housing and vapor sheet.
3. Remove the door side grommet, and the bolt (TORX T30) from the grommet hole.

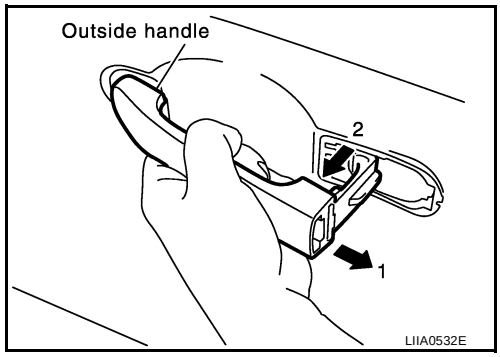
   Torx bolt **5.3 N·m (0.54 kg-m, 47 in-lb)**



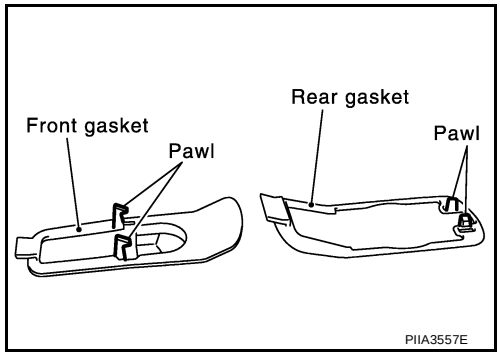
4. While pulling the outside handle, remove the door key cylinder assembly or escutcheon.



5. Separate the key cylinder rod from the door key cylinder assembly (if equipped).
6. While pulling the outside handle, slide it toward rear of vehicle to remove.

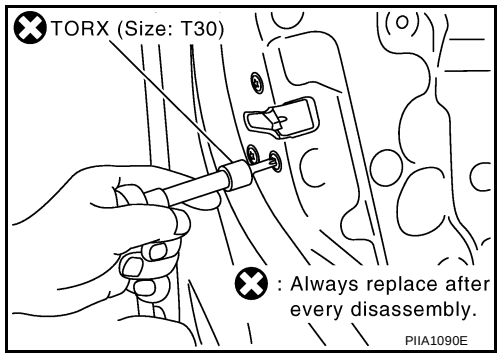


7. Remove the front and rear gaskets.

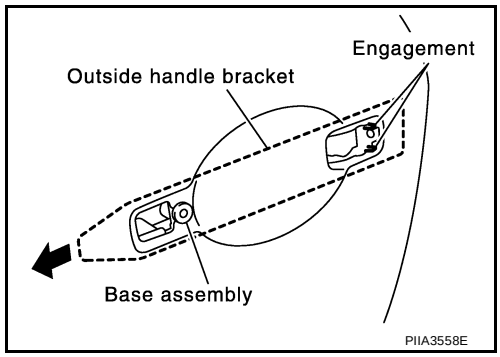


8. Remove the TORX bolts (T30), and the door lock assembly.

Door lock assembly bolts 7.5 N·m (0.77 kg-m, 00 in-lb)

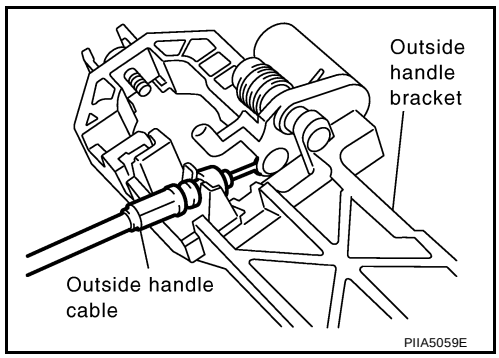


9. While pulling the outside handle bracket, slide it toward the rear of vehicle to remove it and the door lock assembly.



10. Disconnect the door lock actuator electrical connector.

11. Separate the outside handle cable connection from the outside handle bracket.



INSTALLATION

Installation is in the reverse order of removal.

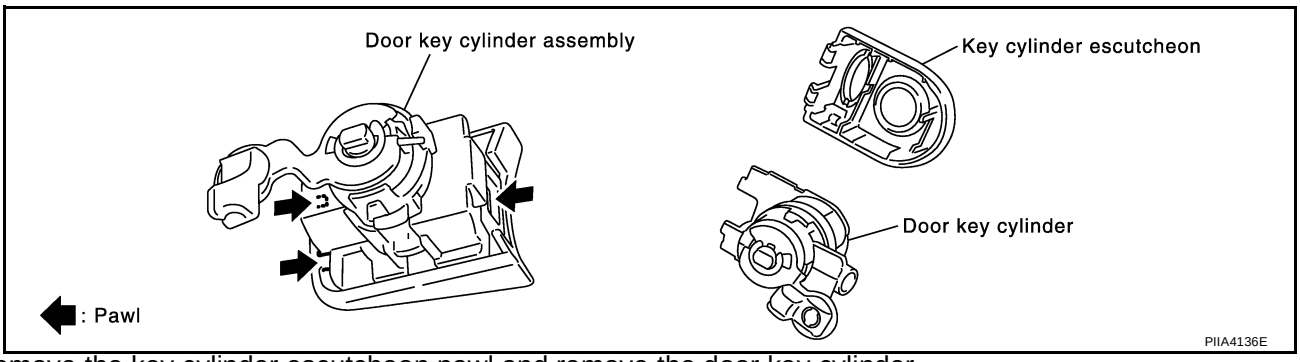
CAUTION:

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

Disassembly and Assembly

EIS004B0

DOOR KEY CYLINDER ASSEMBLY



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

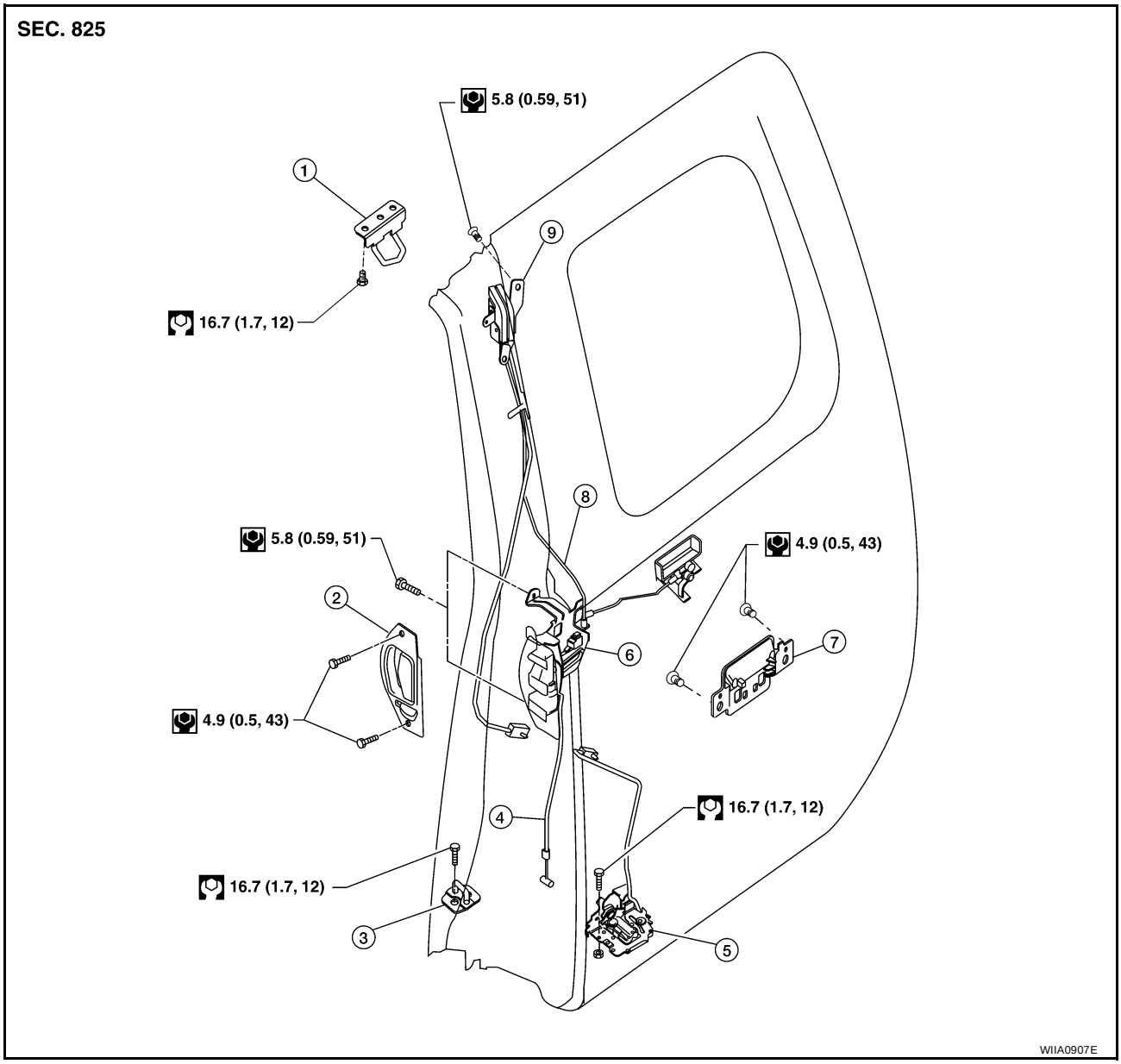
REAR DOOR LOCK

PFP:82502

Component Structure

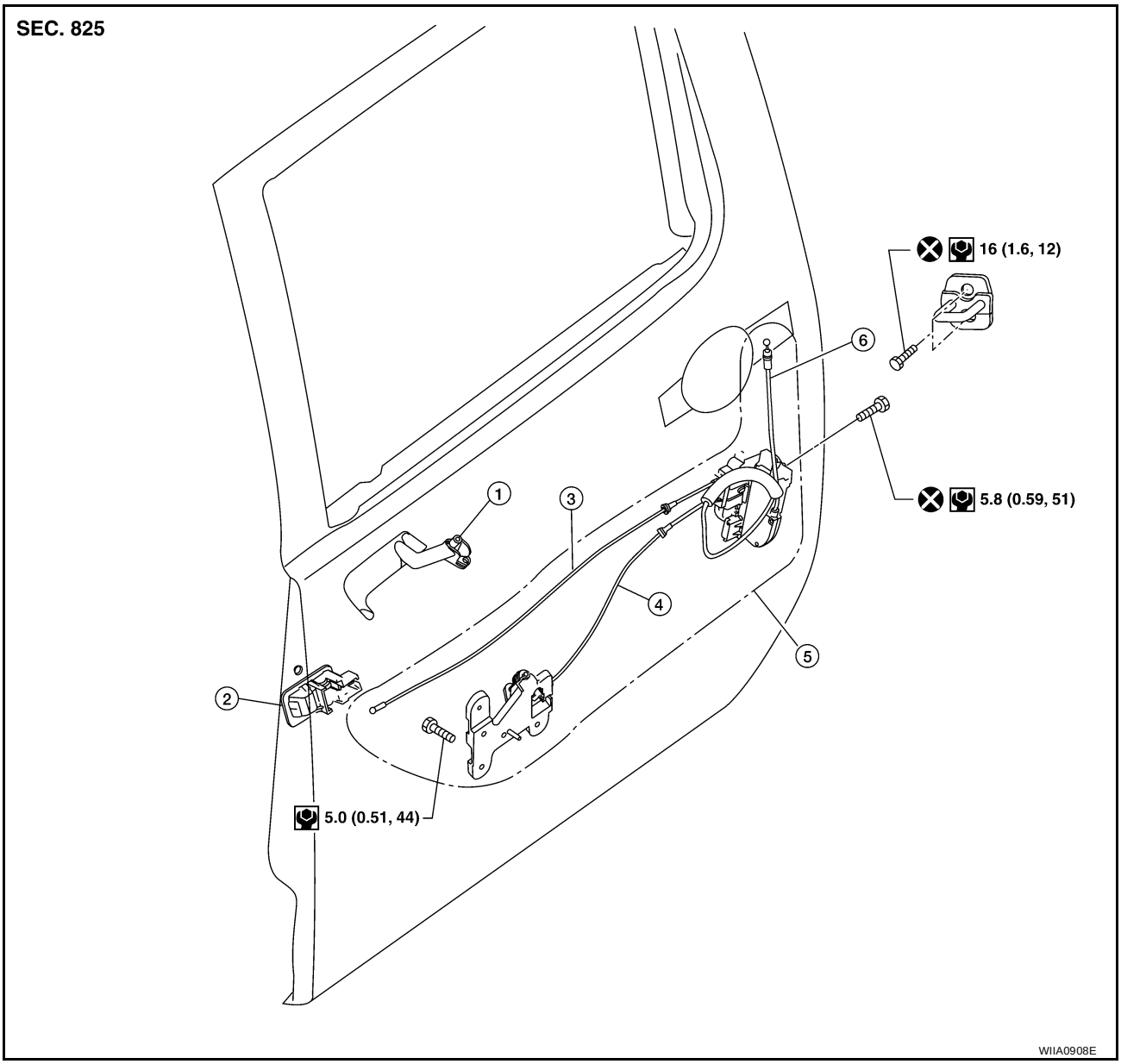
EIS004B1

KING CAB



1. Rear upper door lock striker
2. Rear door handle
3. Rear lower door lock striker
4. Lower latch cable
5. Rear lower door latch
6. Rear door lock assembly
7. Rear inside door handle
8. Upper latch cable
9. Rear upper door latch

CREW CAB



1. Rear inside door handle
2. Rear door lock knob
3. Lock knob cable
4. Inside handle cable
5. Rear door lock/remote control assembly
6. Outside handle cable

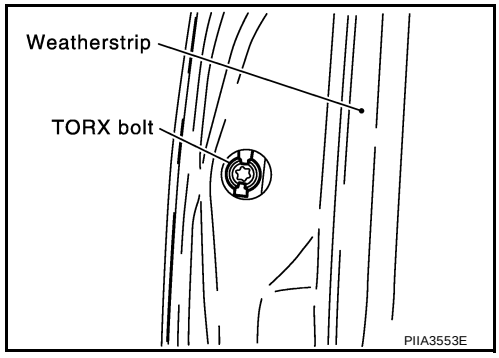
Removal and Installation

EIS004B2

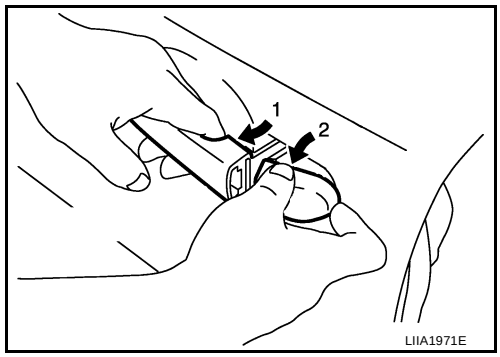
REMOVAL

1. Remove the rear door finisher. Refer to EI-33, "REAR DOOR - CREW CAB" .
2. Remove vapor sheet.
3. Remove the door side grommet and the bolt (TORX T30) from the grommet hole.

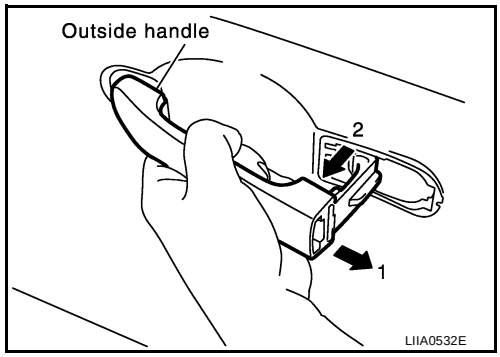
Torx bolt **5.3 N·m (0.54 kg-m, 47 in-lb)**



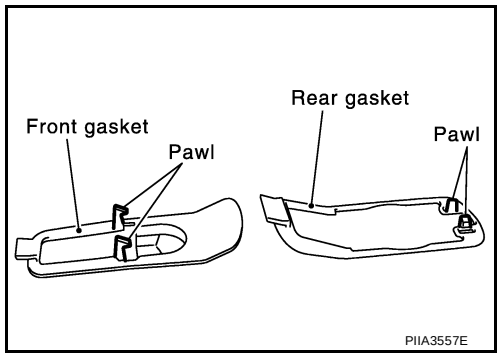
4. While pulling the outside handle, remove the door handle escutcheon.



5. While pulling the outside handle, slide it toward the rear of vehicle to remove.

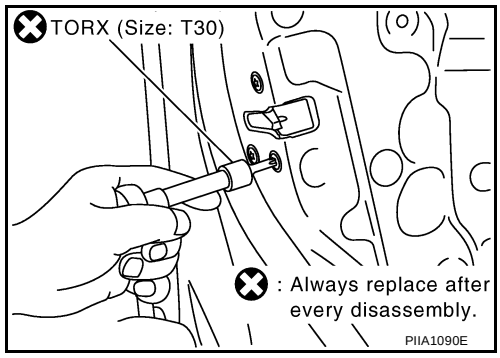


6. Remove the front and rear gaskets.

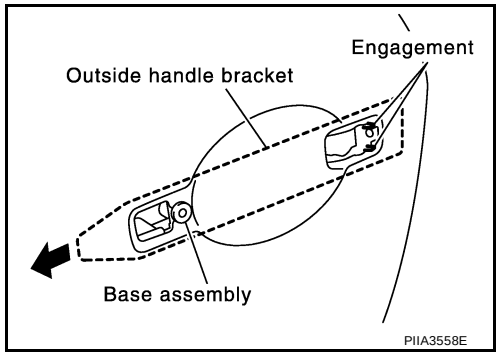


7. Remove the inside handle screws.
8. Remove the TORX bolts (T30), remove the door lock assembly.

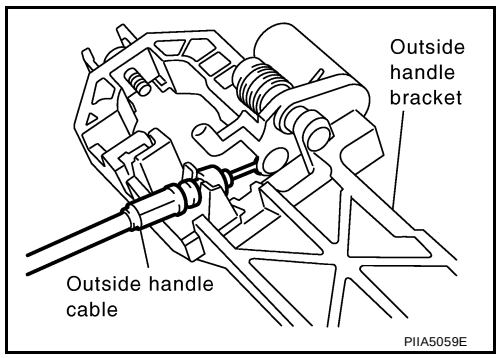
Door lock assembly bolts 6.0 N·m (0.61 kg-m, 53 in-lb)



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



10. Disconnect the outside handle cable.



INSTALLATION

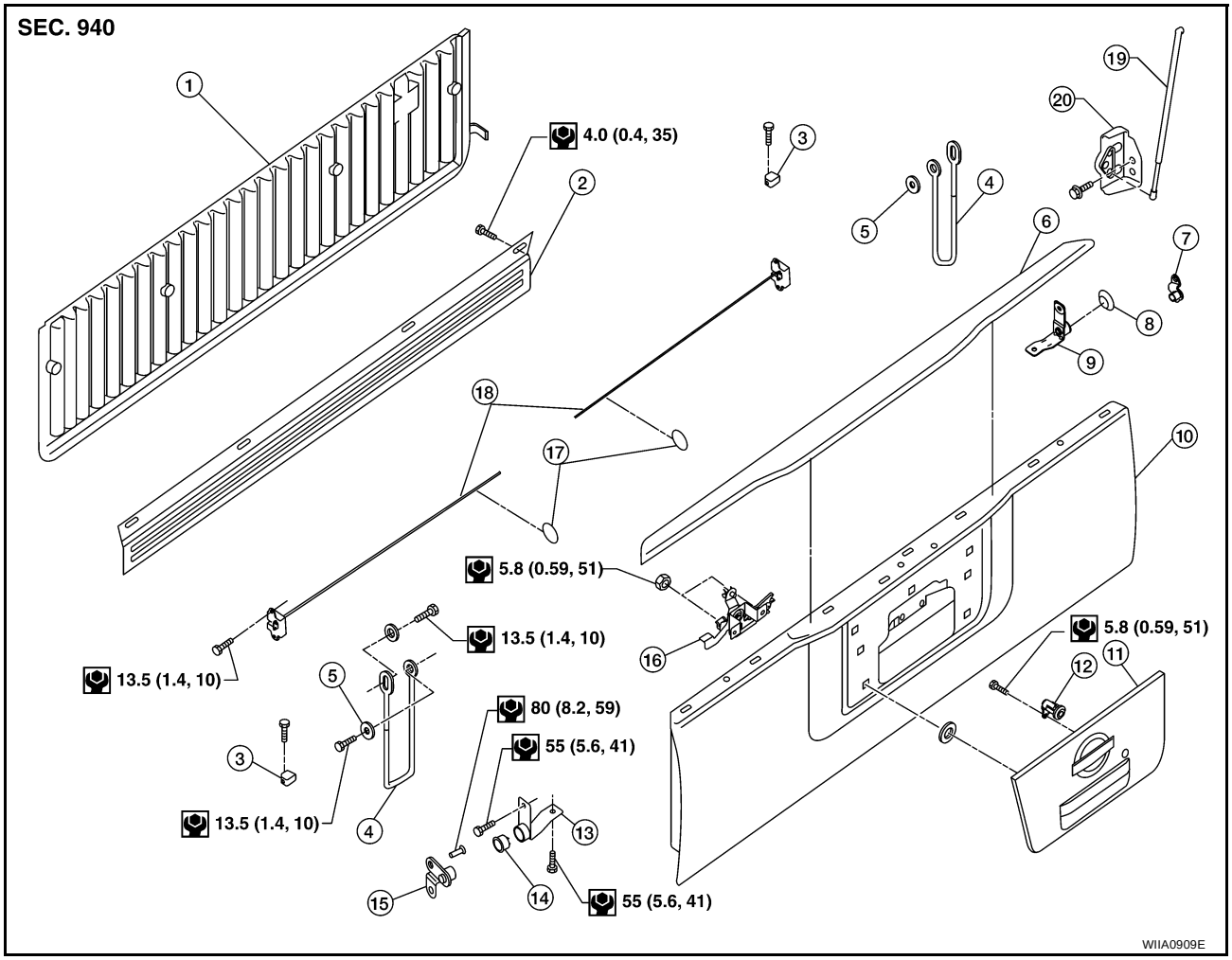
Installation is in the reverse order of removal.

TAIL GATE

PFP:93400

Removal and Installation

EIS004B3



1. Rear gate liner cover (if equipped)	2. Rear gate inner panel	3. Rear gate rubber bumper
4. Rear gate stay assembly	5. Washer	6. Rear gate cover
7. Rear gate hinge assembly (RH), body side	8. Rear gate ring (RH)	9. Rear gate hinge assembly (RH), gate side
10. Rear gate	11. Rear gate handle	12. Rear gate lock cylinder
13. Rear gate hinge assembly (LH), gate side	14. Rear gate ring (LH)	15. Rear gate hinge assembly (LH), body side
16. Rear gate control assembly	17. Rubber bumper	18. Rear gate latch assembly (RH & LH)
19. Gas stay	20. Gas stay bracket	

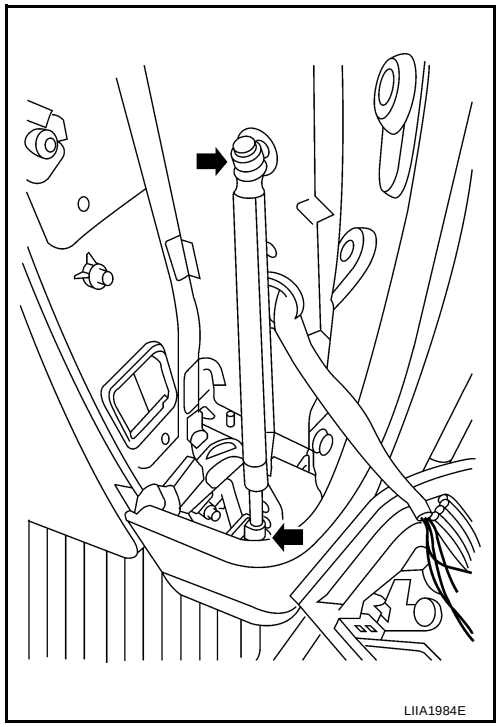
GAS STAY

Removal

WARNING:

The gas stay is under high pressure. Remove the gas stay only with the tailgate fully closed. Injury may result if the gas stay is removed when the tailgate is open.

1. Remove the RH rear combination lamp assembly. Refer to LT-122, "Removal and Installation" .
2. Remove the gas stay.



Installation

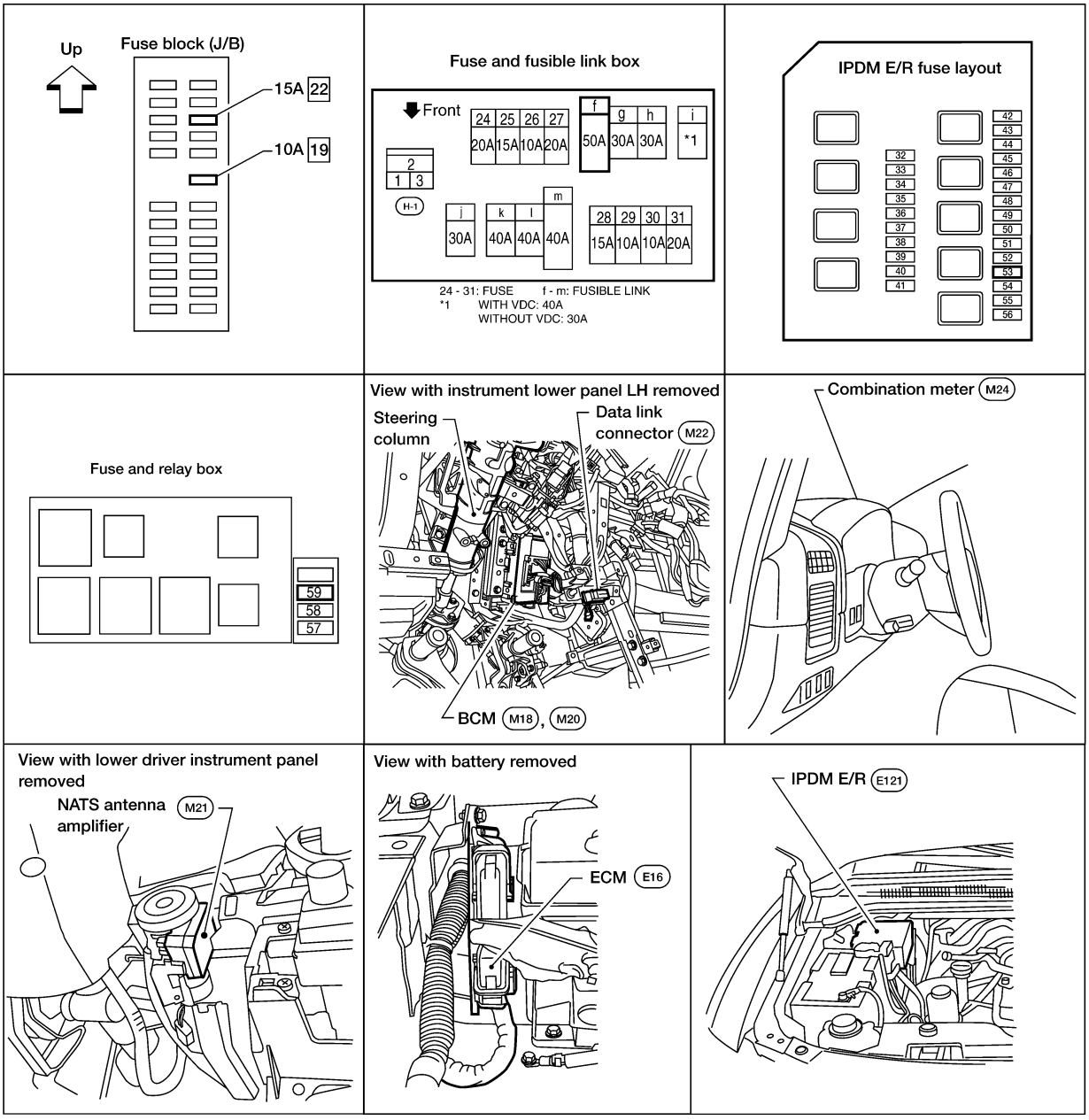
Installation is in the reverse order of removal.

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

PFP:28591

Component Parts and Harness Connector Location

EIS004B4



WIIA0582E

System Description

EIS004B5

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

- Since only NVIS (NATS) ignition keys, whose IDs have been registered into the ECM and BCM, allow the engine to run, operation of a stolen vehicle without a NVIS (NATS) registered key is prevented by NVIS (NATS).
  NVIS (NATS) will immobilize the engine if someone tries to start it without the registered key of NVIS (NATS).
- All of the originally supplied ignition key IDs have been NVIS (NATS) registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NVIS (NATS) components.
- The security indicator blinks when the ignition switch is in OFF or ACC position. NVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- When NVIS (NATS) detects a malfunction, the security indicator lamp lights up while ignition key is in the ON position.
- NVIS (NATS) trouble diagnoses, system initialization and additional registration of other NVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NVIS (NATS) software.
  When NVIS (NATS) initialization has been completed, the ID of the inserted ignition key is automatically NVIS (NATS) registered. Then, if necessary, additional registration of other NVIS (NATS) ignition key IDs can be carried out.
  Regarding the procedures of NVIS (NATS) initialization and NVIS (NATS) ignition key ID registration, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS.
- **When servicing a malfunction of the NVIS (NATS) (indicated by lighting up of Security Indicator Lamp) or registering another NVIS (NATS) ignition key ID, it may be necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

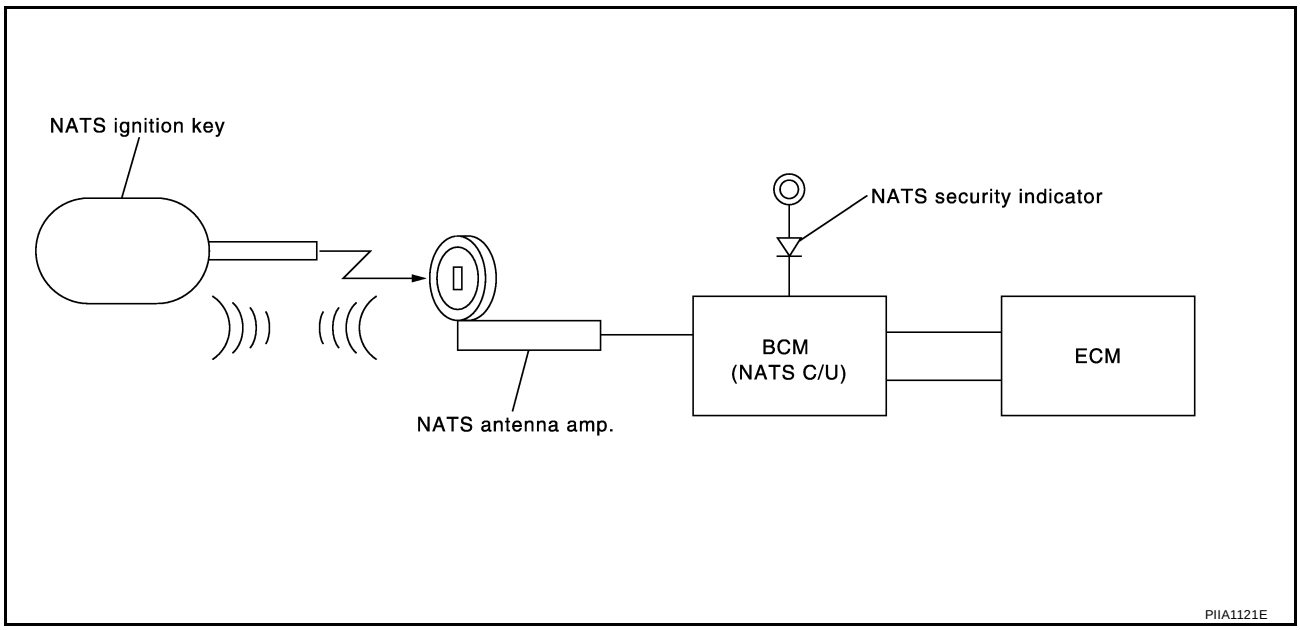
System Composition

EIS004B6

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

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

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



ECM Re-communicating Function

EIS004B7

The following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one which has never been energized on-board.
(In this step, initialization procedure by CONSULT-II is not necessary)

NOTE:

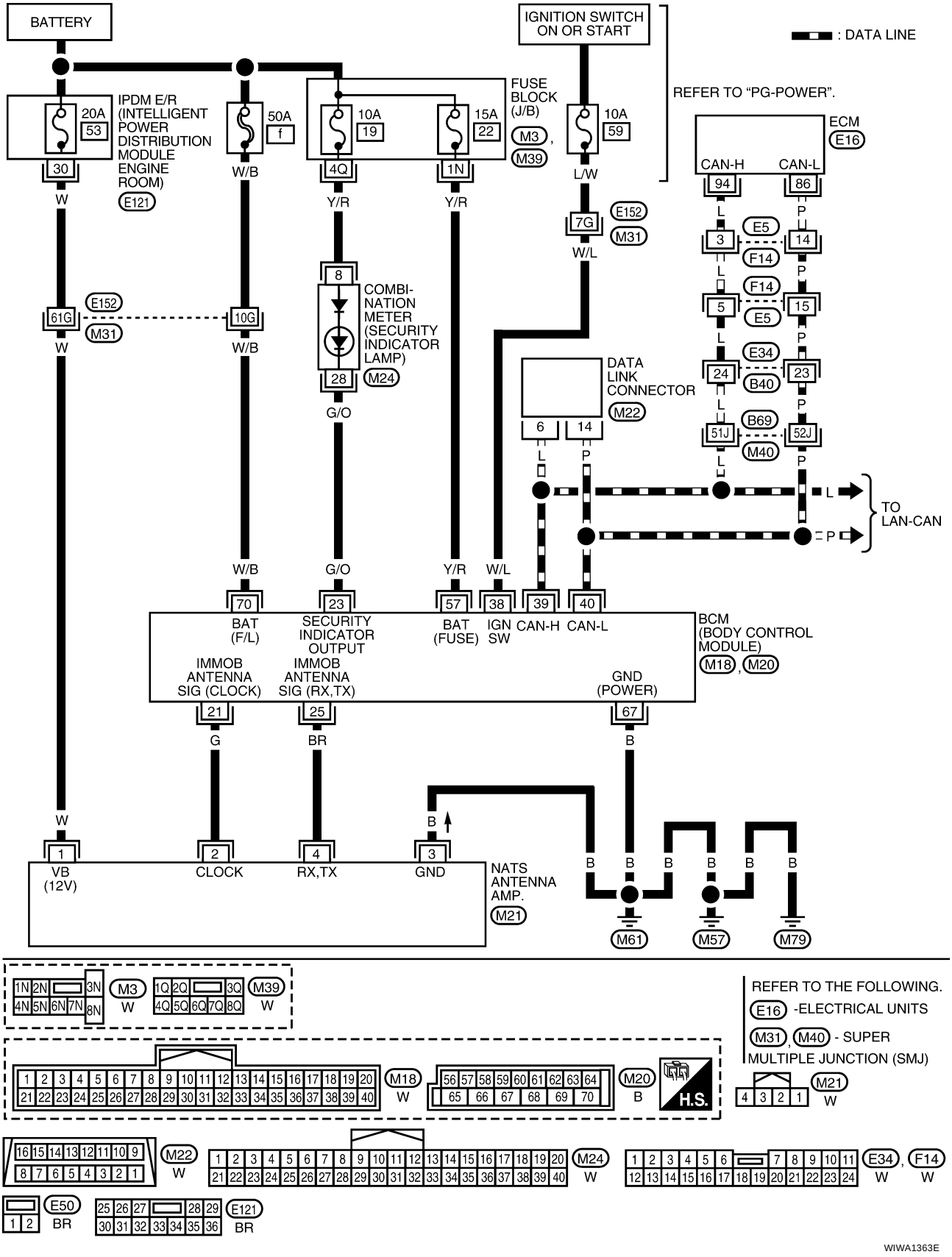
- **When registering new Key IDs or replacing the ECM other than brand new, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS.**
- **If multiple keys are attached to the key holder, separate them before work.**
- **Distinguish keys with unregistered key ID from those with registered ID.**

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

Wiring Diagram — NATS —

EIS004B8

BL-NATS-01



WIWA1363E

Terminals and Reference Value for BCM

EIS004B9

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
21	G	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
23	G/O	Security indicator lamp	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0
25	BR	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
38	W/L	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
39	L	CAN-H	—	—
40	P	CAN-L	—	—
57	Y/R	Power source (Fuse)	—	Battery voltage
67	B	Ground	—	0
70	W/B	Power source (Fusible link)	—	Battery voltage

CONSULT-II

EIS004BA

CONSULT-II INSPECTION PROCEDURE

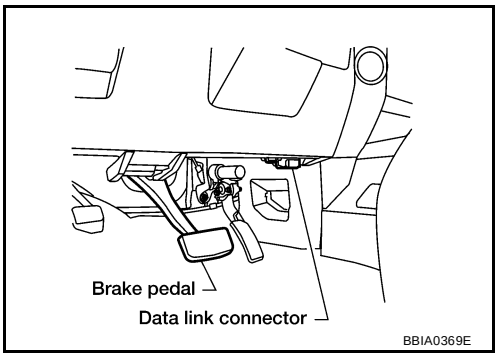
CAUTION:

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

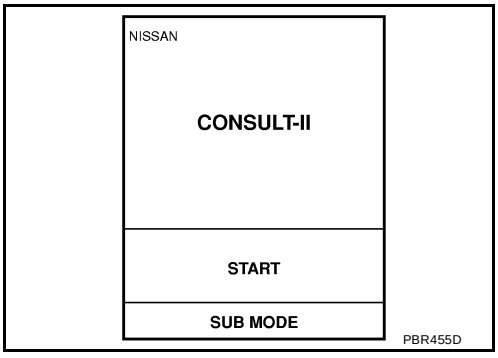
1. Turn ignition switch OFF.
2. Insert NVIS (NATS) program card into CONSULT-II.

   Program card : NATS (AEN04A-1 or later)

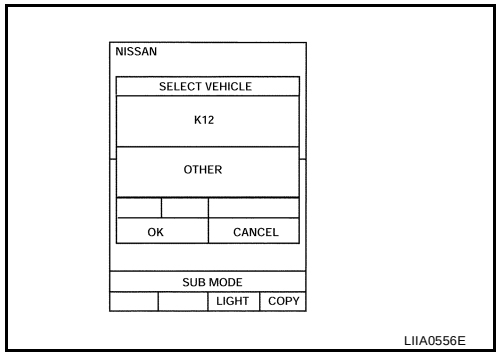
3. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



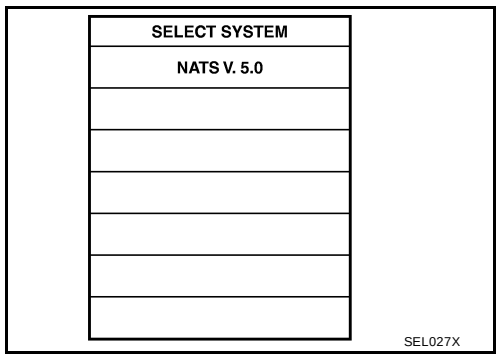
4. Turn ignition switch ON.
5. Touch “START”.



6. Touch "OTHER".

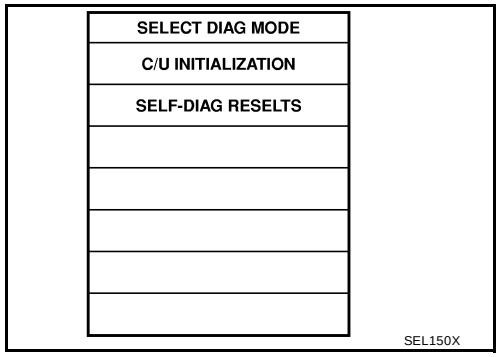


7. Select “NATS V.5.0”.
If “NATS V5.0” is not indicated, go to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



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

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



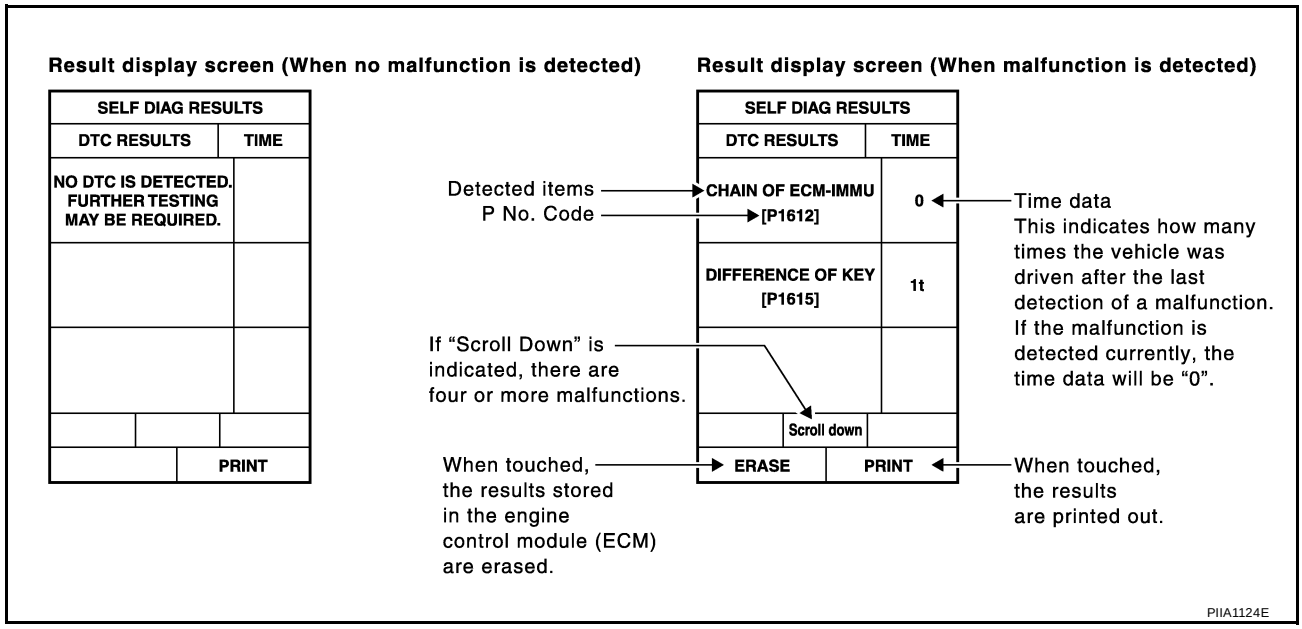
CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization and re-registration of all NATS ignition keys are necessary. [(NATS ignition key/ BCM/ ECM]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart. Refer to BL-145, "NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART" .

NOTE:

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

HOW TO READ SELF-DIAGNOSTIC RESULTS

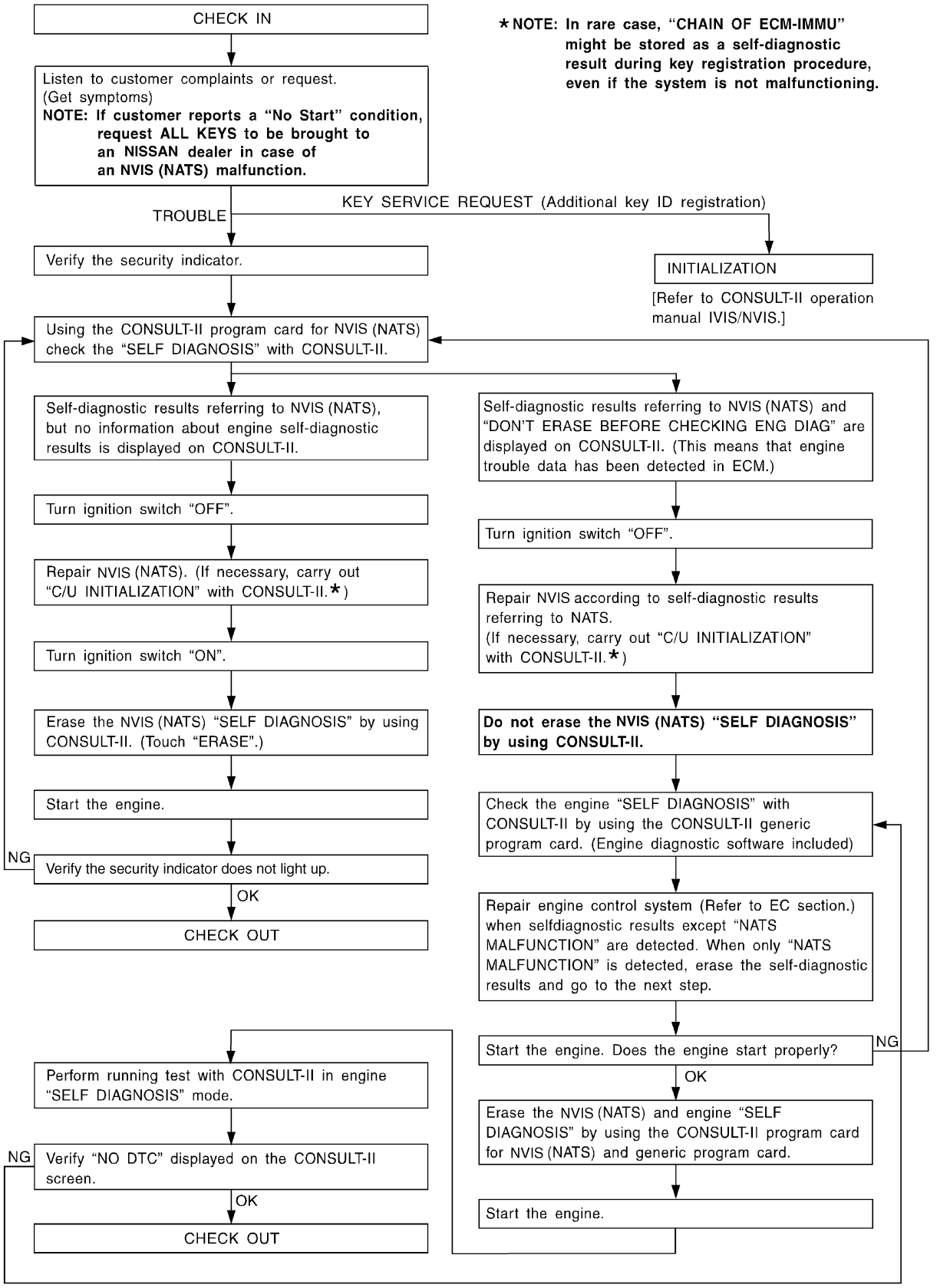


NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items [NVIS (NATS) program card screen terms]	P No. Code (Self-diagnostic result of “ENGINE”)	Malfunction is detected when.....	Reference page
CHAIN OF ECM-IMMU [P1612]	NATS MAL-FUNCTION P1612	Communication impossible between ECM and BCM In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.	Refer to BL-149 .
DIFFERENCE OF KEY [P1615]	NATS MAL-FUNCTION P1615	BCM can receive the key ID signal but the result of ID verification between key ID and BCM is NG.	Refer to BL-150 .
CHAIN OF IMMU-KEY [P1614]	NATS MAL-FUNCTION P1614	BCM cannot receive the key ID signal.	Refer to BL-153 .
ID DISCORD, IMM-ECM [P1611]	NATS MAL-FUNCTION P1611	The result of ID verification between BCM and ECM is NG. System initialization is required.	Refer to BL-151 .
LOCK MODE [P1610]	NATS MAL-FUNCTION 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. ● BCM or ECM’s malfunctioning.	Refer to BL-152 .
DON'T ERASE BEFORE CHECK-ING ENG DIAG	—	All engine trouble codes except NVIS (NATS) trouble code has been detected in ECM.	Refer to BL-146 .

Work Flow

EIS004BB



LIIA1152E

Trouble Diagnoses

EIS004BC

SYMPTOM MATRIX CHART 1

Self-diagnosis related item

Symptom	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	Diagnostic Procedure (Reference page)	System (Malfunctioning part or mode)	Reference Part No. Of Illustration On System Diagram
● Security indicator lighting up* ● Engine cannot be started	CHAIN OF ECM-IMMU [P1612]	PROCEDURE 1 (BL-149)	In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of BCM circuit	C1
			Open circuit in ignition line of BCM circuit	C2
			Open circuit in ground line of BCM circuit	C3
			Open or short circuit between BCM and ECM communication line	C4
			ECM	B
			BCM	A
	DIFFERENCE OF KEY [P1615]	PROCEDURE 2 (BL-150)	Unregistered key	D
			BCM	A
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 5 (BL-153)	Malfunction of key ID chip	E5
			Communication line between ANT/ AMP and BCM: Open circuit or short circuit of battery voltage line or ground line	E1
				E2
			Open circuit in power source line of ANT/ AMP circuit	E3
			Open circuit in ground line of ANT/ AMP circuit	E4
			NATS antenna amp.	E6
			BCM	A
	ID DISCORD, IMM-ECM [P1611]	PROCEDURE 3 (BL-151)	System initialization has not yet been completed.	F
			ECM	B
	LOCK MODE [P1610]	PROCEDURE 4 (BL-152)	LOCK MODE	D
Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-146)	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

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

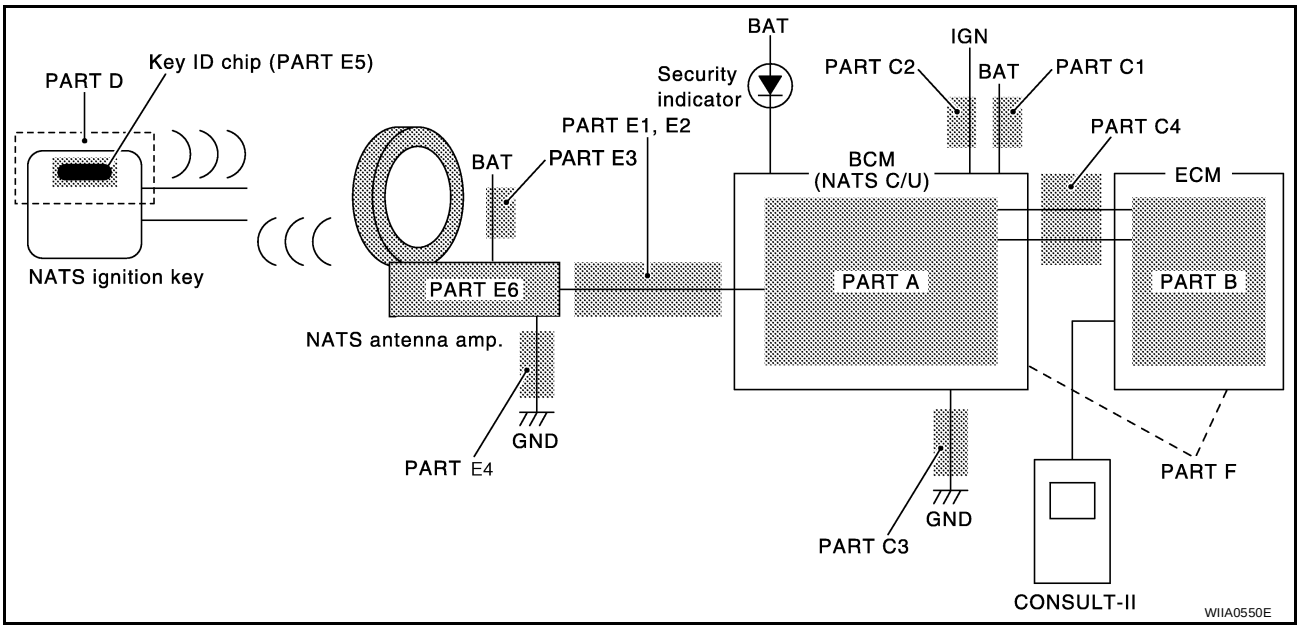
SYMPTOM MATRIX CHART 2

Non self-diagnosis related item

Symptom	Diagnostic Procedure (Reference page)	System (Malfunctioning part or mode)	Reference Part No. Of Illustration On System Diagram
Security indicator does not light up*.	PROCEDURE 6 (BL-156)	Combination meter (security indictor lamp)	—
		Open circuit between Fuse and BCM	—
		BCM	A

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

DIAGNOSTIC SYSTEM DIAGRAM



Diagnostic Procedure 1

EIS004BD

Self-diagnostic results:
“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen
First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated “SELF-DIAG RESULTS” of “BCM”. Refer to BL-143, "CONSULT-II".

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

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

Is CONSULT-II screen displayed as shown?

Yes >> GO TO 2.
No >> GO TO BL-147, "SYMPTOM MATRIX CHART 1" .

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

PIIA1260E

2. CHECK POWER SUPPLY CIRCUIT FOR BCM

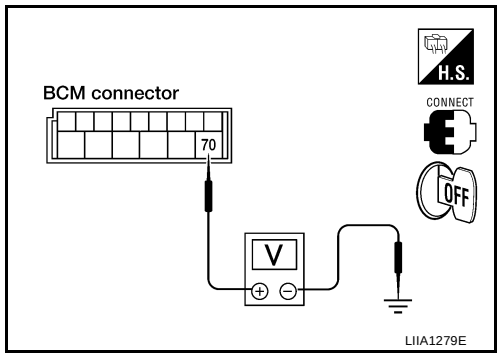
Check voltage between BCM connector M20 terminal 70 and ground.

70 – Ground :Battery voltage

OK or NG

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

- 50A fusible link (letter **f** , located in fuse and fusible link box)
- Harness for open or short between fuse and BCM connector. **Ref. Part No. C1**



LIIA1279E

3. CHECK IGN SWITCH ON SIGNAL

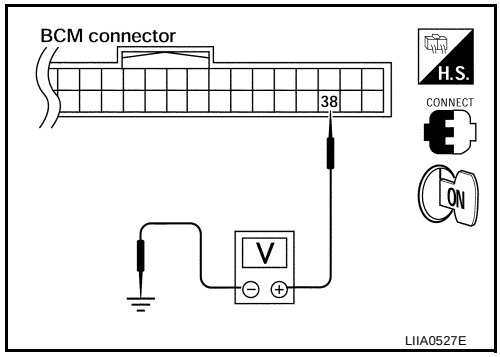
1. Turn ignition switch ON.
2. Check voltage between BCM connector M18 terminal 38 and ground.

38 – Ground :Battery voltage

OK or NG

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

- 10A fuse [No. 59, located in the fuse and relay box]
- Harness for open or short between fuse and BCM connector. **Ref. part No. C2**

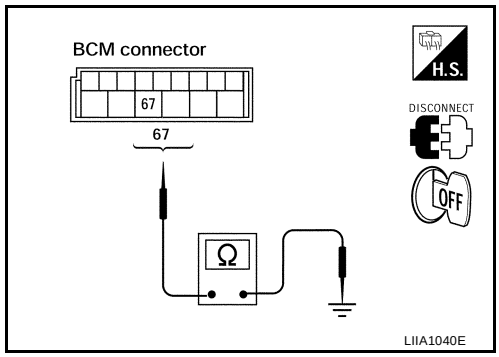


LIIA0527E

4. CHECK GROUND CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Check continuity between BCM connector M20 terminal 67 and ground.

67 – Ground :Continuity should exist



OK or NG

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

5. REPLACE BCM

1. Replace BCM. **Ref. part No. A**
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

Does the engine start?

Yes >> BCM is malfunctioning.
No >>
- ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization or re-communicating function.
- For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.
- For re-communicating function, refer to BL-141, "ECM Re-communicating Function" .

Diagnostic Procedure 2

EIS004BE

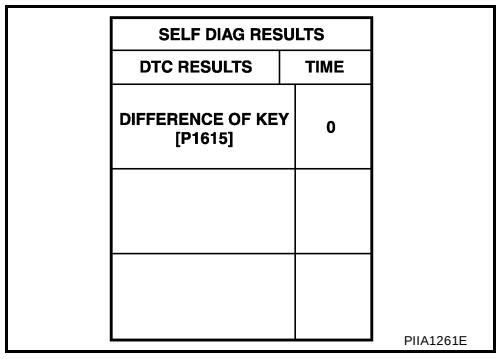
Self-diagnostic results:
“DIFFERENCE OF KEY” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-II screen displayed as shown?

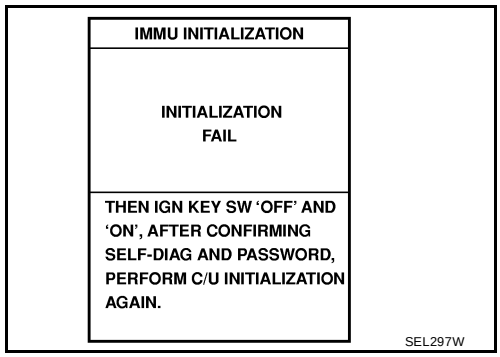
Yes >> GO TO 2.
No >> GO TO BL-147, "SYMPTOM MATRIX CHART 1" .



2. PERFORM INITIALIZATION WITH CONSULT-II

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

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



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

Yes >> ● Ignition key ID was unregistered. **Ref. part No. D**

No >> ● BCM is malfunctioning.
- Replace BCM. Refer to BCS-20, "BCM" . **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

Diagnostic Procedure 3

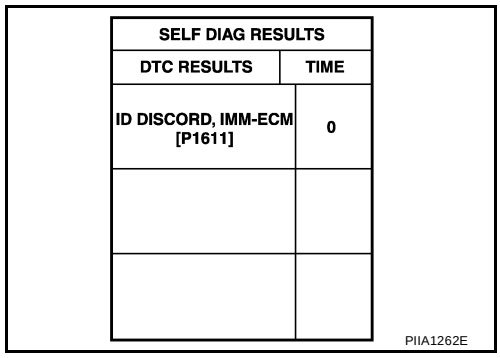
EIS004BF

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

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

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



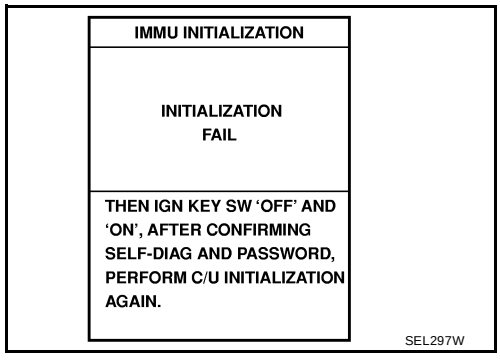
Is CONSULT-II screen displayed as shown?

Yes >> GO TO 2.
No >> GO TO BL-147, "SYMPTOM MATRIX CHART 1" .

2. PERFORM INITIALIZATION WITH CONSULT-II

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

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



Can the system be initialized?

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

No >> ● ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.
  For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

Diagnostic Procedure 4

EIS004BG

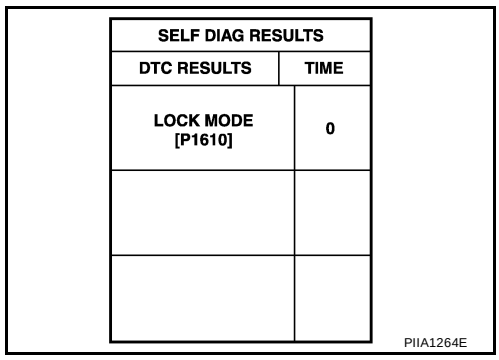
Self-diagnostic results:
“LOCK MODE” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-II screen displayed as shown?

Yes >> GO TO 2.
No >> GO TO BL-147, "SYMPTOM MATRIX CHART 1" .



2. ESCAPE FROM LOCK MODE

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

Does engine start?

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

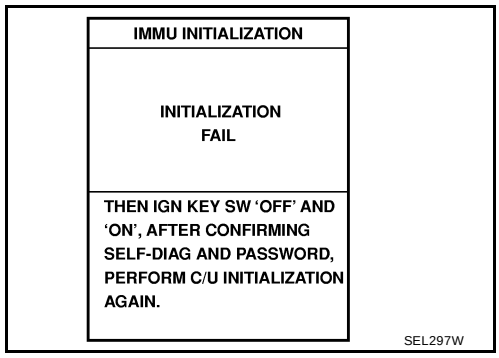
3. PERFORM INITIALIZATION WITH CONSULT-II

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

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

Can the system be initialized?

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



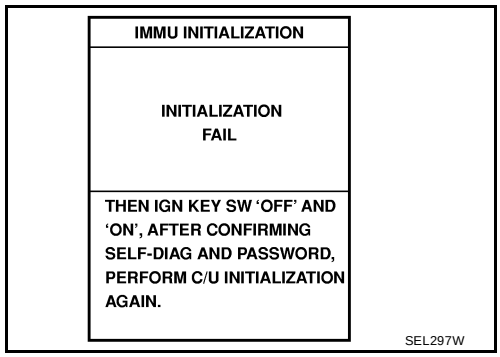
4. PERFORM INITIALIZATION WITH CONSULT-II AGAIN

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

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

Can the system be initialized?

Yes >> System is OK. BCM is malfunctioning. **Ref. part No. A**
No >>
- ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.
  For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.



Diagnostic Procedure 5

EIS004BH

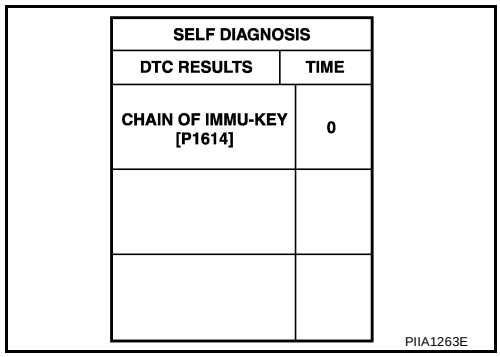
Self-diagnostic results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-II screen displayed as shown?

Yes >> GO TO 2.
No >> GO TO BL-147, "SYMPTOM MATRIX CHART 1" .



2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-157, "How to Replace NATS Antenna Amp." .

OK or NG

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

3. CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

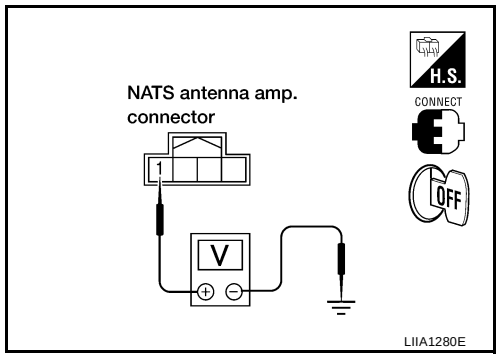
Yes >>
- Ignition key ID chip is malfunctioning.
- Replace the ignition key. **Ref. part No. E5**
- Perform initialization with CONSULT-II.
  For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

No >> GO TO 4.

4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

Check voltage between NATS antenna amp. connector M21 terminal 1 and ground.

1 – Ground :Battery voltage

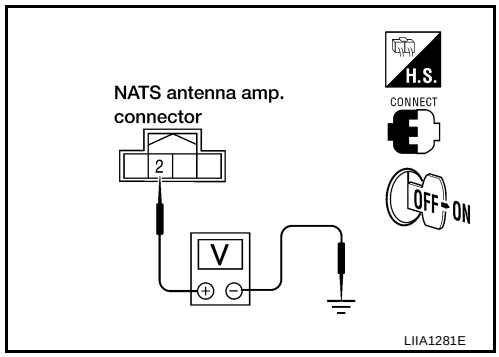


OK or NG

OK >> GO TO 5.
NG >> Repair or replace fuse or harness. **Ref. part No. E5**

5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

Check voltage between NATS antenna amp. connector M21 terminal 2 and ground with analog tester.



Terminals		Position of ignition key cylinder	Voltage (V) (Approx.)
(+)	(-)		
2	Ground	Before inserting ignition key	Battery voltage
		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage

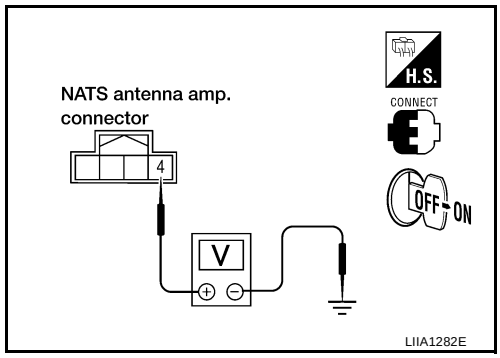
OK or NG

OK >> GO TO 6.
NG >> ● Repair or replace harness.

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

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

Check voltage between NATS antenna amp. connector M21 terminal 4 and ground with analog tester.



Terminals		Position of ignition key cylinder	Voltage (V) (Approx.)
(+)	(-)		
4	Ground	Before inserting ignition key	Battery voltage
		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage

OK or NG

OK >> GO TO 7.

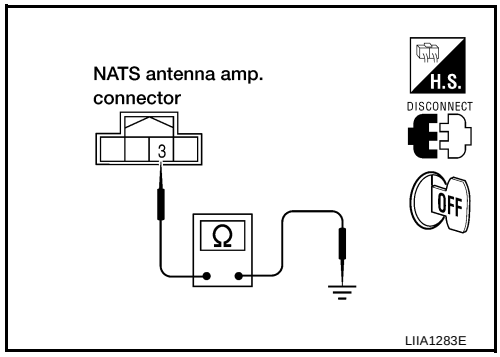
NG >> ● Repair or replace harness.

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

7. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NATS antenna amp. connector.
3. Check continuity between NATS antenna amp. connector M21 terminal 3 and ground.

3 – Ground :Continuity should exist.



OK or NG

OK >> ● NATS antenna amp. is malfunctioning. **Ref. part No. E6**

NG >> ● Repair or replace harness.

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

Diagnostic Procedure 6

EIS004BI

SECURITY INDICATOR LAMP DOES NOT LIGHT UP

1. CHECK FUSE

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

NOTE:
Refer to BL-139, "Component Parts and Harness Connector Location" .

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. CHECK SECURITY INDICATOR LAMP

1. Start engine and turn ignition switch OFF.
2. Check the combination meter (security indicator lamp) lights up.

Security indicator lamp should light up.

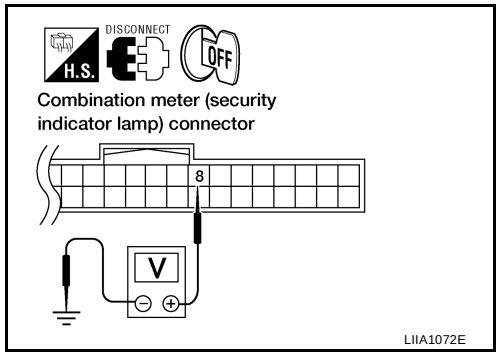
OK or NG

OK >> Inspection End.
NG >> GO TO 3.

3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect combination meter (security indicator lamp) connector.
2. Check voltage between combination meter (security indicator lamp) connector M24 terminal 8 and ground.

8 – Ground :Battery voltage



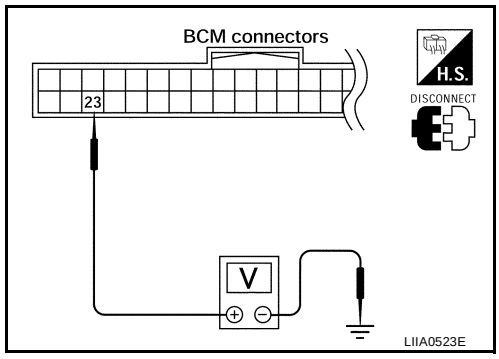
OK or NG

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

4. CHECK BCM (NATS CONTROL UNIT) FUNCTION

1. Connect combination meter (security indicator lamp) connector.
2. Disconnect BCM.
3. Check voltage between BCM connector M18 terminal 23 and ground.

23 – Ground :Battery voltage



OK or NG

OK >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-20, "BCM" . **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

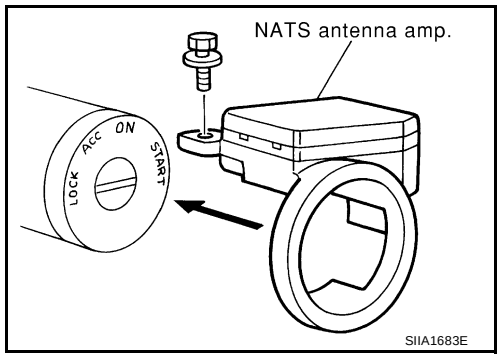
NG >> Check the following:
- Harness for open or short between combination meter (security indicator lamp) and BCM (NATS control unit).
- Indicator lamp condition

How to Replace NATS Antenna Amp.

EIS004BJ

NOTE:

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



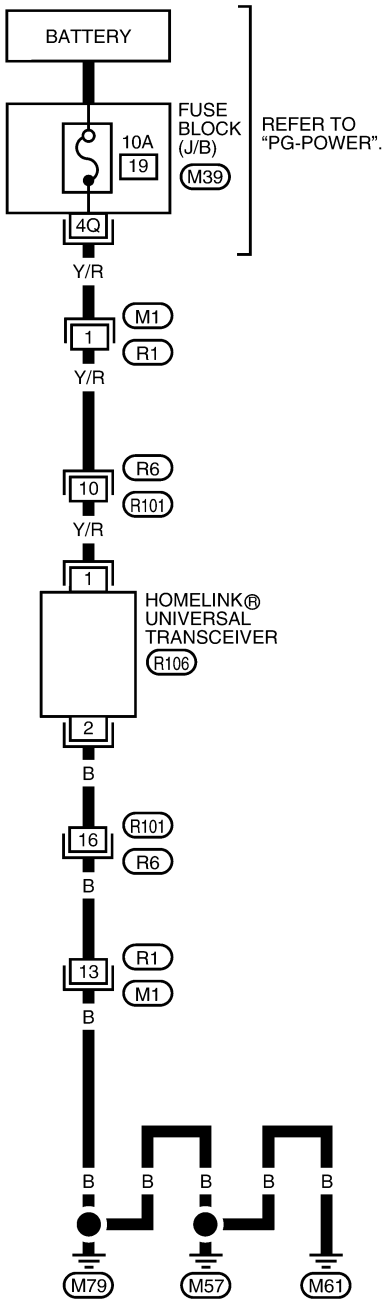
HOMELINK UNIVERSAL TRANSCEIVER

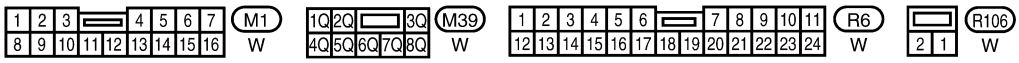
PFP:96401

Wiring Diagram — TRNSCV —

EIS0061Z

BL-TRNSCV-01





WIWA0759E

Trouble Diagnoses

EIS00620

DIAGNOSTIC PROCEDURE

SYMPTOM: Transmitter does not activate receiver.

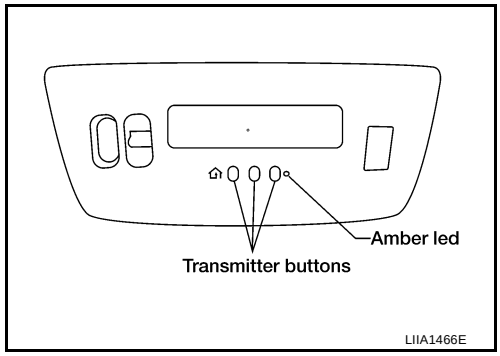
Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is malfunctioning, not vehicle related.

1. ILLUMINATE CHECK

1. Turn ignition switch OFF.
2. Does amber 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 hand-held transmitter malfunction, not vehicle related.
NG >> Replace compass and thermometer assembly. Refer to EI-43, "HEADLINING" .

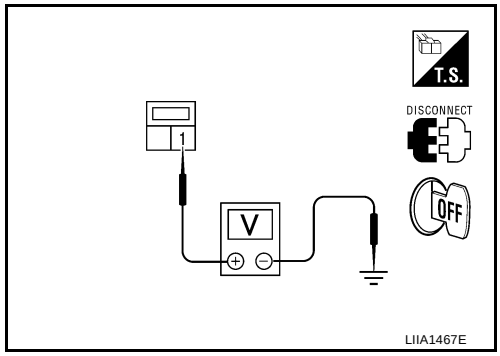
3. POWER SUPPLY CHECK

1. Disconnect transmitter.
2. Check voltage between Homelink® universal transceiver connector R106 terminal 1 and ground.

1 - Ground : Battery voltage

OK or NG

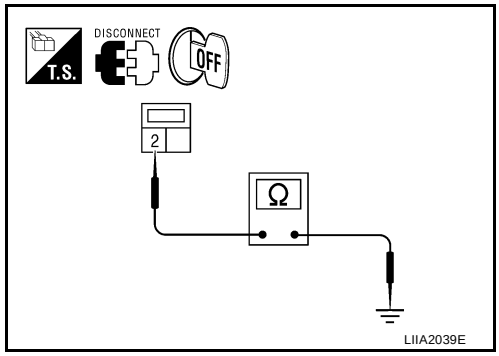
OK >> GO TO 4.
NG >> Repair or replace fuse or harness.



4. GROUND CIRCUIT CHECK

Check continuity between Homelink® universal transceiver connector R106 terminal 2 and body ground.

2 - Ground : Continuity should exist.



OK or NG

OK >> Replace compass and thermometer assembly. Refer to EI-43, "HEADLINING" .

NG >> Repair or replace harness.

CAB AND REAR BODY

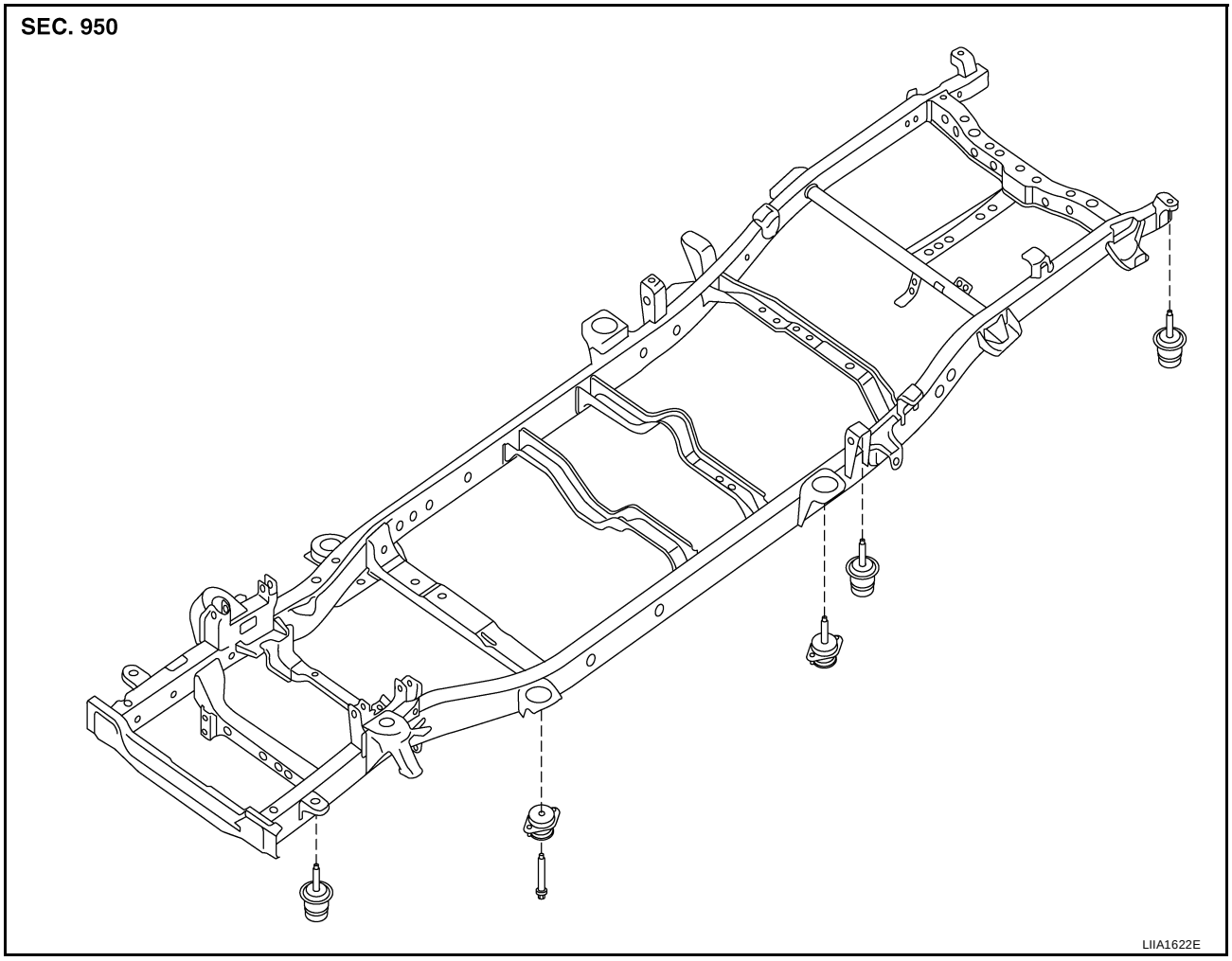
PFP:93020

Body Mounting, King Cab

EIS004BM

When removing, be sure to replace bolts and nuts (sealant applied bolts or self-lock nuts are used for all mounting).

SEC. 950

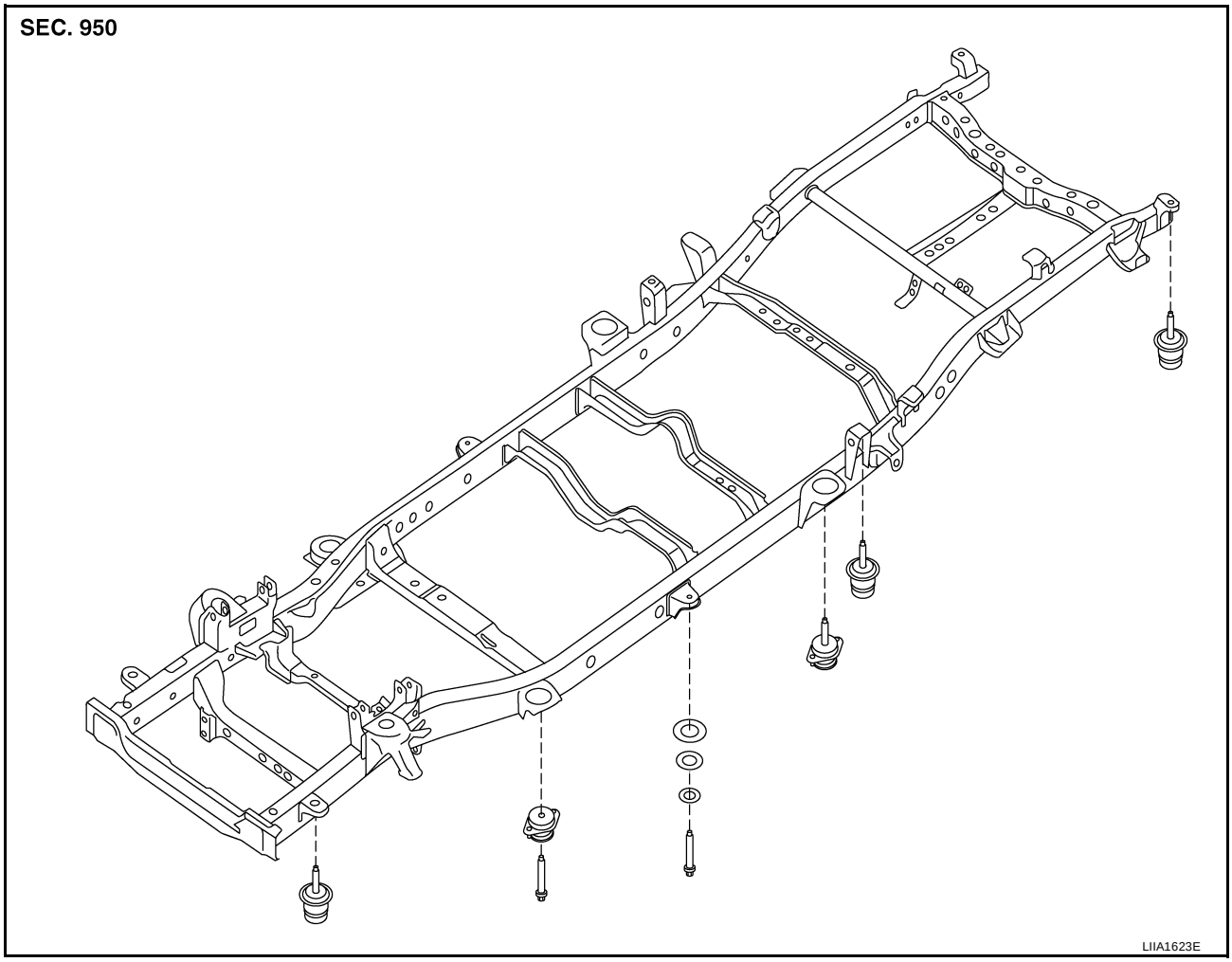


Frame to Cab and bed bolts	**: 87.5 N·m (8.9 kg-m, 65 ft-lb)**

Body Mounting, Crew Cab

EIS004BN

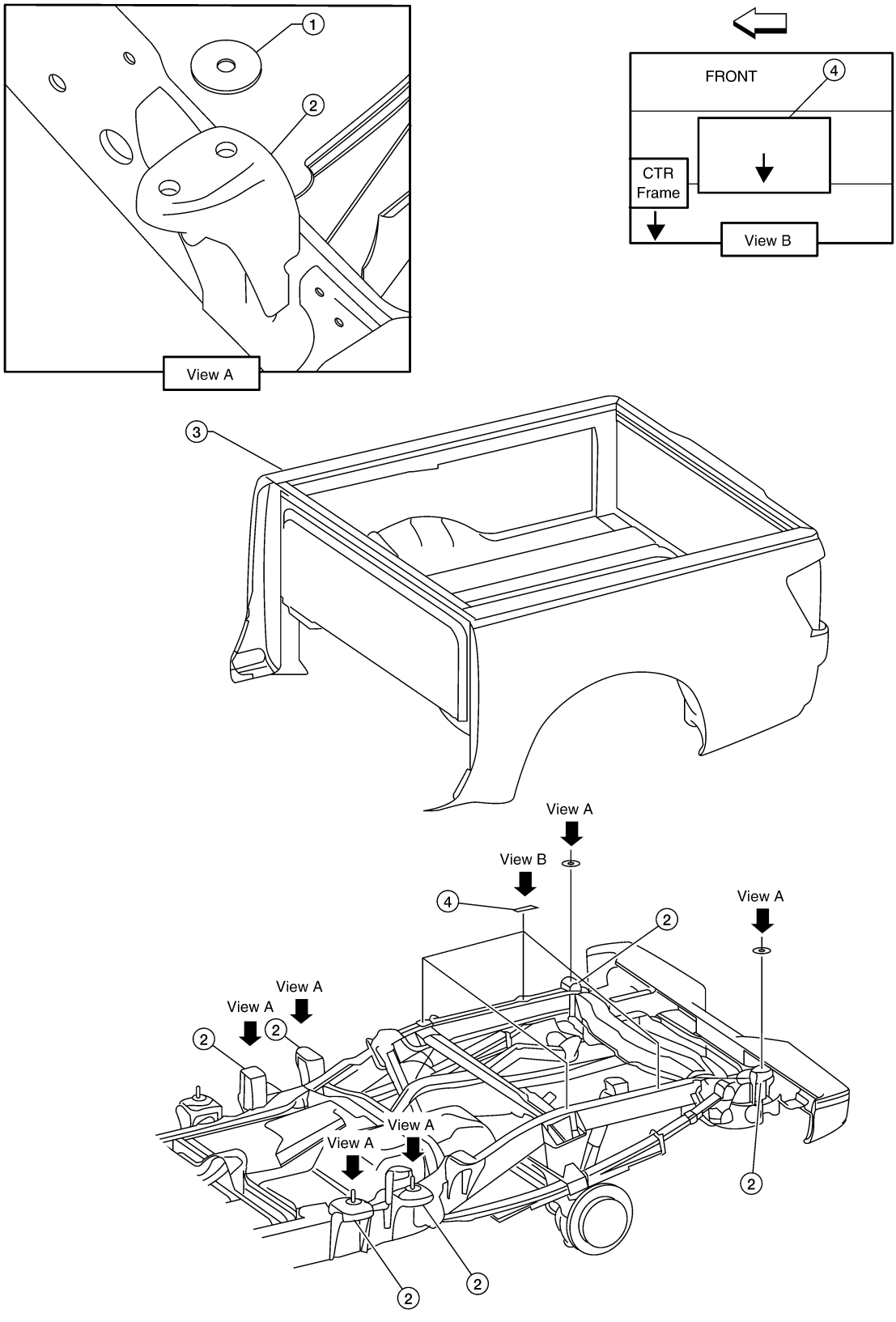
When removing, be sure to replace bolts and nuts (sealant applied bolts or self-lock nuts are used for all mounting).



Frame to Cab and bed bolts	**: 87.5 N·m (8.9 kg-m, 65 ft-lb)**

Rear Body
REMOVAL AND INSTALLATION

EIS00718



LIIA2153E

1. Shim (pick-up bed mount)
2. Body rear mount
3. Pick-up bed assembly
4. Shim (bed floor crossmember)

Removal

1. If equipped, remove the floor rails. Refer to EI-48, "BED RAILS AND TRIM" .
2. Disconnect both of the rear combination lamp wire harnesses.
3. If equipped, remove the bed power point. Refer to WW-35, "Removal and Installation" .
4. Disconnect the fuel filler neck from the bed side outer.
5. Remove the pick-up bed assembly.

Installation

Installation is in the reverse order of removal.

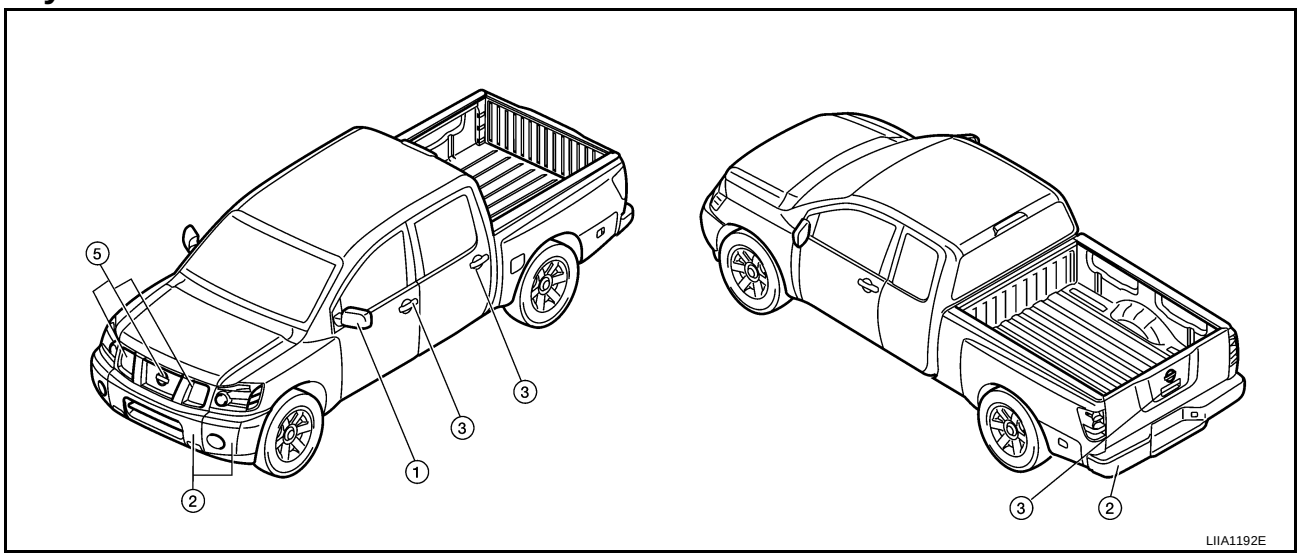
- Shim as necessary for proper fit and finish.

BODY REPAIR

PFP:60100

Body Exterior Paint Color

EIS004BO



Component				Color code	A15	A20	B18	BW9	G10	K11	K12	KY2	Q10
				Description	Red Brawn	Red Alert	Deep Water	Majestic Blue	Galaxy	Smoke	Radiant Silver	Granite	Blizzard
				Paint type	M	M	M	M	2P	M	M	M	2S
				Clear coat	t	t	t	t	t	t	t	t	t
1	Outside mirror	XE		Black	KH3	KH3	KH3	KH3	KH3	KH3	KH3	KH3	KH3
		SE and LE		Chrome	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
2	Front bumper	XE		Body color	A15	A20	B18	BW9	G10	K11	K12	KY2	Q10
		SE and LE	End caps	Body color	A15	A20	B18	BW9	G10	K11	K12	KY2	Q10
			Center	Chrome	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
3	Outside handles	XE		Black	KH3	KH3	KH3	KH3	KH3	KH3	KH3	KH3	KH3
		SE and LE		Chrome	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
4	Radiator grille	XE	Center	Body color	A15	A20	B18	BW9	G10	K11	K12	KY2	Q10
		SE and LE		Chrome	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
			Grid	Black	KH3	KH3	KH3	KH3	KH3	KH3	KH3	KH3	KH3
5	Rear Bumper	XE		Body color	A15	A20	B18	BW9	G10	K11	K12	KY2	Q10
		SE and LE		Chrome	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr

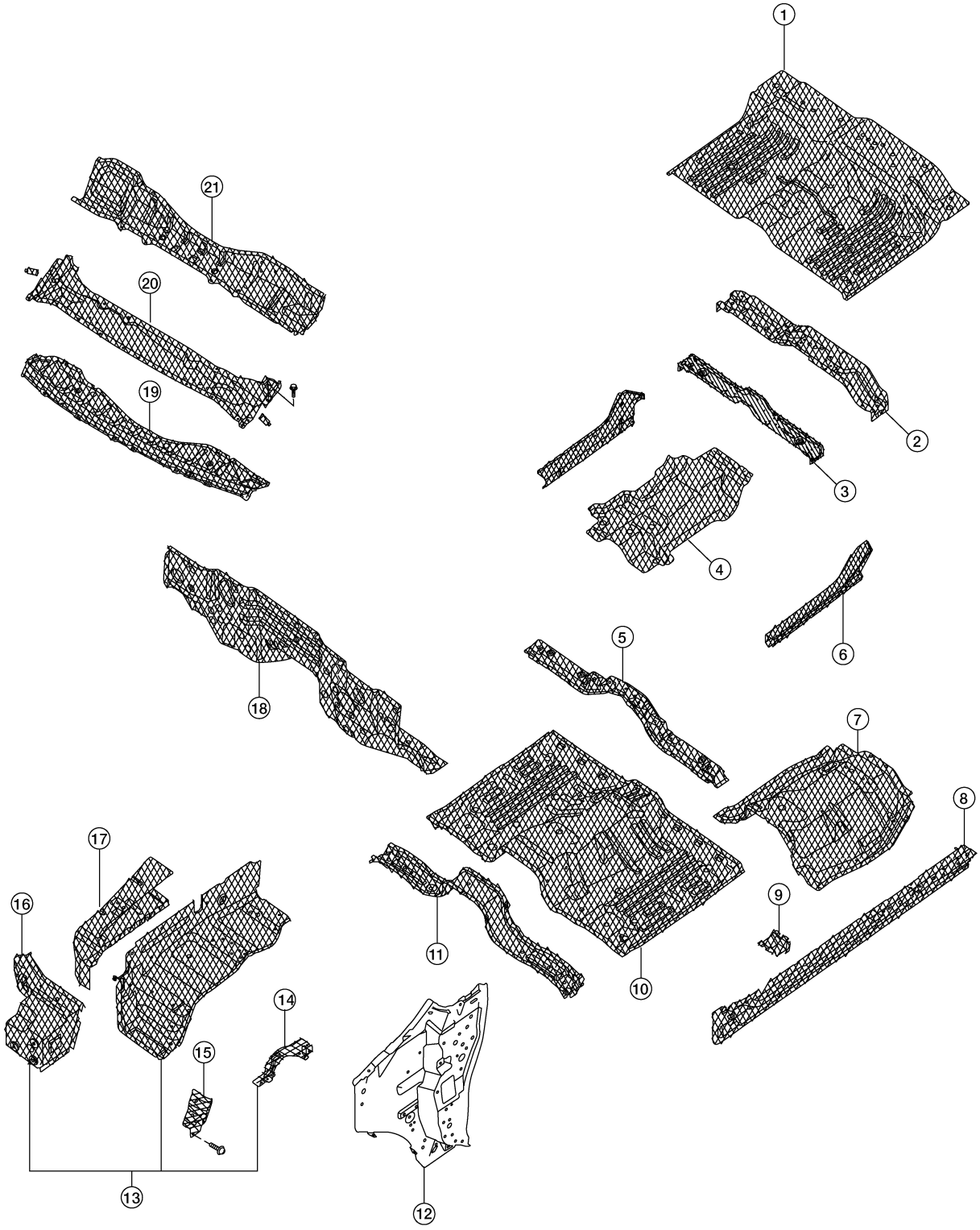
M: Metallic; 2S: 2-Coat Solid, 2P: 2-Coat Pearl; 3P: 3-Coat Pearl; t: New Cross Linking Clear Coat

Body Component Parts

EIS004BP

UNDERBODY COMPONENT PARTS

: Indicates both-side anti-corrosive precoated steel portions
: Indicates high strength steel (HSS) portions
: Indicates both-side anti-corrosive precoated steel and (HSS) portions

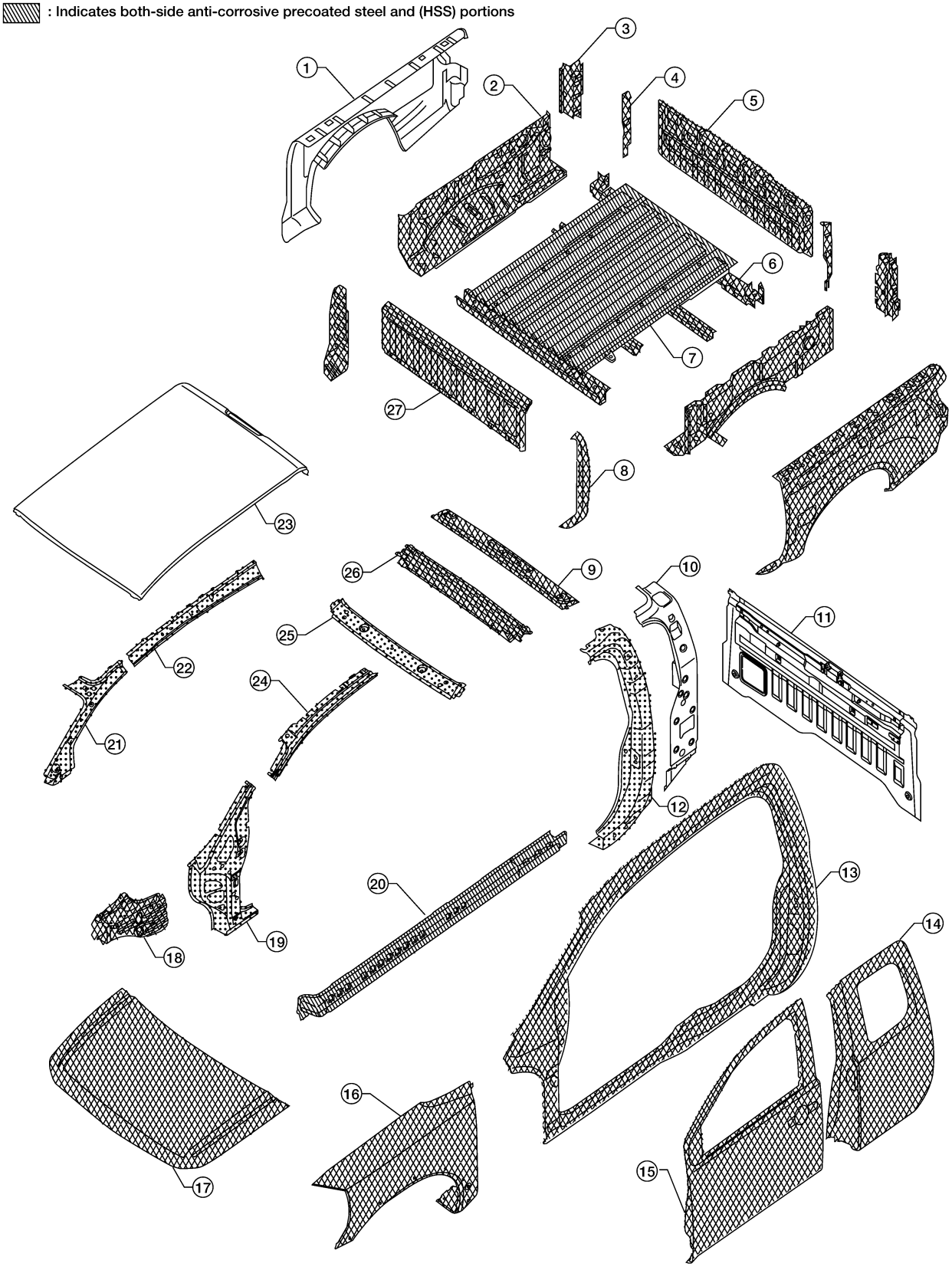


LIIA1209E

1. Rear floor
2. Rear seat crossmember
3. 4th crossmember
4. Rear floor reinforcement assembly
5. Front seat mounting crossmember
6. Sill inner extension RH, LH)
7. Front floor reinforcement
8. Inner sill (RH, LH)
9. 2nd crossmember extension (RH, LH)
10. Front floor
11. 2nd crossmember assembly
12. Dash side (RH, LH)
13. Hoodledge assembly (RH, LH)
14. Harness bracket
15. Hoodledge front reinforcement (LH)
16. Battery mounting reinforcement (RH)
    1st body mounting bracket (LH)
17. Hoodledge reinforcement (RH, LH)
18. Rear hoodledge reinforcement (RH, LH)
19. Cowl top
20. Cowl top extension
21. Upper dash assembly

BODY COMPONENT PARTS
KING CAB

: Indicates both-side anti-corrosive precoated steel portions
: Indicates high strength steel (HSS) portions
: Indicates both-side anti-corrosive precoated steel and (HSS) portions

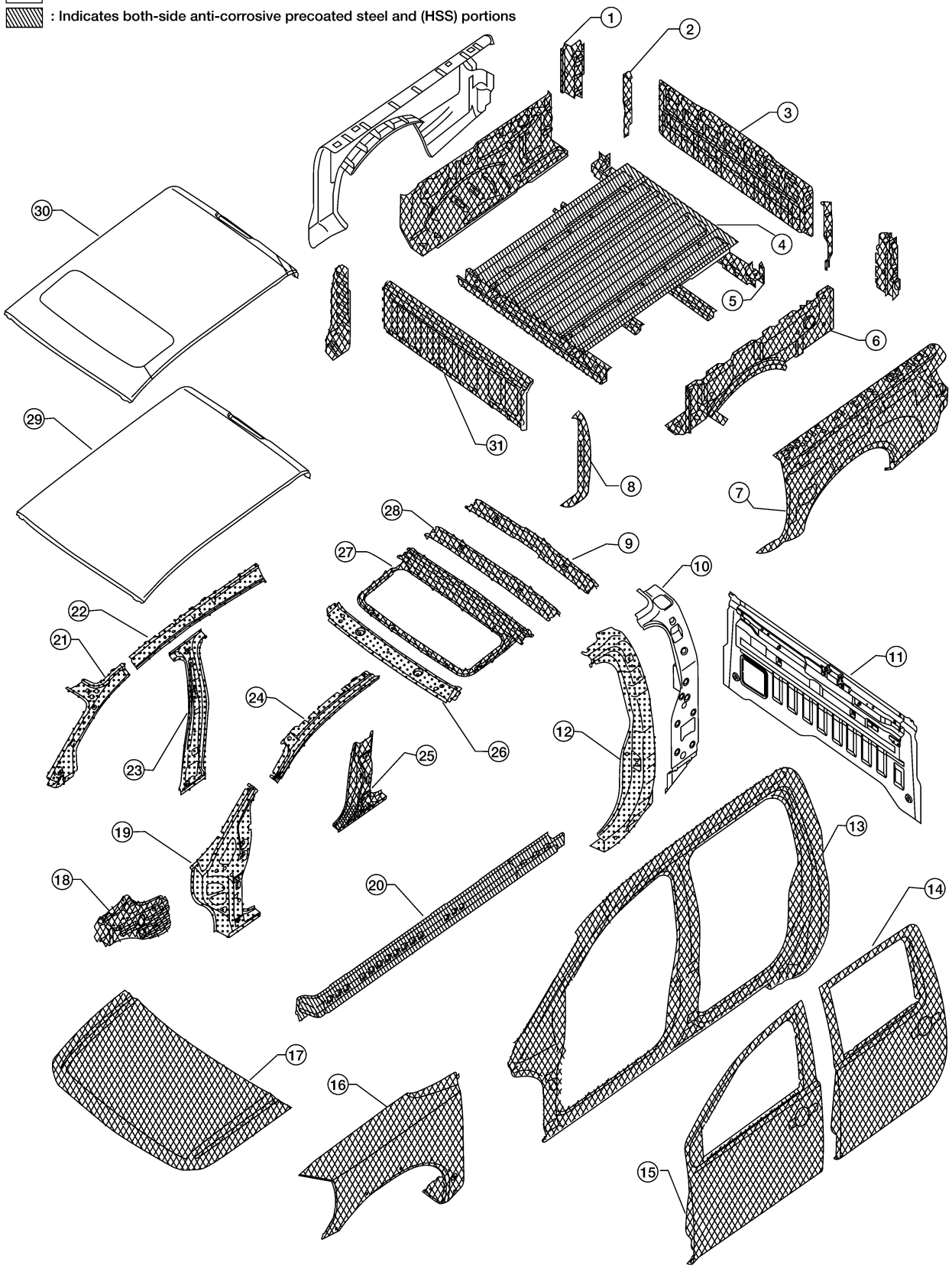


WIIA0325E

1. Side panel assembly (RH, LH)
2. Inner side panel assembly (RH, LH)
3. Rear strut assembly (RH, LH)
4. Inner rear strut assembly (RH, LH)
5. Rear gate
6. Tail floor bolster assembly
7. Rear body floor assembly
8. Front outer strut assembly (RH, LH)
9. Rear roof rail
10. Inner lock pillar (RH, LH)
11. Back panel assembly
12. Outer lock pillar reinforcement (RH, LH)
13. Body side outer (RH, LH)
14. Rear door assembly (RH, LH)
15. Front door assembly (RH, LH)
16. Front fender (RH, LH)
17. Hood
18. Dash side (RH, LH)
19. Front pillar brace (RH, LH)
20. Outer sill reinforcement (RH, LH)
21. Inner upper front pillar (RH, LH)
22. Inner roof side rail (RH,LH)
23. Roof
24. Upper front pillar reinforcement (RH, LH)
25. Front roof rail
26. No. 1 roof bow
27. Header panel

CREW CAB

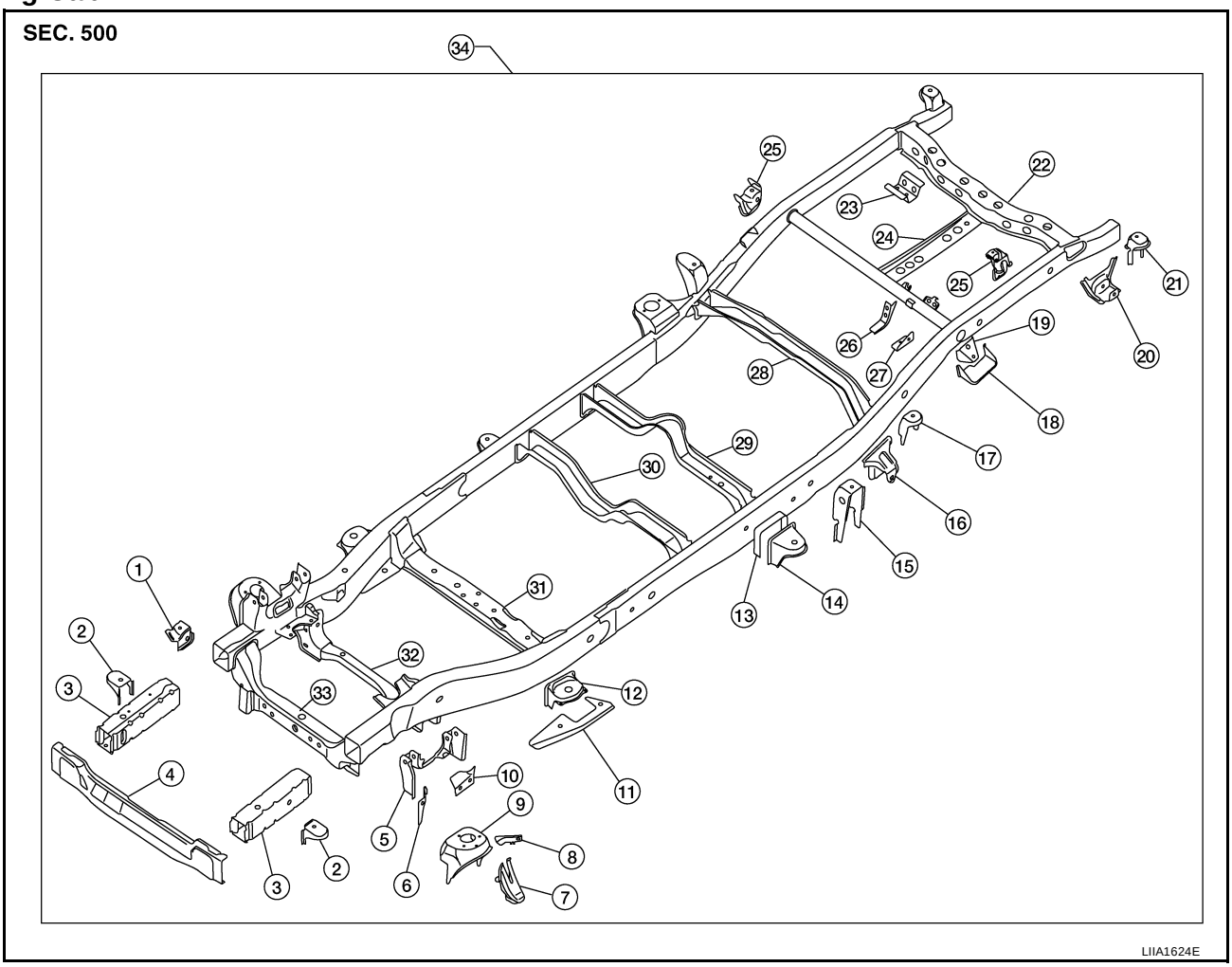
: Indicates both-side anti-corrosive precoated steel portions
: Indicates high strength steel (HSS) portions
: Indicates both-side anti-corrosive precoated steel and (HSS) portions



1. Rear strut assembly (RH, LH)
2. Inner rear strut assembly (RH, LH)
3. Rear gate
4. Rear body floor assembly
5. Tail floor bolster assembly
6. Inner side panel assembly (RH, LH)
7. Side panel assembly (RH, LH)
8. Front outer strut assembly (RH, LH)
9. Rear roof rail
10. Inner lock pillar (RH, LH)
11. Back panel assembly
12. Outer lock pillar reinforcement (RH, LH)
13. Body side outer (RH, LH)
14. Rear door assembly (RH, LH)
15. Front door assembly (RH, LH)
16. Front fender (RH, LH)
17. Hood
18. Hoodledge rear reinforcement (RH, LH)
19. Front pillar brace (RH, LH)
20. Outer sill reinforcement (RH, LH)
21. Inner upper front pillar (RH, LH)
22. Inner roof side rail (RH,LH)
23. Inner center pillar (RH, LH)
24. Upper front pillar reinforcement (RH, LH)
25. Lower center pillar brace (RH, LH)
26. Front roof rail
27. Sunroof frame
28. No. 2 roof bow
29. Standard roof
30. Roof with sunroof opening
31. Header panel

FRAME COMPONENT PARTS

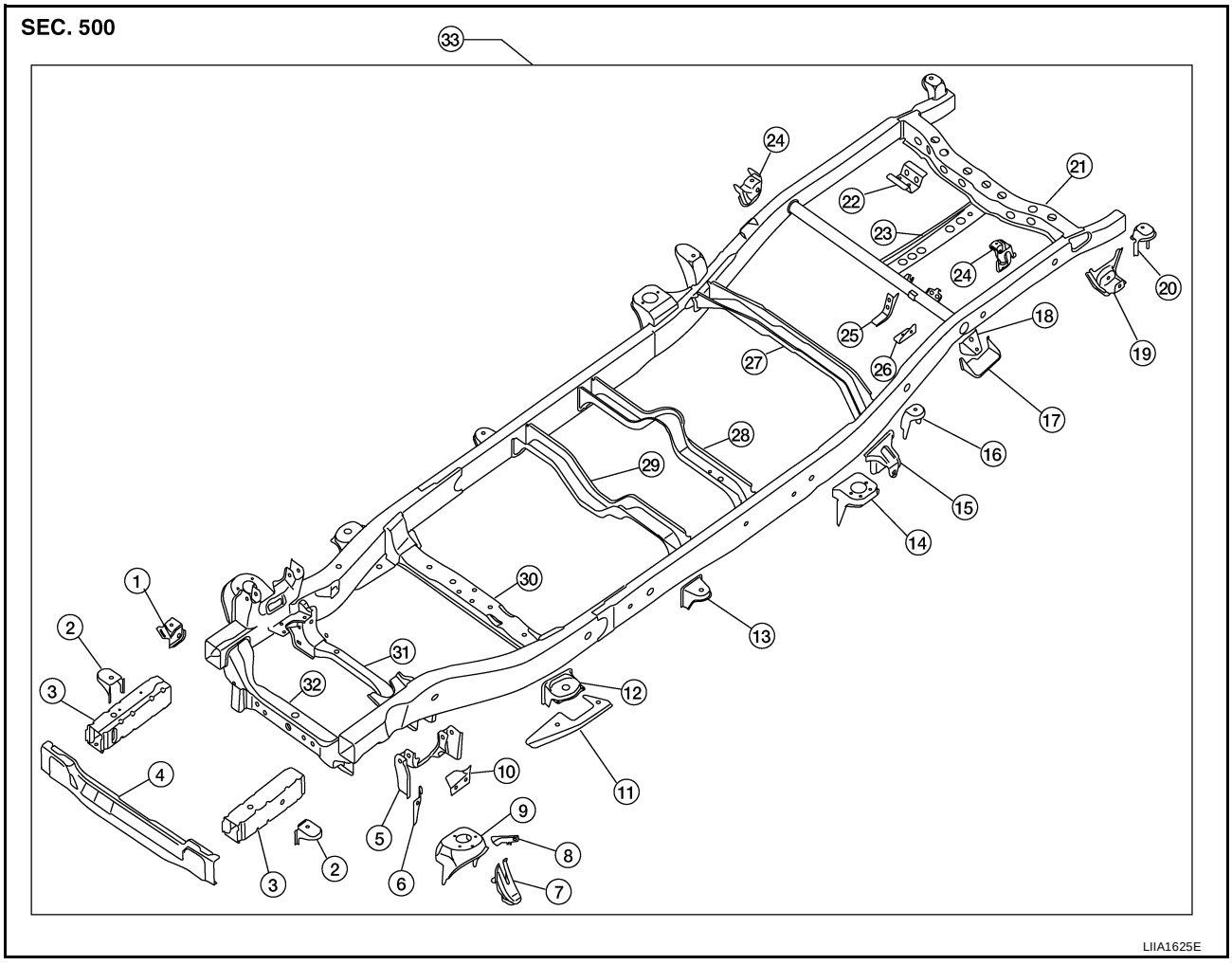
King Cab



1. Front differential mounting bracket RH/LH
2. 1st cab mounting bracket RH/LH
3. Front side member extension assembly RH/LH
4. 1st crossmember assembly
5. Front upper link mounting bracket RH/LH
6. Panhard rod bracket reinforcement
7. Bound bumper bracket RH/LH
8. Front brake hose bracket RH/LH
9. Front shock absorber bracket RH/LH
10. Panhard rod reinforcement
11. 4th crossmember gusset RH/LH
12. 2nd cab mounting bracket RH/LH
13. 3rd cab mounting reinforcement
14. 3rd cab mounting bracket RH/LH
15. 1st rear body mounting bracket RH/LH
16. Rear spring front bracket assembly RH/LH
17. 2nd rear body mounting bracket RH/LH
18. Rear bound bumper bracket RH/LH
19. Rear bound bumper reinforcement RH/LH

20. Rear spring rear bracket assembly RH/LH
21. 5th rear body mounting reinforcement bracket RH/LH
22. 9th crossmember assembly
23. Exhaust bracket assembly
24. 8th crossmember assembly
25. Rear shock absorber bracket assembly RH/LH
26. Canister bracket, RH
27. Canister bracket, LH
28. 7th crossmember assembly
29. 6th crossmember assembly
30. 5th crossmember assembly
31. 4th crossmember assembly
32. 3rd crossmember assembly
33. 2nd crossmember assembly
34. Frame assembly

Crew Cab



1. Front differential mounting bracket RH/LH
2. 1st cab mounting bracket RH/LH
3. Front side member extension assembly RH/LH
4. 1st crossmember assembly

5. Front upper link mounting bracket RH/LH
6. Panhard rod bracket reinforcement
7. Bound bumper bracket RH/LH
8. Front brake hose bracket RH/LH
9. Front shock absorber bracket RH/LH
10. Panhard rod reinforcement
11. 4th crossmember gusset RH/LH
12. 2nd cab mounting bracket RH/LH
13. 3rd cab mounting bracket RH/LH
14. 4th cab mounting bracket RH/LH
15. Rear spring front bracket assembly RH/LH
16. 2nd rear body mounting bracket RH/LH
17. Rear bound bumper bracket RH/LH
18. Rear bound bumper reinforcement RH/LH
19. Rear spring rear bracket assembly RH/LH
20. 5th rear body mounting reinforcement bracket RH/LH
21. 9th crossmember assembly
22. Exhaust bracket assembly
23. 8th crossmember assembly
24. Rear shock absorber bracket assembly RH/LH
25. Canister bracket, RH
26. Canister bracket, LH
27. 7th crossmember assembly
28. 6th crossmember assembly
29. 5th crossmember assembly
30. 4th crossmember assembly
31. 3rd crossmember assembly
32. 2nd crossmember assembly
33. Frame assembly

Corrosion Protection

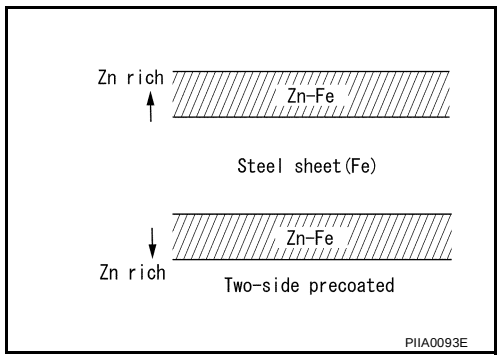
EIS004BQ

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 electrode position primer.



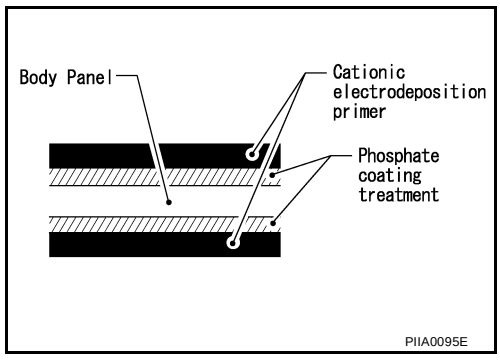
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

PHOSPHATE COATING TREATMENT AND CATIONIC ELECTRODEPOSITION PRIMER

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

CAUTION:

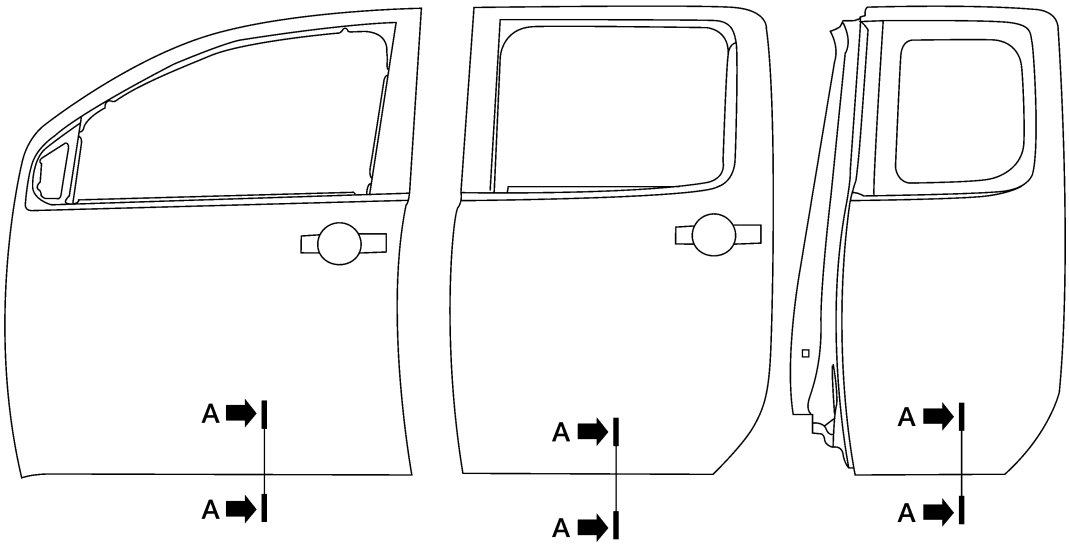
Confine paint removal during welding operations to an absolute minimum.



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

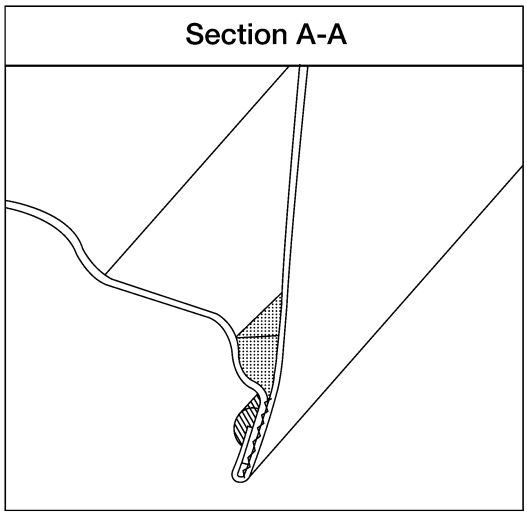
ANTI-CORROSIVE WAX

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



: Indicates outside body sealant

: Indicates anti-corrosive wax coated portions



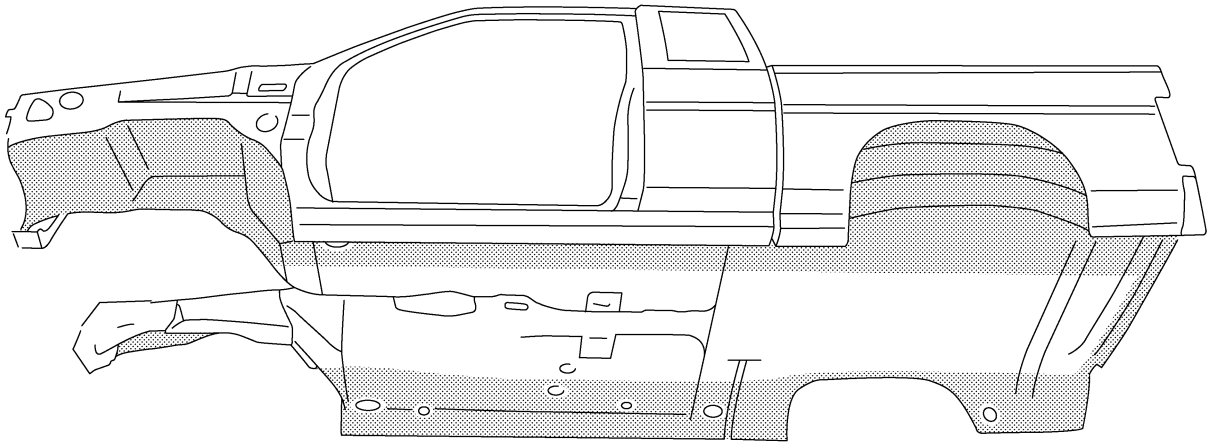
LIIA1210E

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.



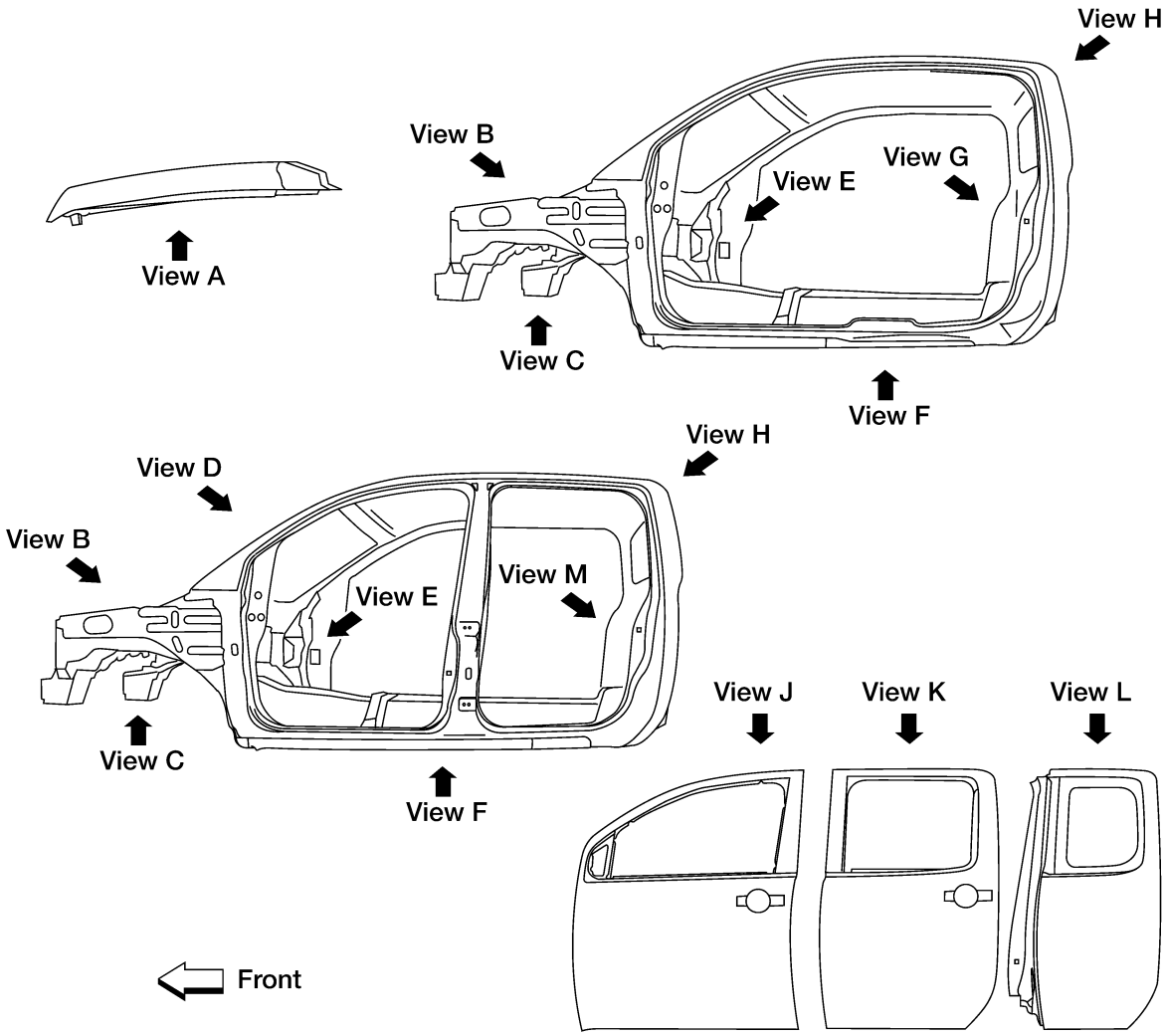
Body Sealing

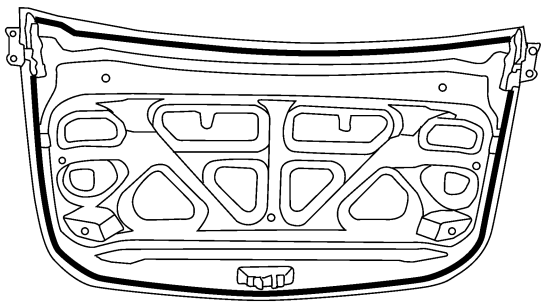
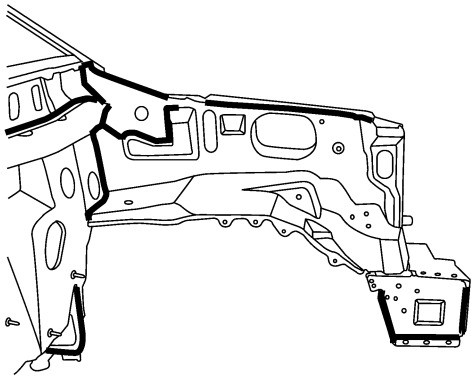
EIS004BR

DESCRIPTION

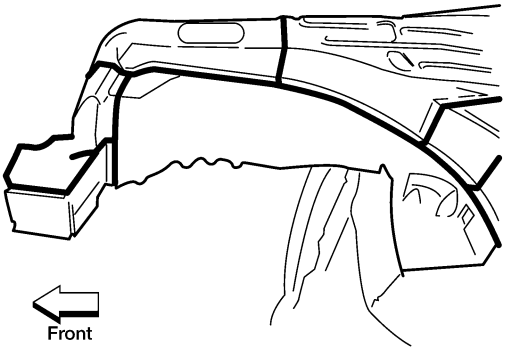
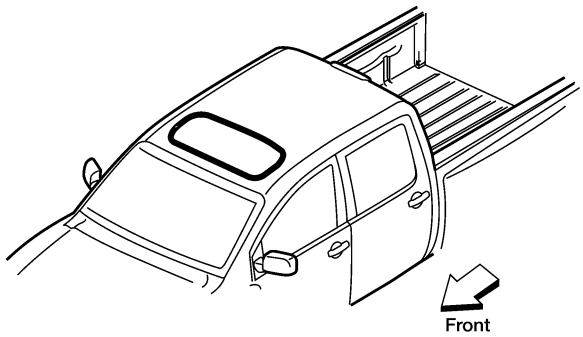
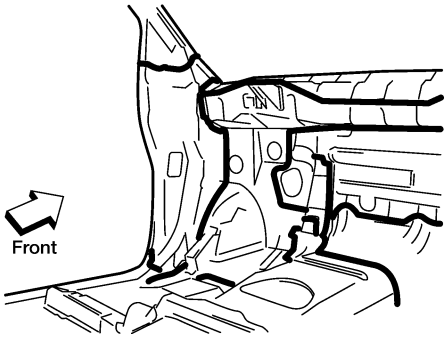
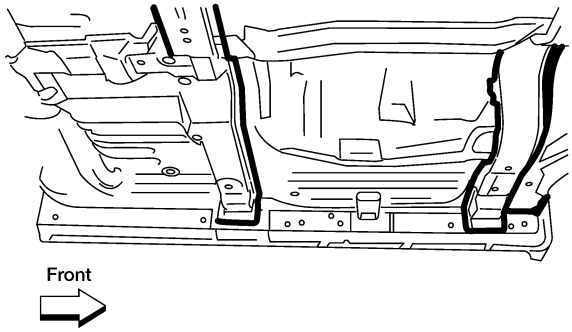
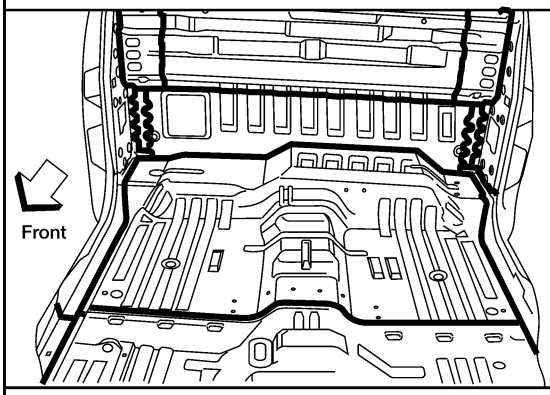
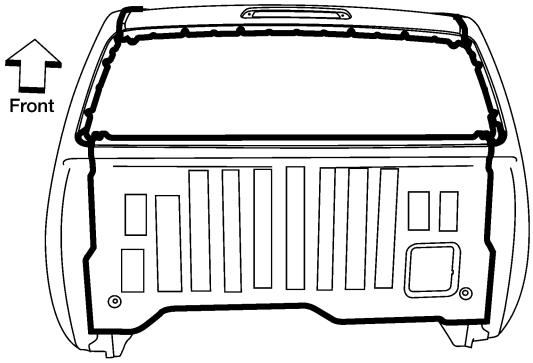
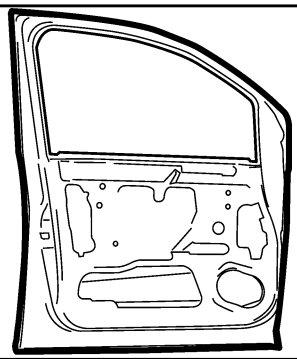
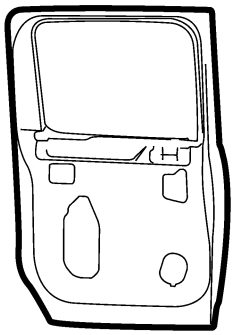
The following figure shows the areas which are sealed at the factory. Sealant which has been applied to these areas should be smooth and free from cuts or gaps. Care should be taken not to apply an excess amount of

sealant and not to allow other unaffected parts to come into contact with the sealant.

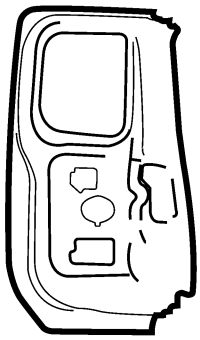
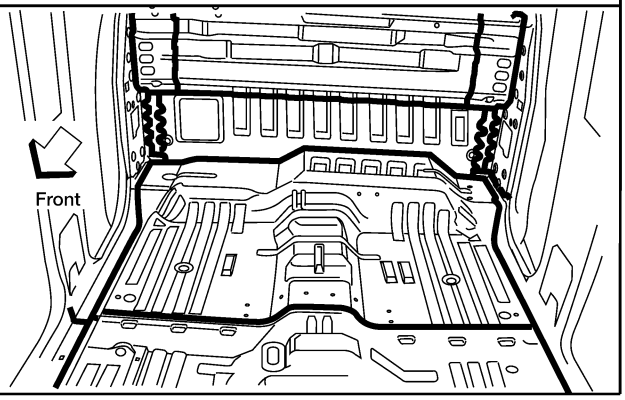


View A	View B
	

LIIA1303E

VIEW C	VIEW D
	
VIEW E	VIEW F
	
VIEW G	VIEW H
	
VIEW J	VIEW K
	

LIIA1315E

View L	View M
	

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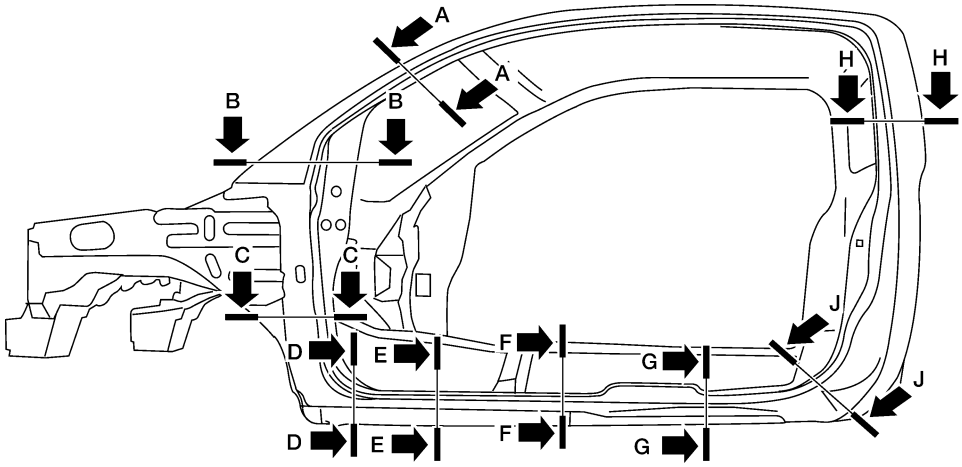
Body Construction
BODY CONSTRUCTION

EIS004BS

King Cab



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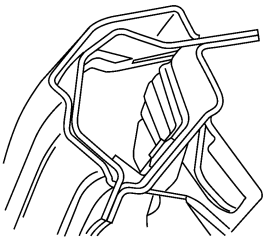	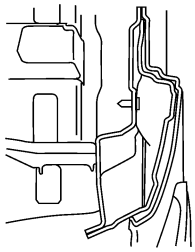	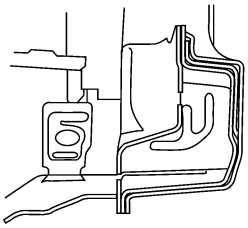	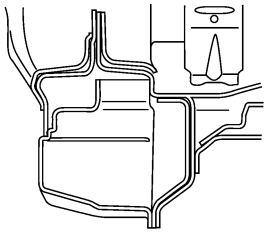
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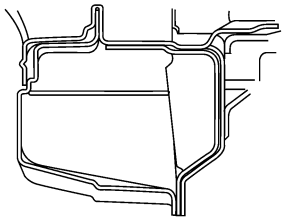	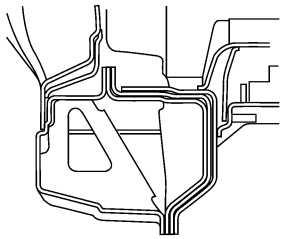	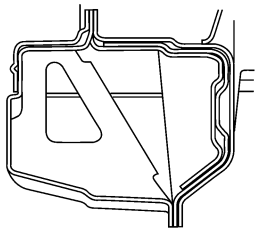	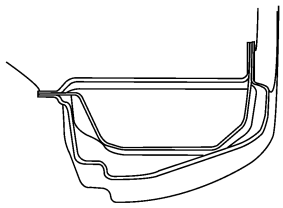
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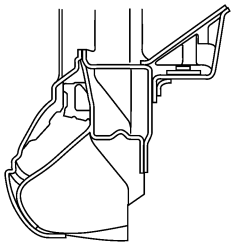
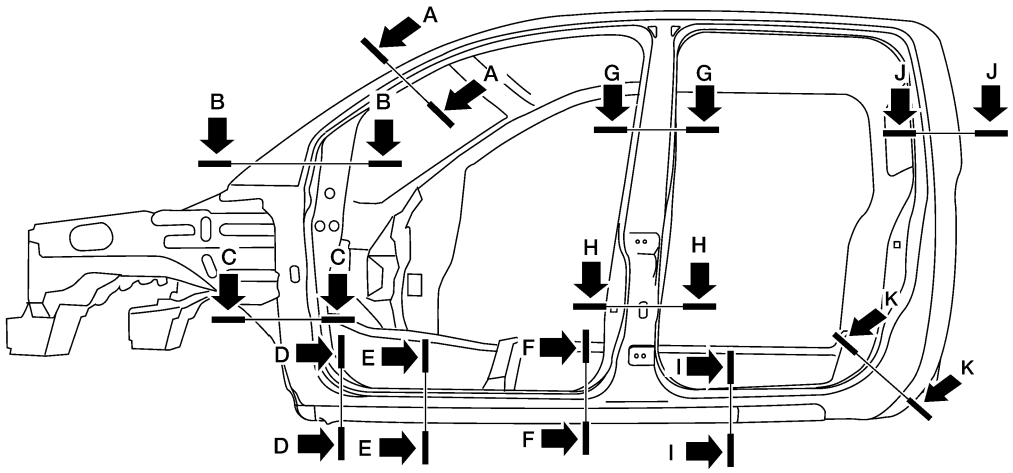
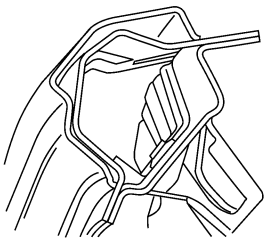
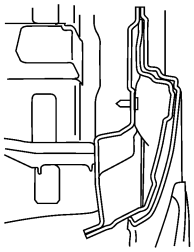
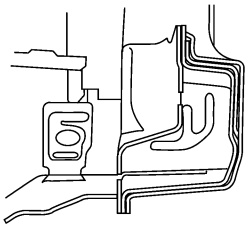
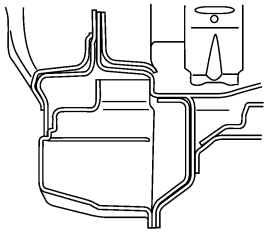
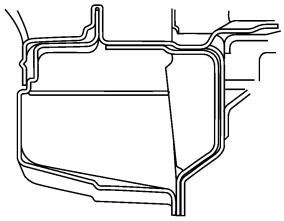
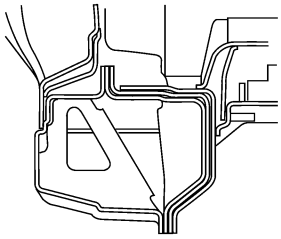
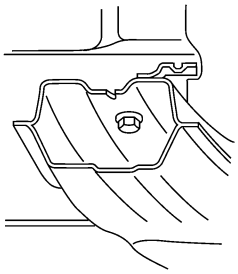
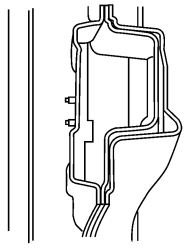
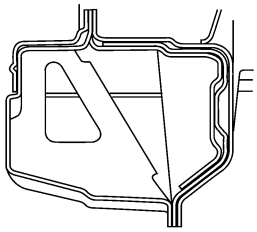
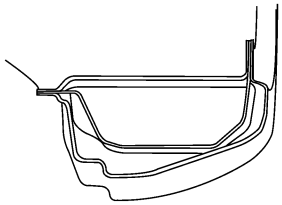
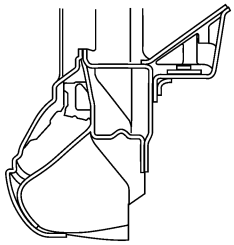
			

LIIA1317E

Crew Cab



Section A-A	Section B-B	Section C-C	Section D-D
			
Section E-E	**Section F-F**	**Section G-G**	**Section H-H**
			
Section I-I	**Section J-J**	**Section K-K**	
			

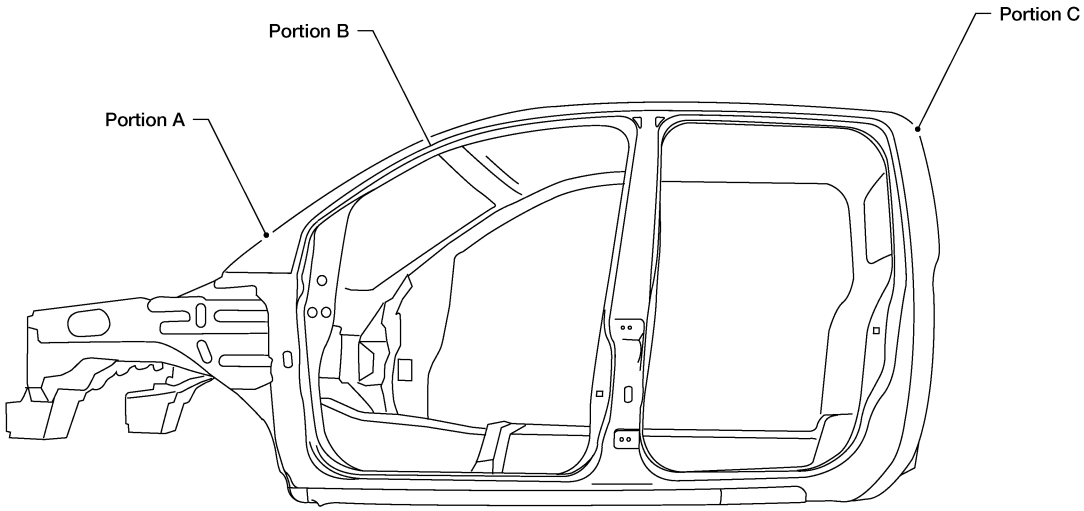
LIIA1318E

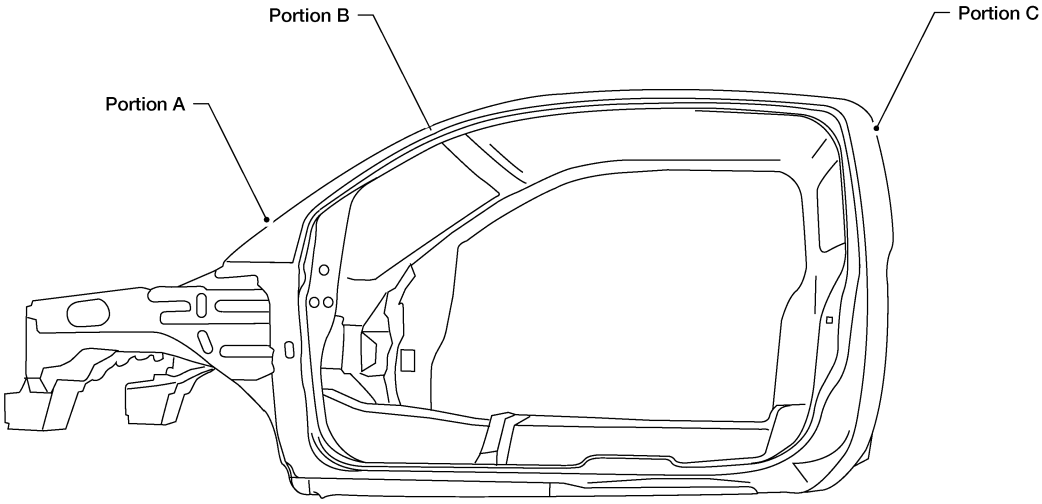
Body Alignment

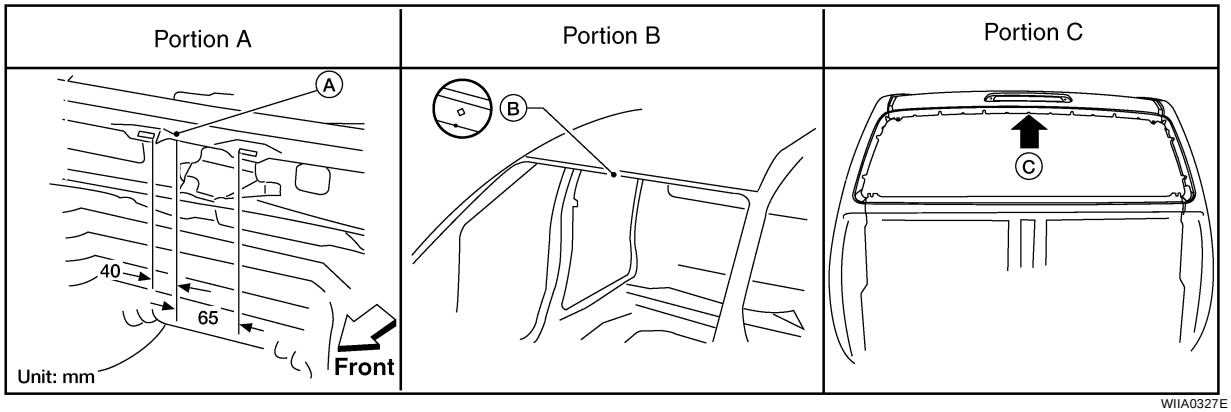
EIS004BT

BODY CENTER MARKS

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


Portion B
Portion C
Portion A


Portion B
Portion C
Portion A

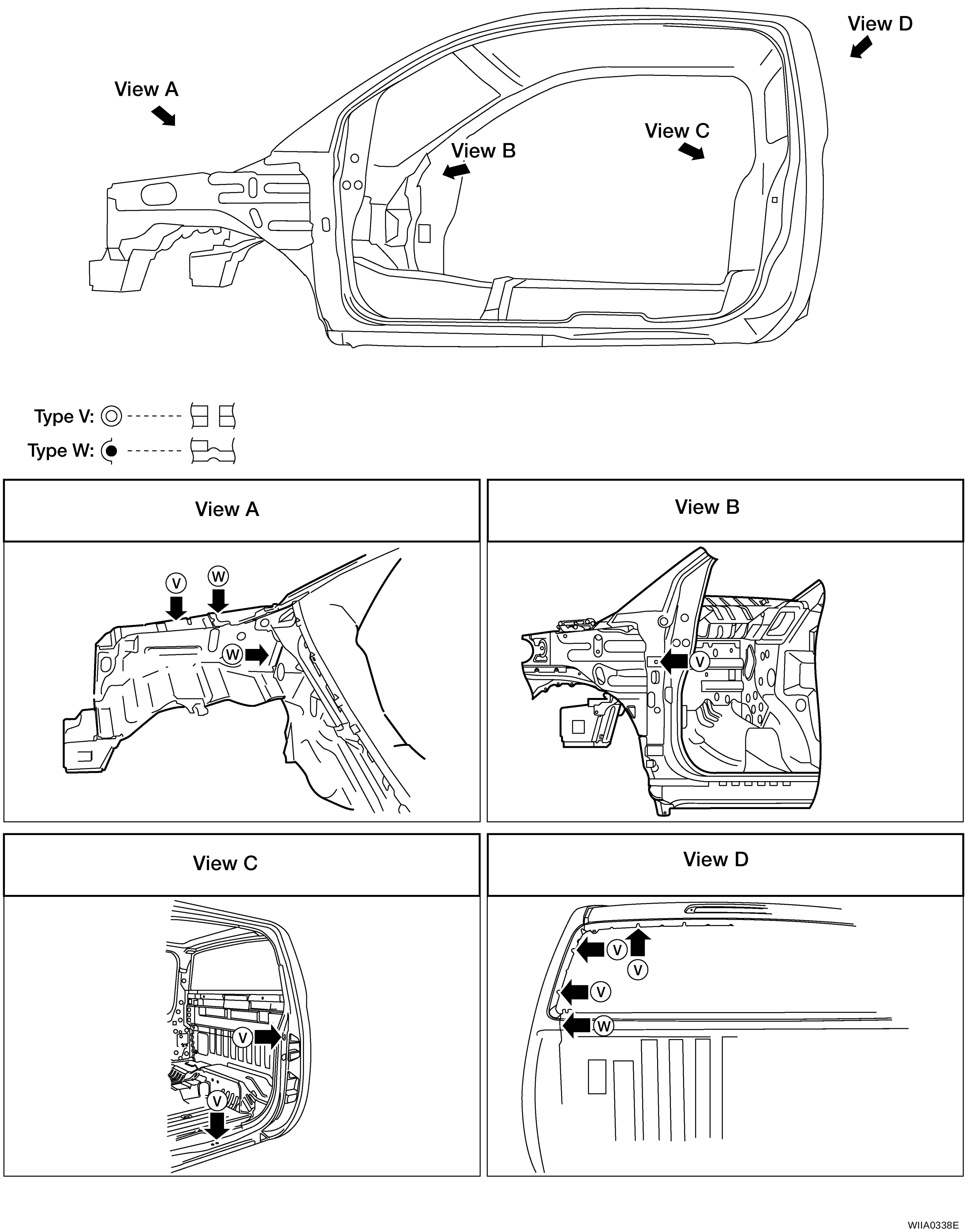

Portion A
Portion B
Portion C
A
B
C
40
65
Unit: mm
Front

WIIA0327E

PANEL PARTS MATCHING MARKS

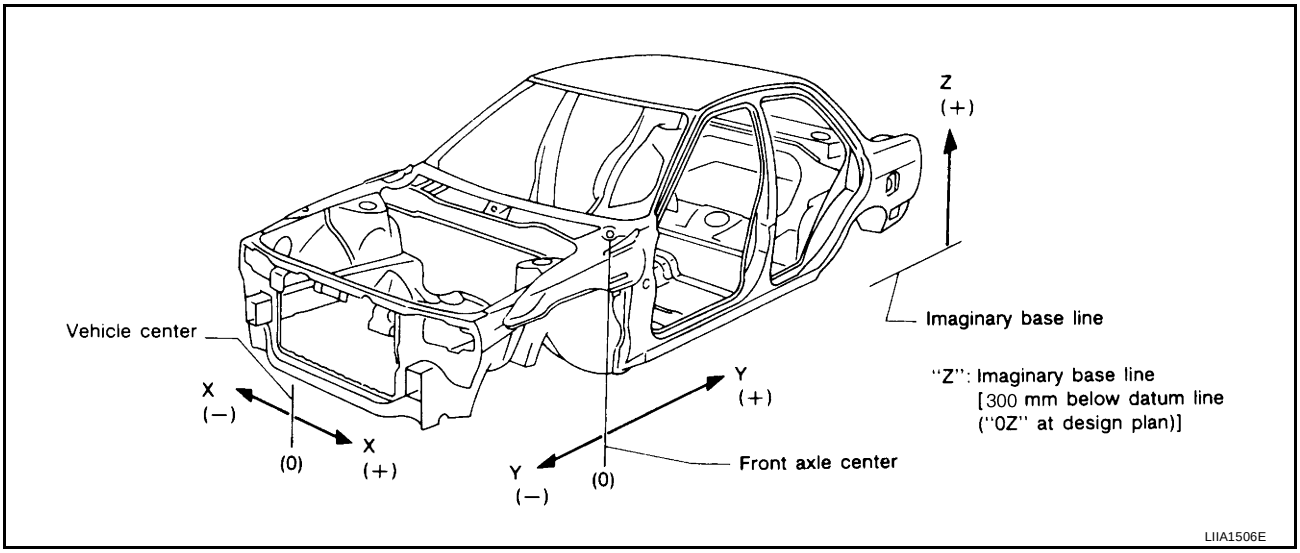
A mark has been placed on each body panel to indicate the parts matching positions. When repairing parts damaged by an accident which might affect the vehicle structure (members, pillars, etc.), more accurate and

effective repair will be possible by using these marks together with body alignment specifications.



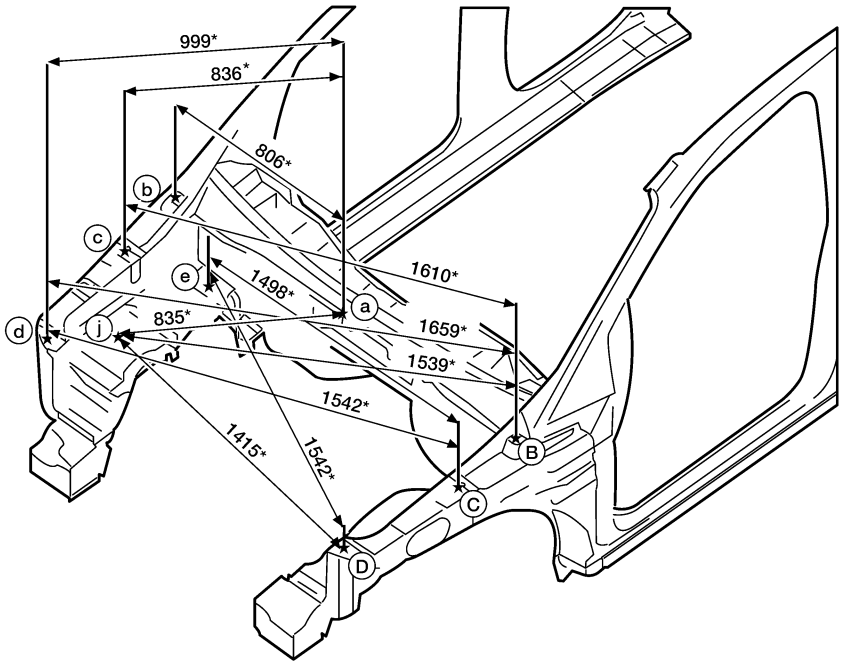
DESCRIPTION

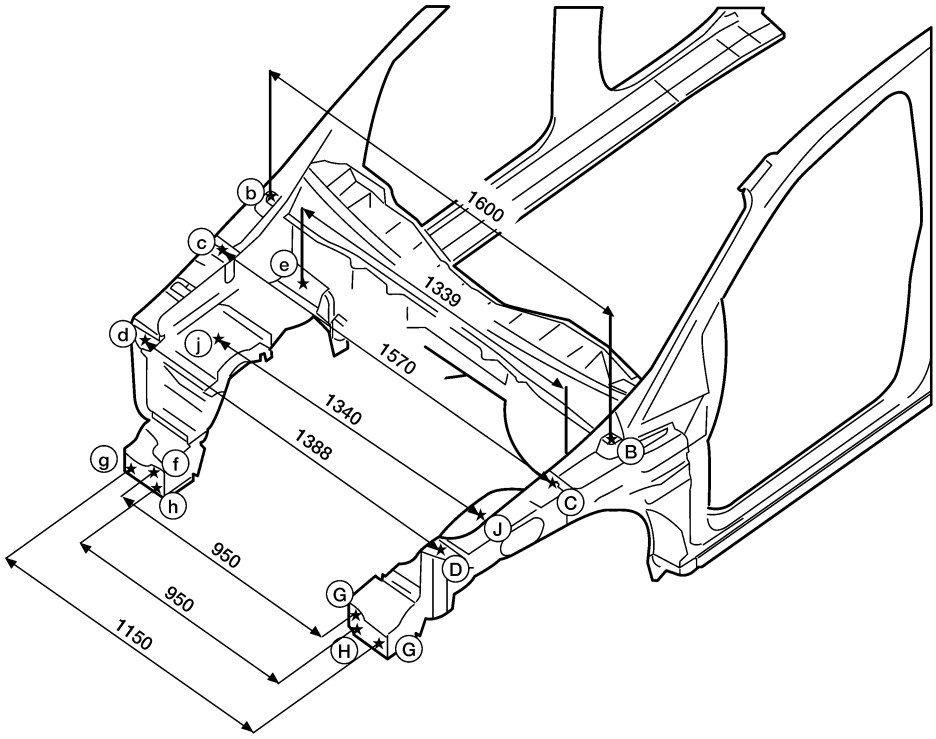
- All dimensions indicated in the figures are actual.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge itself to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
- Measurements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



ENGINE COMPARTMENT
MEASUREMENT

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



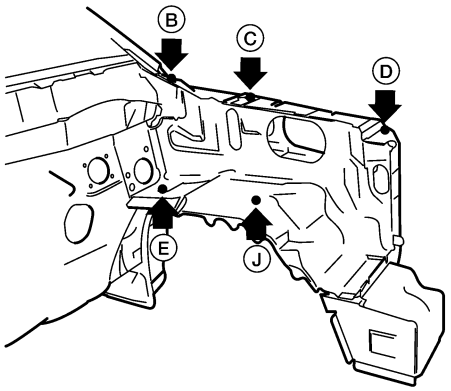


Unit: mm

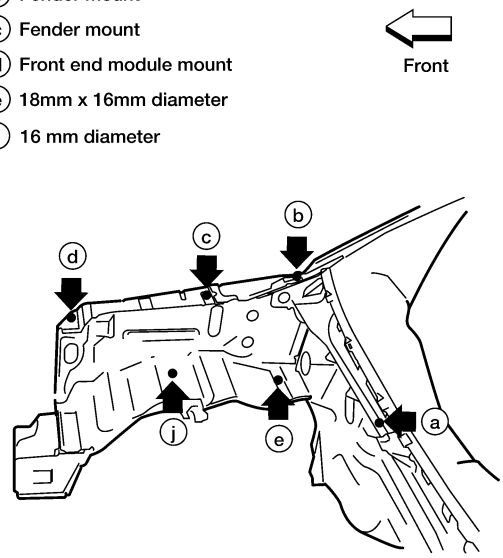
WIIA0551E

MEASUREMENT POINTS

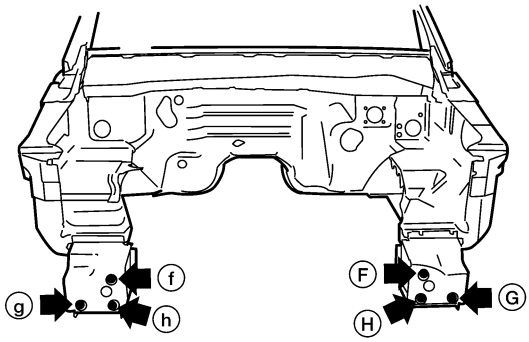
Ⓑ Fender mount
Ⓒ Fender mount
Ⓓ Front end module mount
Ⓔ 18mm x 16mm diameter
Ⓙ 16mm diameter



ⓐ RH cowl
ⓑ Fender mount
ⓒ Fender mount
ⓓ Front end module mount
ⓔ 18mm x 16mm diameter
ⓙ 16 mm diameter



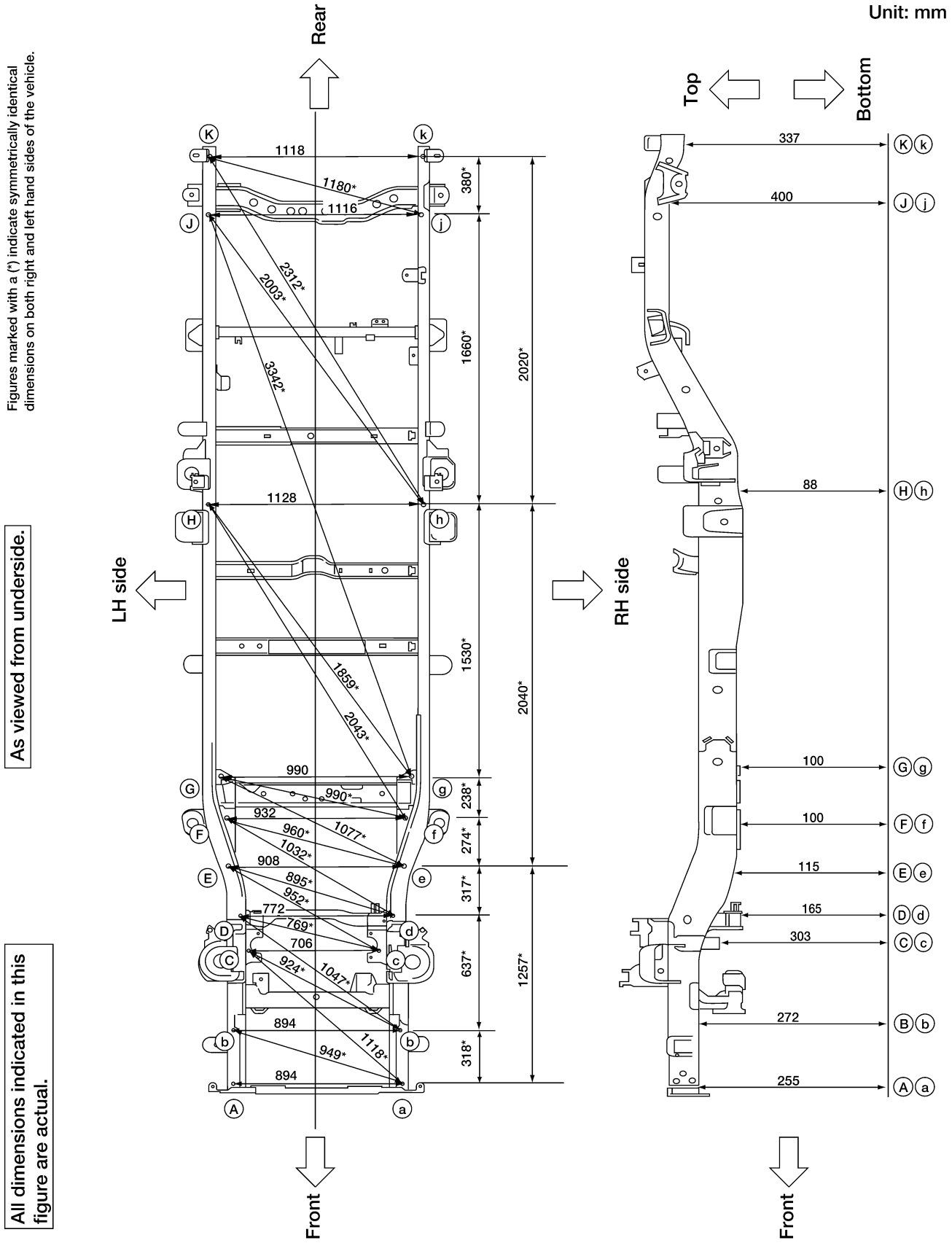
Ⓕ, ⓕ, Ⓖ, ⓖ, Ⓗ, ⓗ Front side member extension front



WIIA0279E

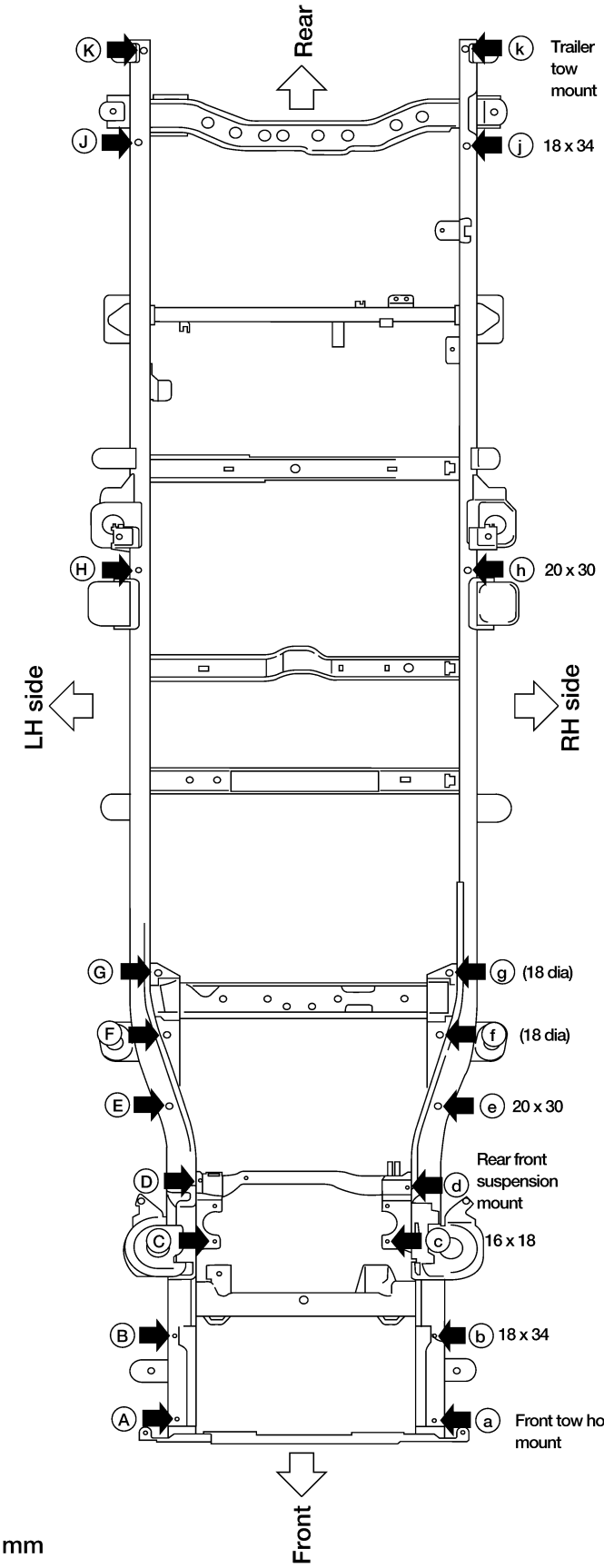
UNDERBODY MEASUREMENT

Unit: mm



LIIA1213E

MEASUREMENT POINTS



Coordinates:

Ⓐ,ⓐ
X : ± 447
Y : -745
Z : 255

Ⓑ,ⓑ
X : ± 447
Y : -427
Z : 272

Ⓒ,ⓒ
X : ± 353
Y : 35
Z : 303

Ⓓ,ⓓ
X : ± 386
Y : 198
Z : 165

Ⓔ,ⓔ
X : ± 454
Y : 504
Z : 115

Ⓕ,ⓕ
X : ± 466
Y : 777
Z : 100

Ⓖ,ⓖ
X : ± 495
Y : 1013
Z : 100

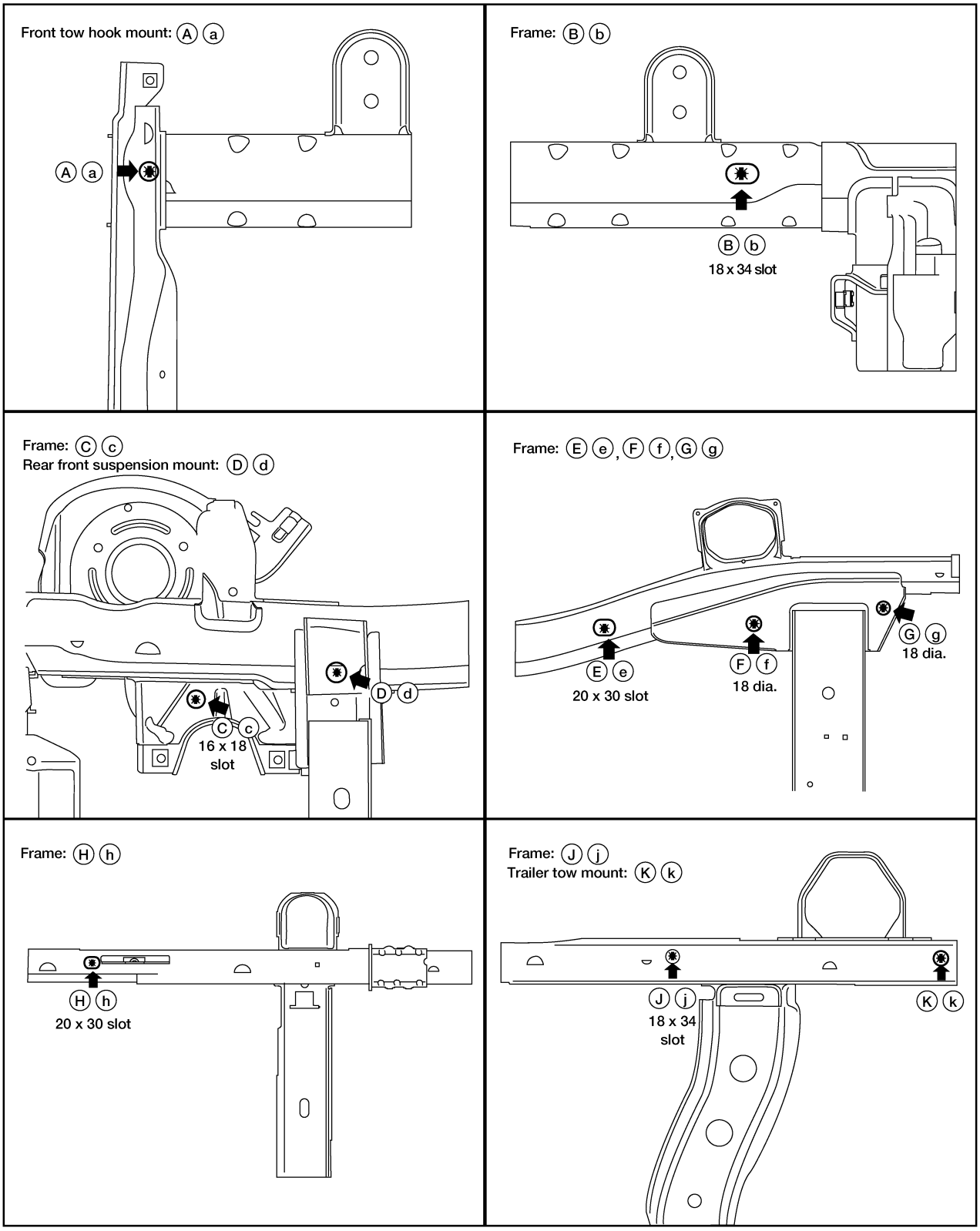
Ⓗ,ⓗ
X : ± 564
Y : 2541
Z : 88

Ⓙ,ⓙ
X : ± 558
Y : 4171
Z : 400

Ⓚ,ⓚ
X : ± 559
Y : 4546
Z : 337

Unit : mm

WIIA0577E



Coordinates:

A, a	B, b	C, c	D, d	E, e	F, f	G, g	H, h	J, j	K, k
X : ± 447	X : ± 447	X : ± 353	X : ± 386	X : ± 454	X : ± 466	X : ± 495	X : ± 564	X : ± 558	X : ± 559
Y : -747	Y : -427	Y : 35	Y : 198	Y : 504	Y : 777	Y : 1013	Y : 2541	Y : 4171	Y : 4546
Z : 255	Z : 272	Z : 303	Z : 165	Z : 115	Z : 100	Z : 100	Z : 88	Z : 400	Z : 337

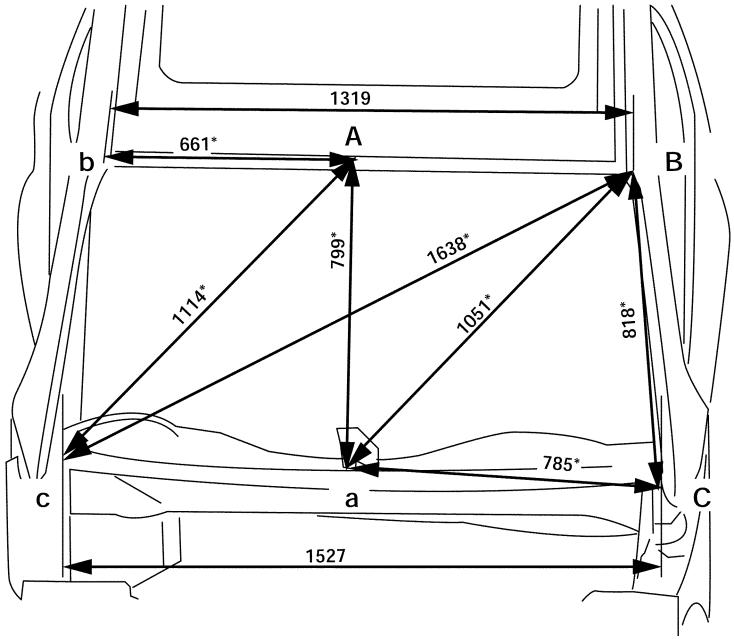
Unit: mm

WIIA0340E

PASSENGER COMPARTMENT MEASUREMENT

Windshield Opening

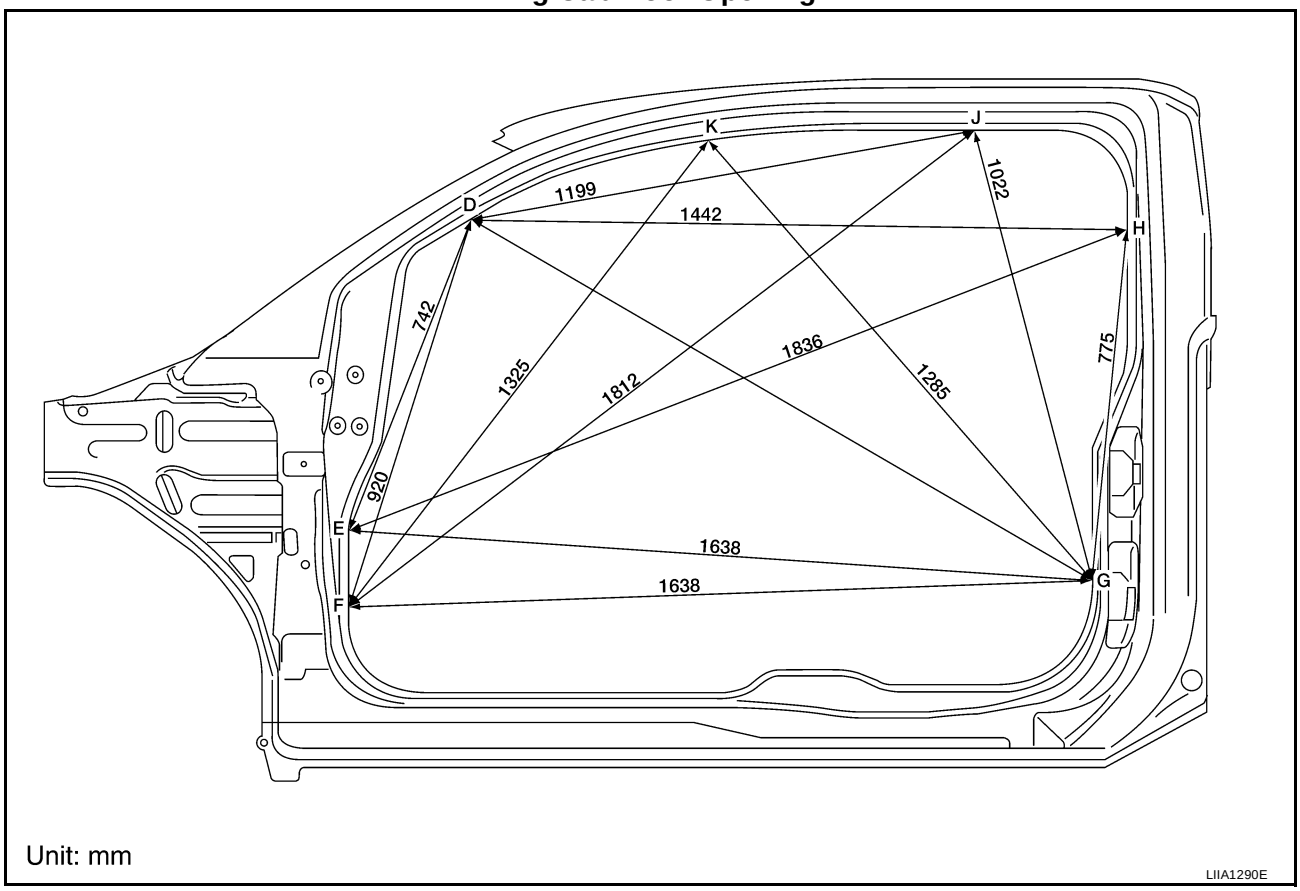
Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



Unit: mm

LIIA1289E

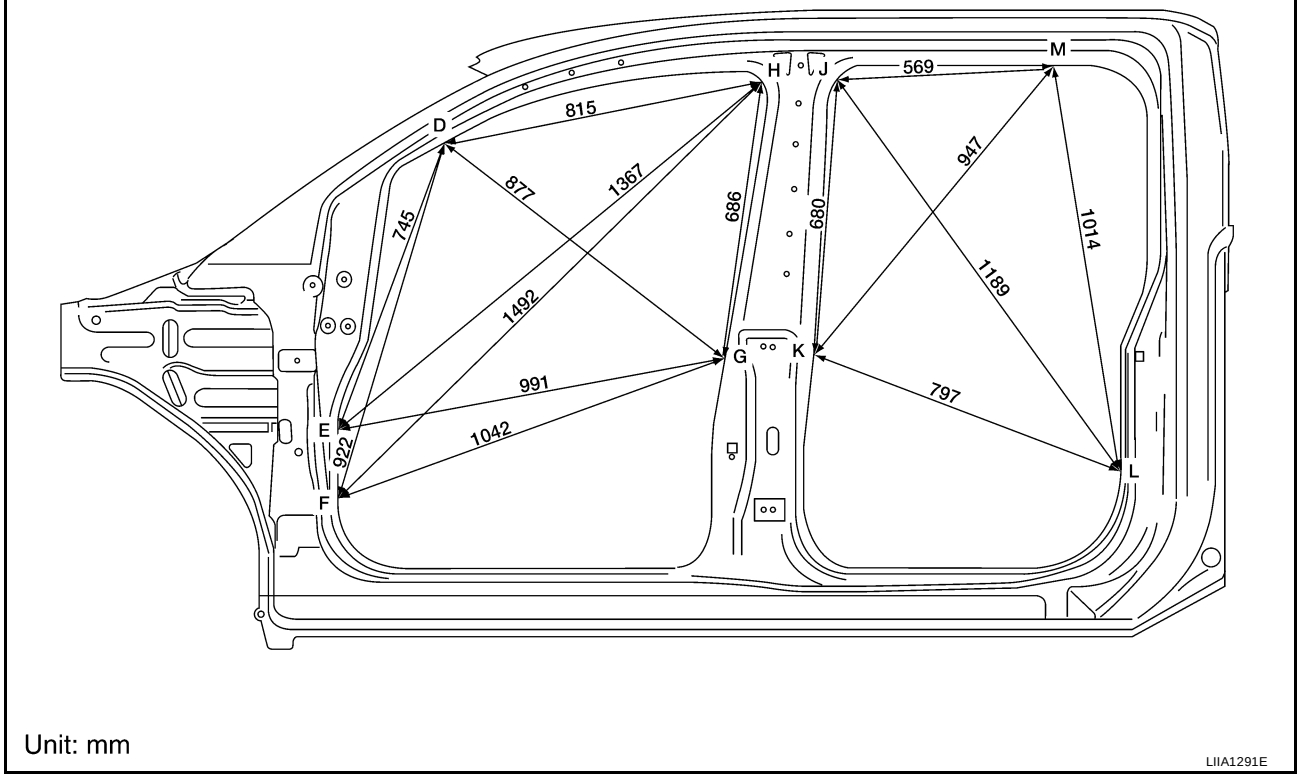
King Cab Door Opening



Unit: mm

LIIA1290E

Crew Cab Door Opening

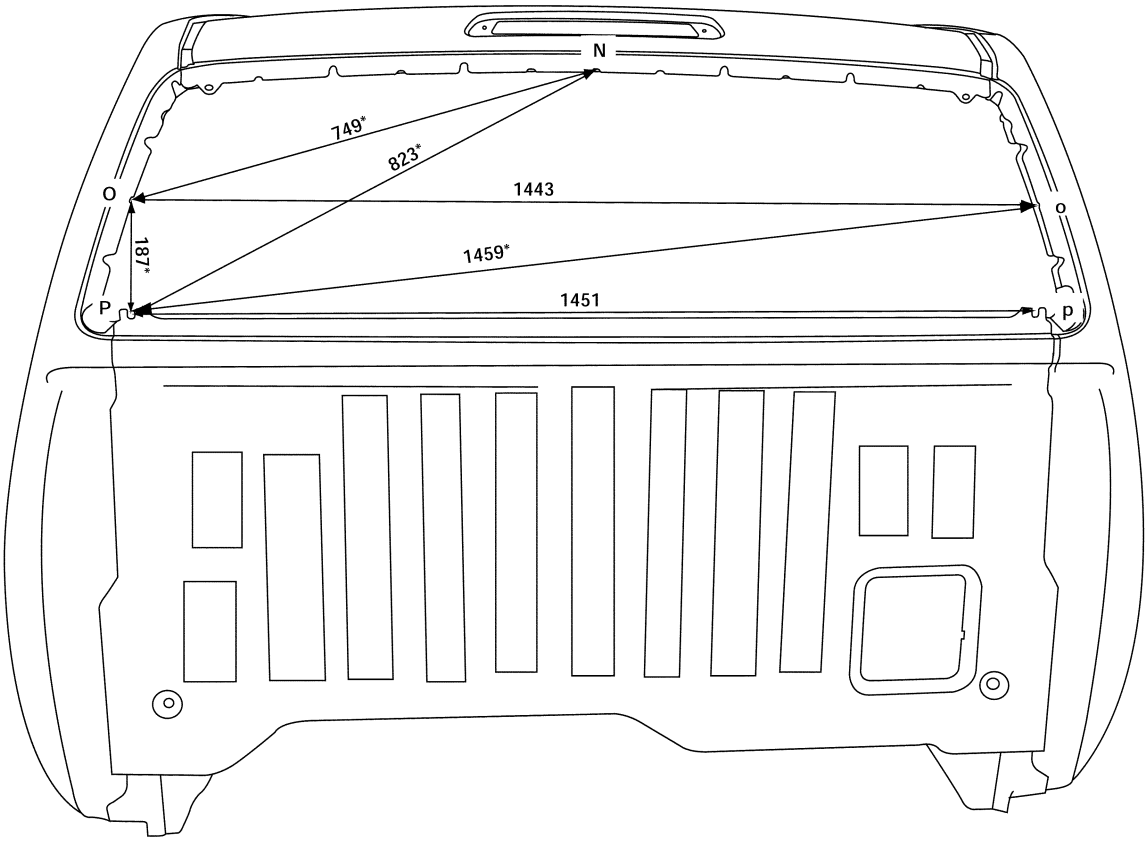


Unit: mm

LIIA1291E

Rear Window Opening

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

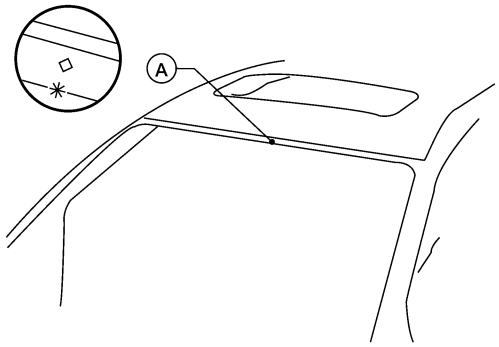


Unit: mm

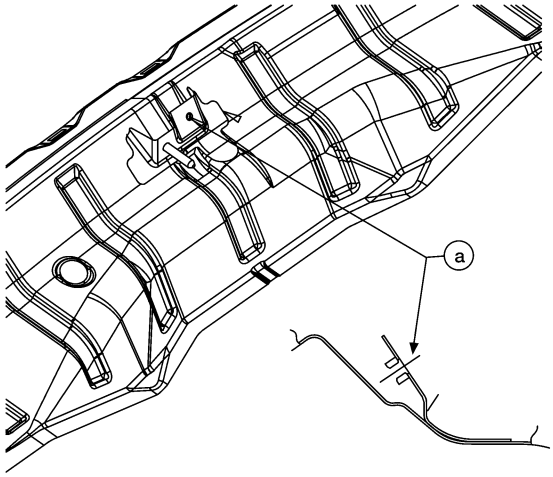
LIIA1292E

MEASUREMENT POINTS

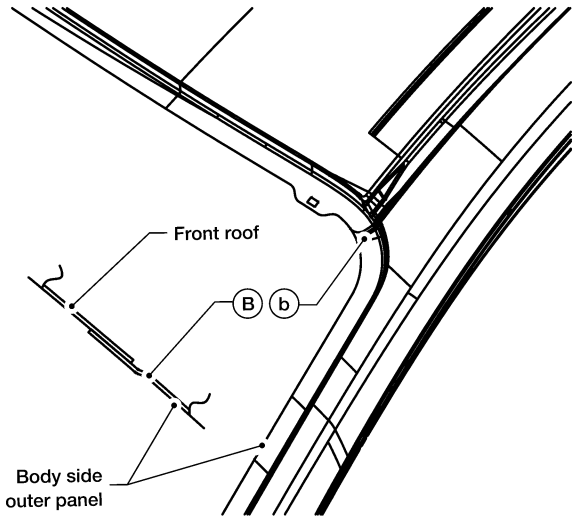
Ⓐ Front roof flange end of center position mark



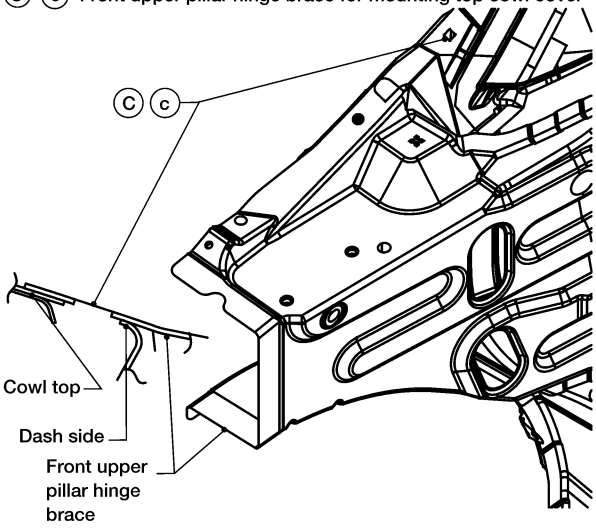
ⓐ Top of cowl bracket center hole



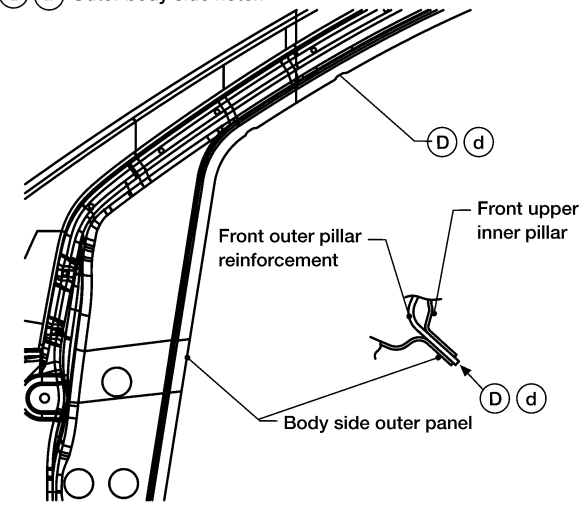
Ⓑ ⓑ Outer body side corner joggle



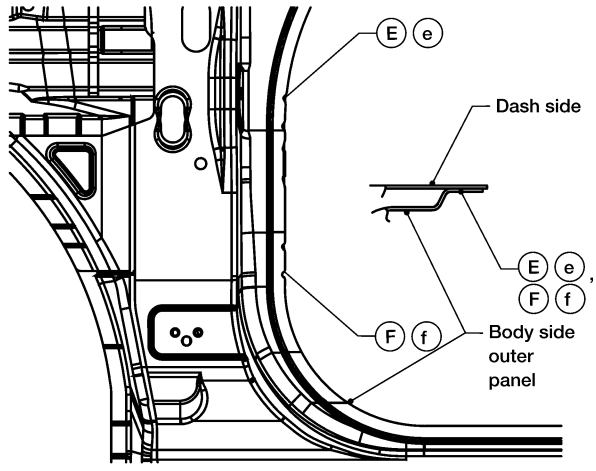
Ⓒ ⓒ Front upper pillar hinge brace for mounting top cowl cover



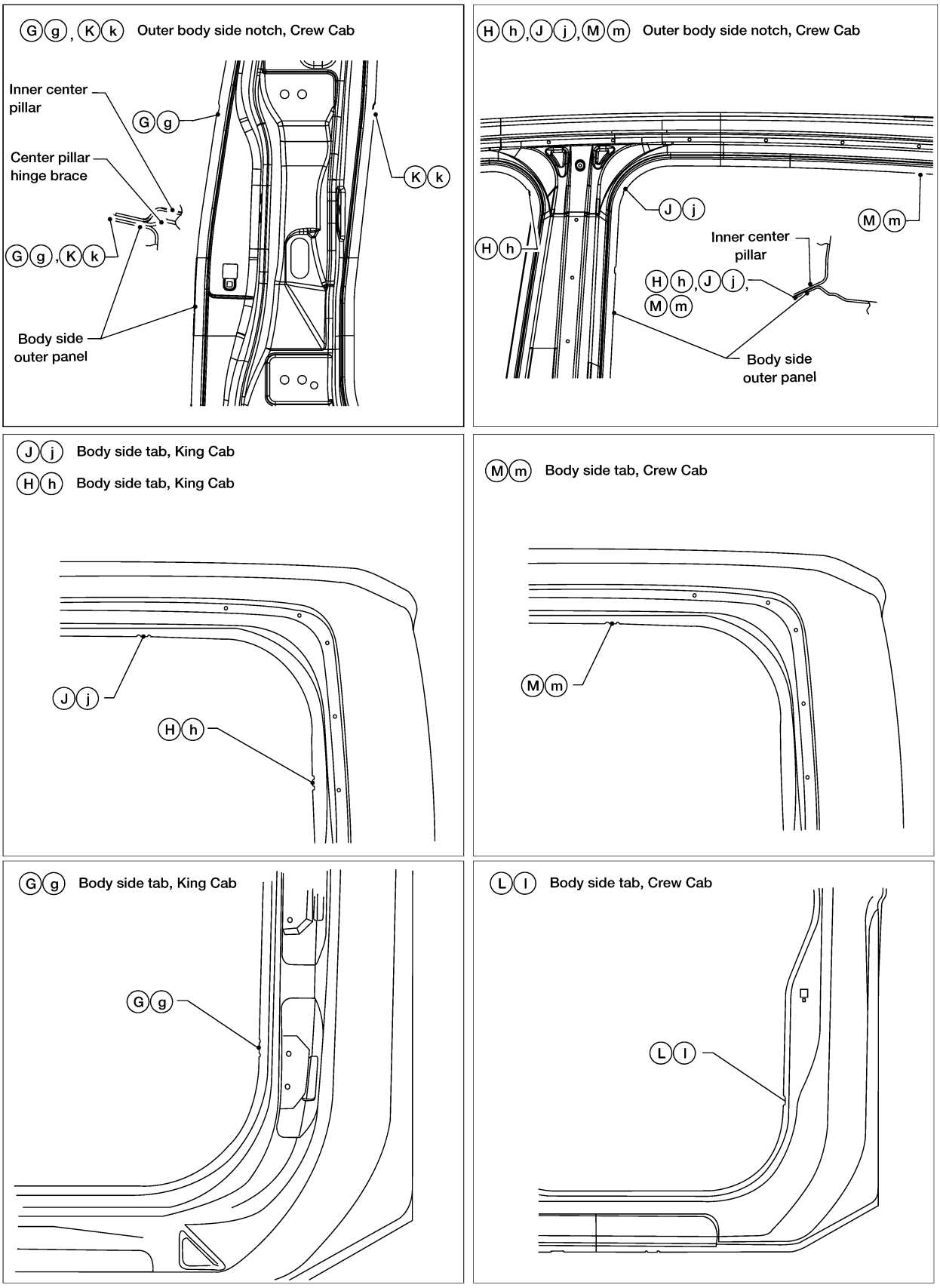
Ⓓ ⓓ Outer body side notch



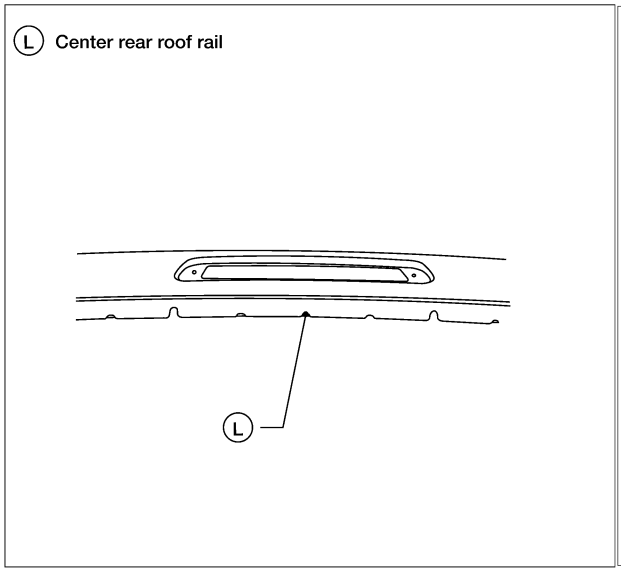
Ⓔ ⓔ, Ⓕ ⓕ Outer body side notch

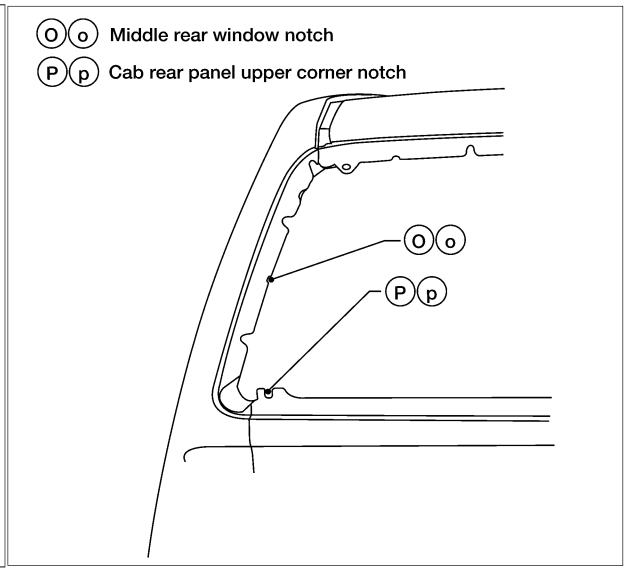


LIIA1300E


G g , K k Outer body side notch, Crew Cab
Inner center pillar
G g
Center pillar hinge brace
K k
G g , K k
Body side outer panel
H h , J j , M m Outer body side notch, Crew Cab
J j
M m
H h
Inner center pillar
H h , J j , M m
Body side outer panel
J j Body side tab, King Cab
H h Body side tab, King Cab
J j
H h
M m Body side tab, Crew Cab
M m
G g Body side tab, King Cab
G g
L l Body side tab, Crew Cab
L l

LIIA1321E

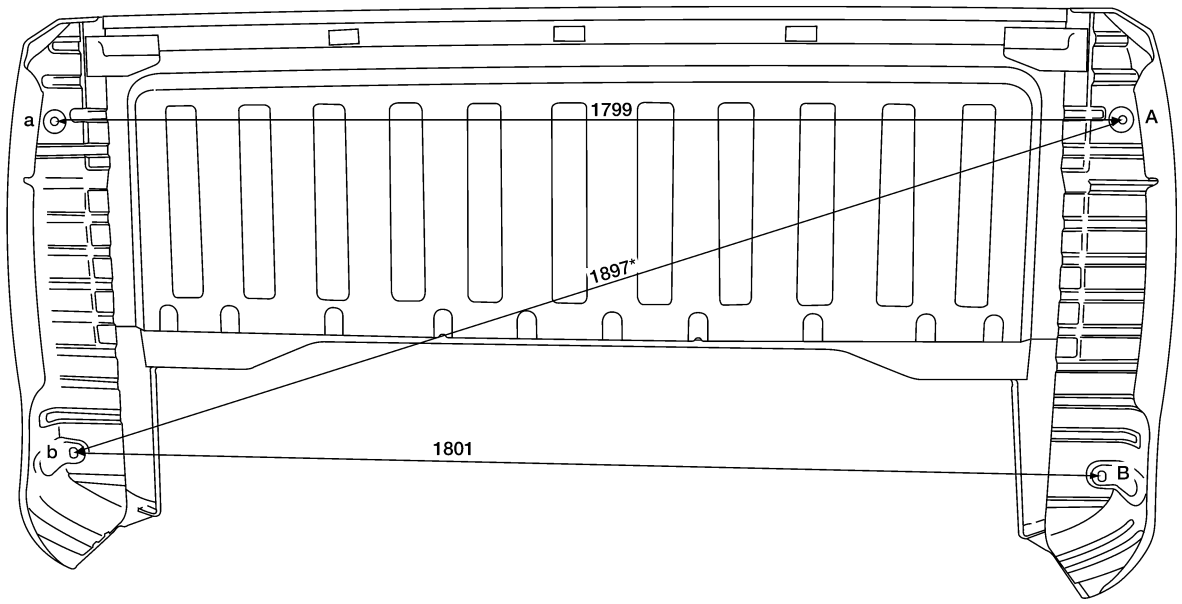

L Center rear roof rail
L


O o Middle rear window notch
P p Cab rear panel upper corner notch
O o
P p

LIIA1322E

REAR BODY
MEASUREMENT

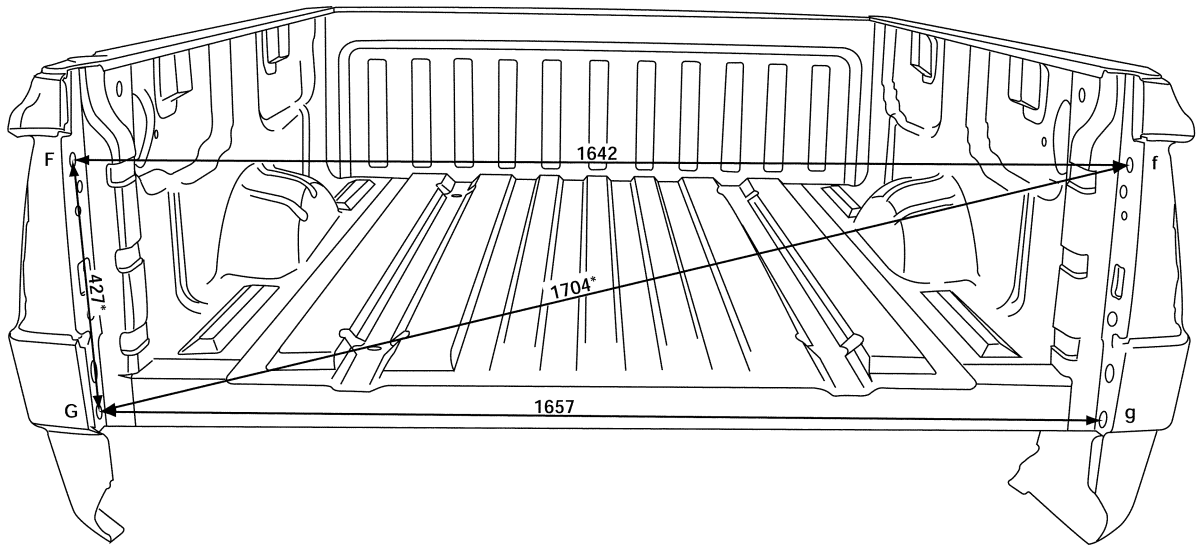
Figures marked with an (*) indicate symmetrically identical dimensions on both the right and left hand sides of the vehicle



Unit: mm

LIIA1295E

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

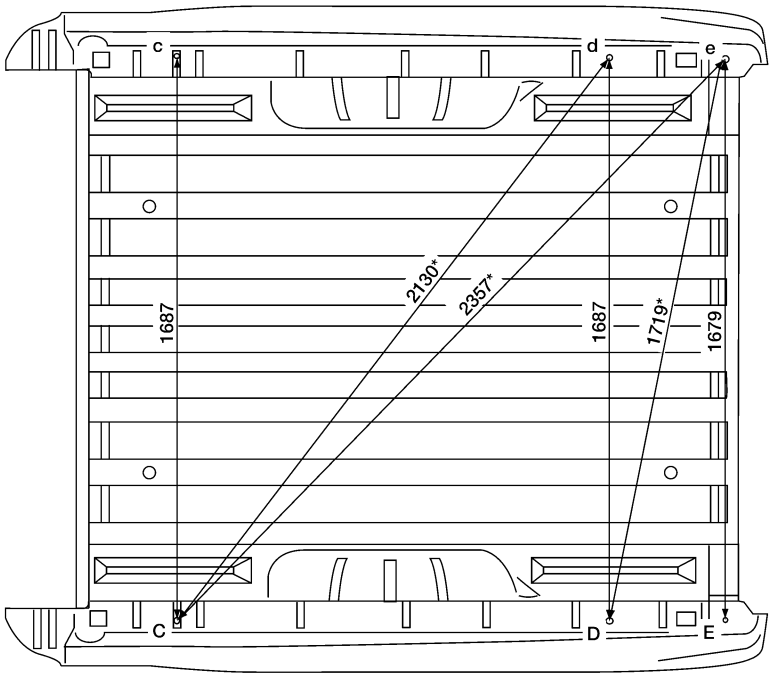


Unit: mm

LIIA1296E

King Cab Bed Opening

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

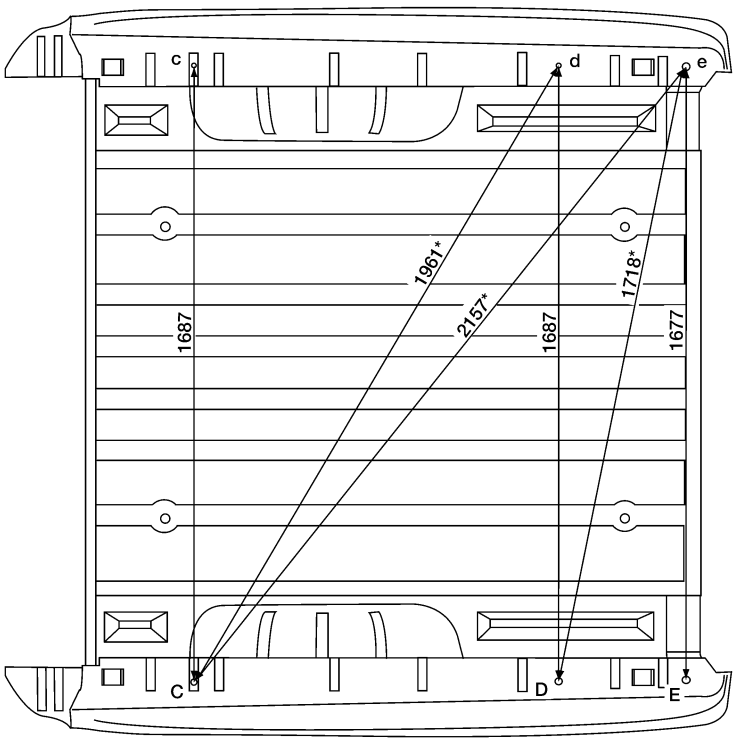


Unit: mm

LIIA1293E

Crew Cab Bed Opening

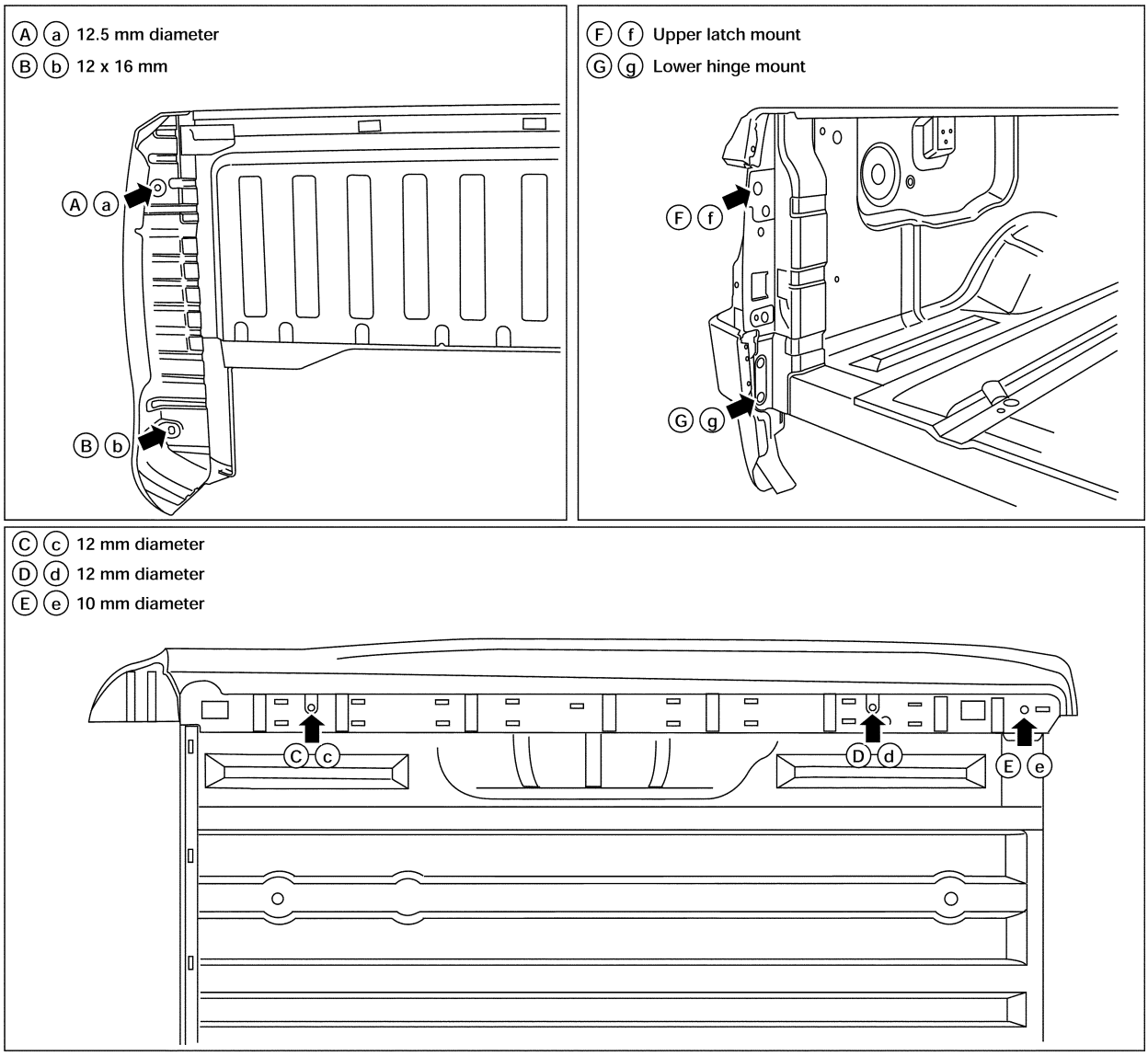
Figures marked with an (*) indicate symmeterically identical dimensions on both the right and left hand sides of the vehicle



Unit: mm

LIIA1294E

Measurement Points



LIIA1334E

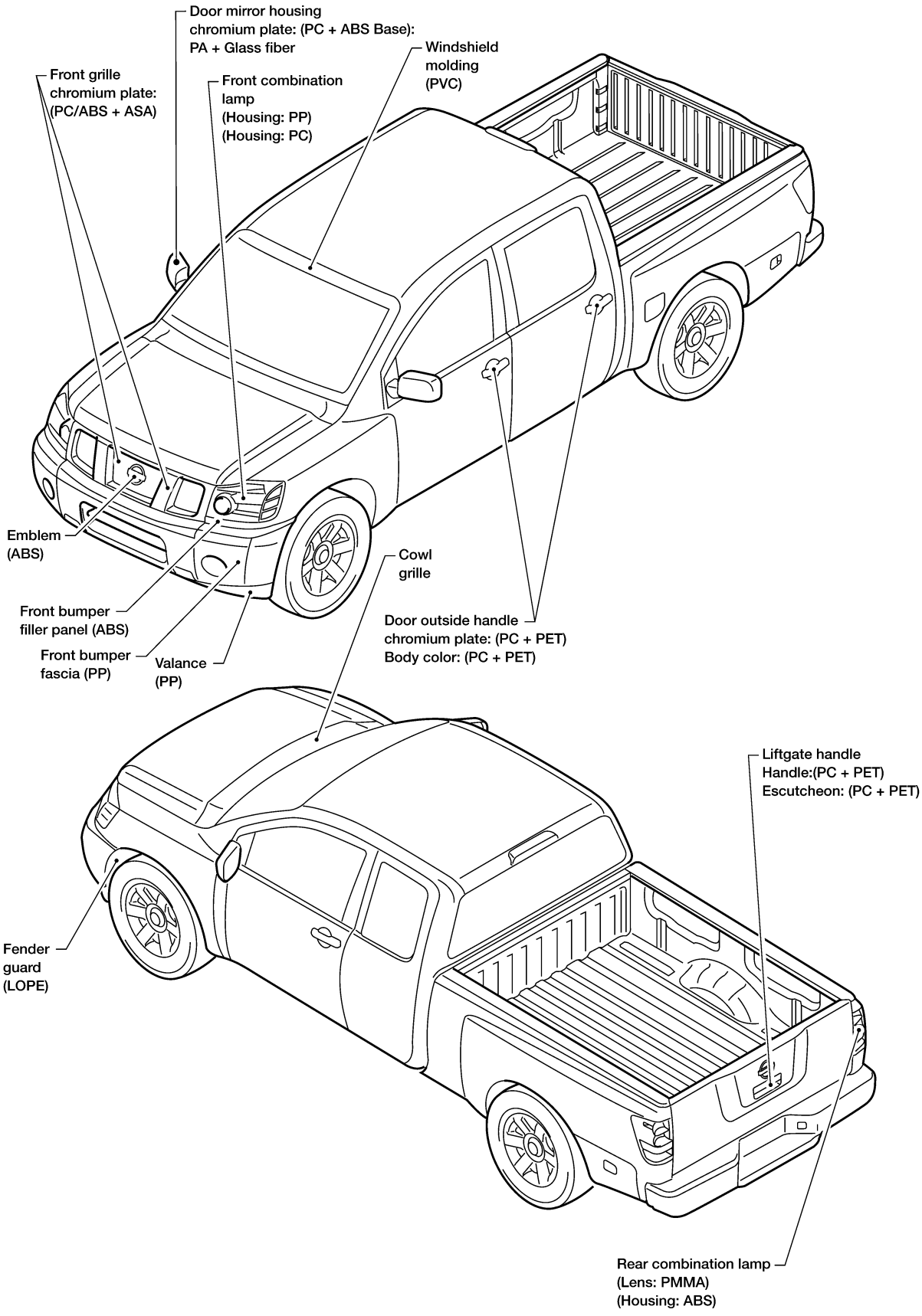
Handling Precautions for Plastics

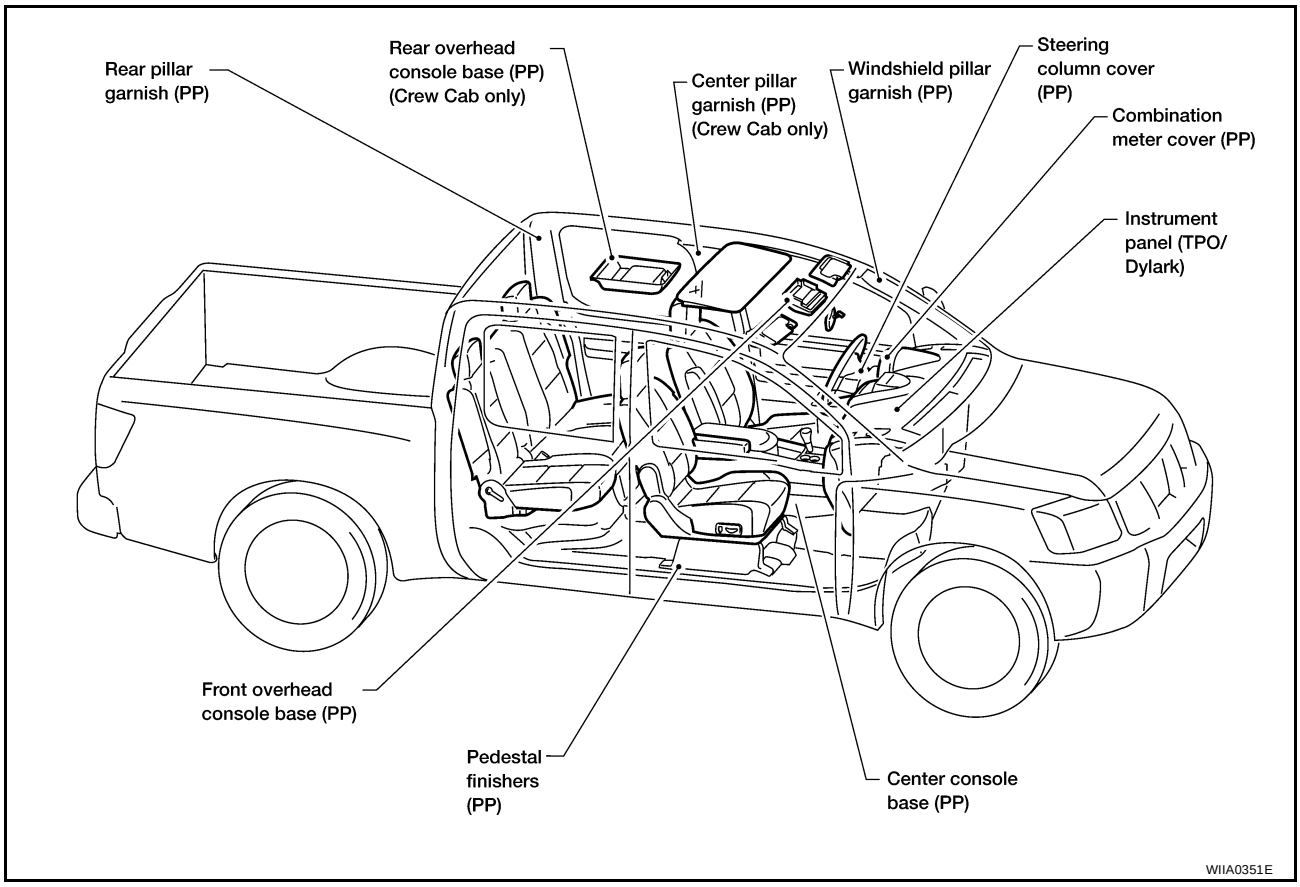
EIS004BU

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




Rear pillar garnish (PP)
Rear overhead console base (PP) (Crew Cab only)
Center pillar garnish (PP) (Crew Cab only)
Windshield pillar garnish (PP)
Steering column cover (PP)
Combination meter cover (PP)
Instrument panel (TPO/ Dylark)
Front overhead console base (PP)
Pedestal finishers (PP)
Center console base (PP)
WIIA0351E

Precautions in Repairing High Strength Steel

EIS004BV

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

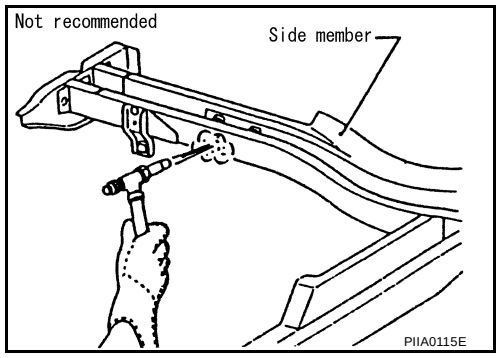
Tensile strength	Nissan/Infiniti designation	Major applicable parts
373 N/mm^2 (38kg/mm^2 ,54klb/sq in)	SP130	● Front inner pillar upper ● Front pillar hinge brace ● Outer front pillar reinforcement ● Other reinforcements
785-981 N/mm^2 (80-100kg/mm^2 114-142klb/sq in)	SP150	● Outer sill reinforcement ● Main back pillar

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

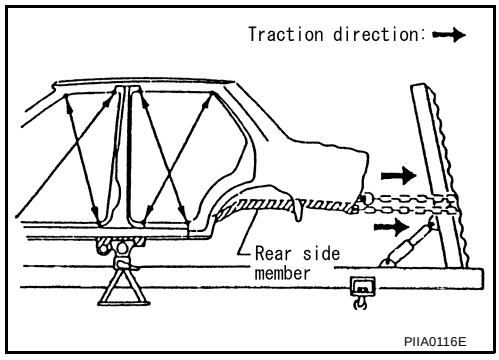
Read the following precautions when repairing HSS:

1. Additional points to consider

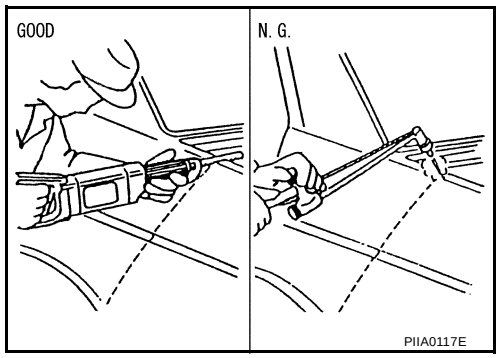
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).
  Verify heating temperature with a thermometer.
  (Crayon-type and other similar type thermometer are appropriate.)



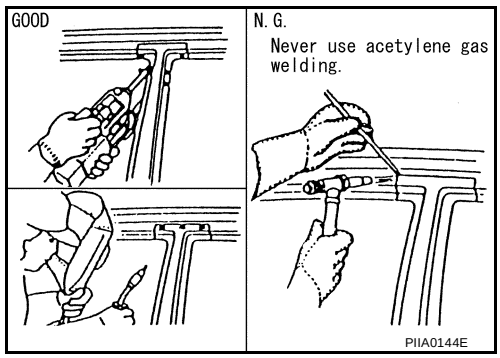
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



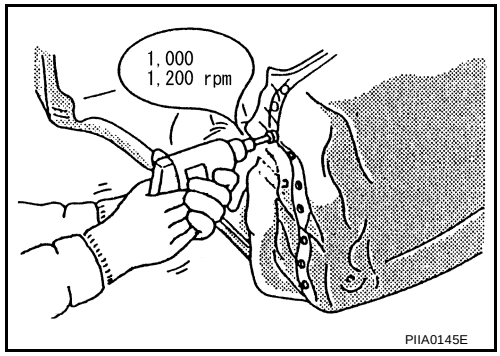
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).



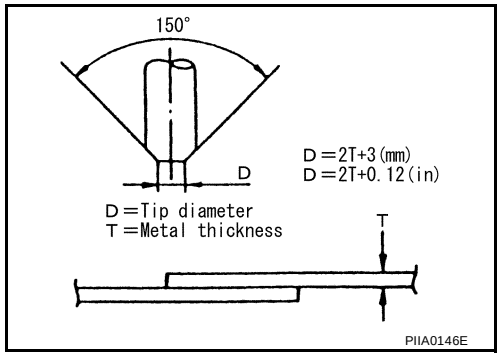
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
  If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



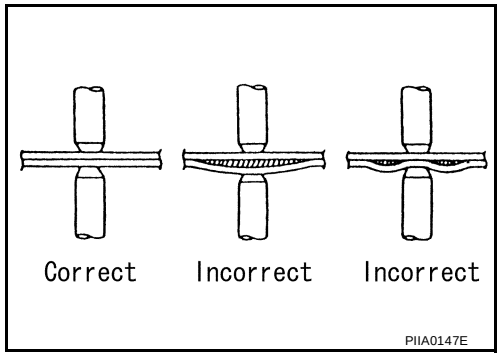
- The spot weld on HSS panels is harder than that of an ordinary steel panel.
  Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.
- SP150 HSS panels with a tensile strength of 785 to 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.



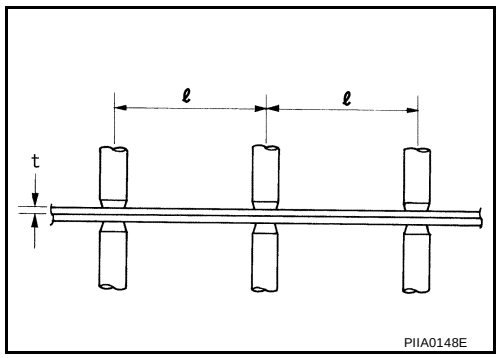
   - The panel surfaces must fit flush to each other, leaving no gaps.



- 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



Foam Repair

EIS004BW

During factory body assembly, foam insulators are installed in certain body panels and locations around the vehicle. Use the following procedure(s) to replace any factory-installed foam insulators.

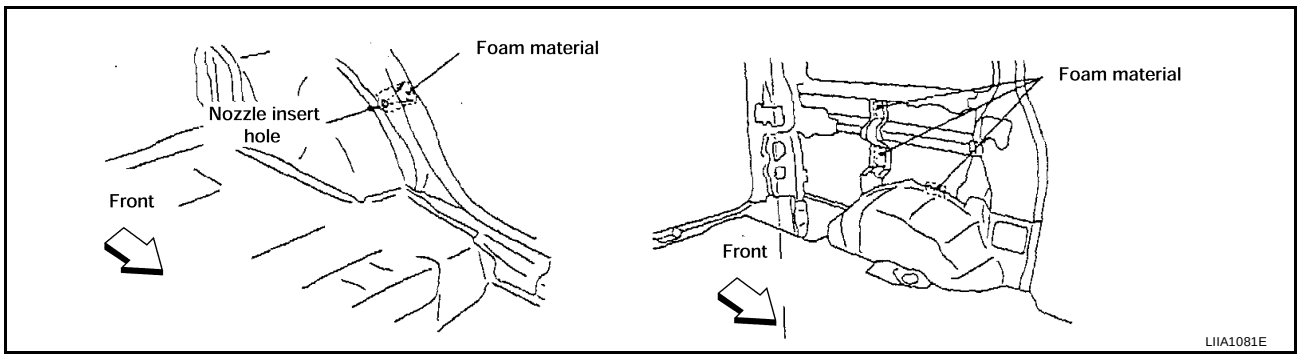
URETHANE FOAM APPLICATIONS

Use commercially available spray foam for sealant (foam material) repair of material used on vehicle. Read instructions on product for fill procedures.

FILL PROCEDURES

1. Fill procedures after installation of service part.

- Remove foam material remaining on vehicle side.
- Clean area in which foam was removed.
- Install service part.
- Insert nozzle into hole near fill area and fill foam material or fill in enough to close gap with the service part.



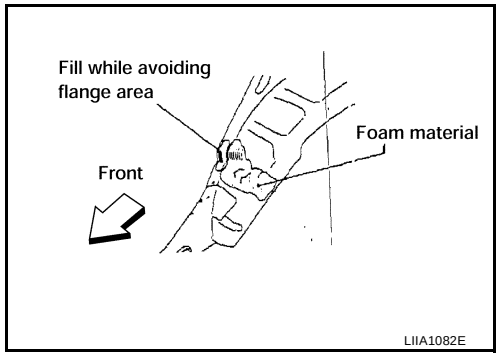
2. Fill procedures before installation of service part.

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

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

- Install service part.

NOTE:
Refer to label for information on working times.



Replacement Operations

EIS004BX

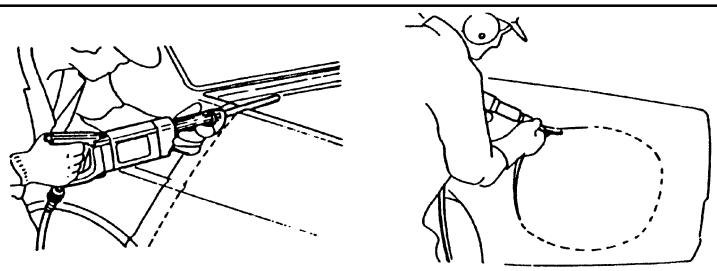
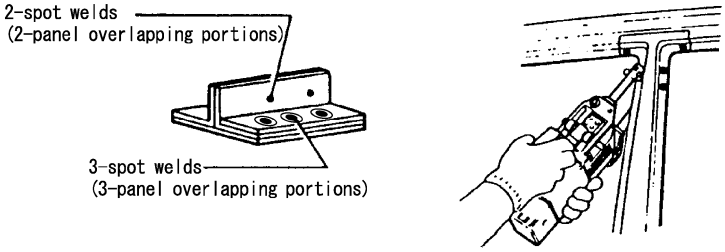
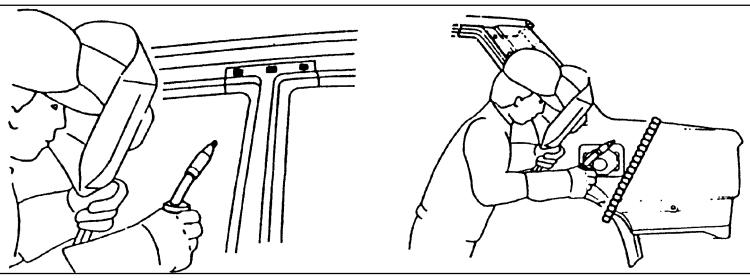
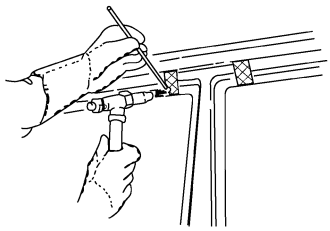
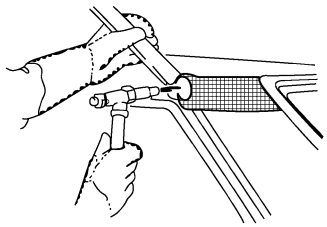
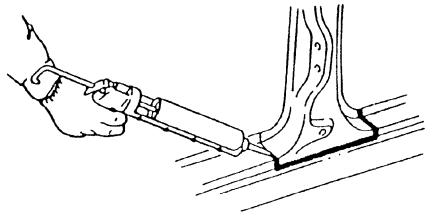
DESCRIPTION

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.

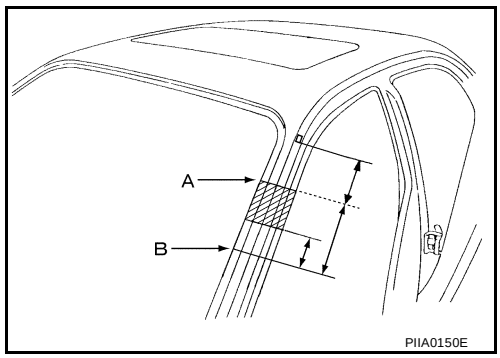
Please note that this information is prepared for worldwide usage, and as such, certain procedures may not apply in some regions or countries.

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

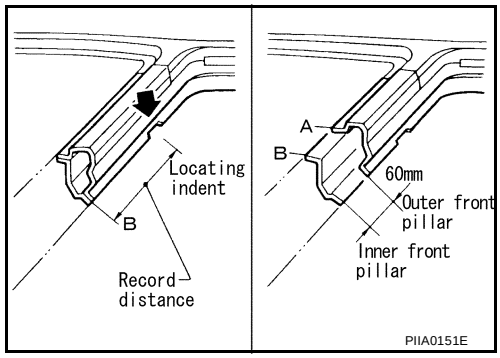
Saw cut or air chisel cut	
Spot weld 2-spot welds	
Spot weld 3-spot welds	
MIG plug weld	
MIG seam weld/ Point weld	
Brazing	
Soldering	
Sealing	

PIIA0149E

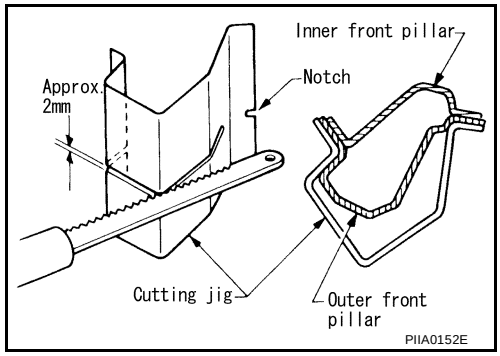
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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.

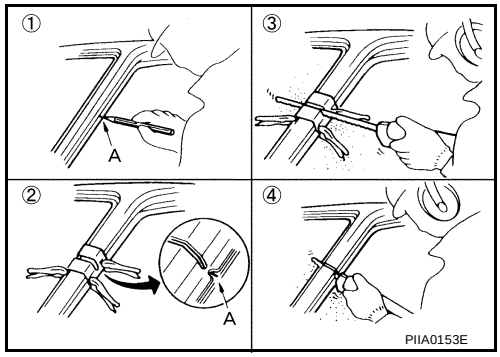


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



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

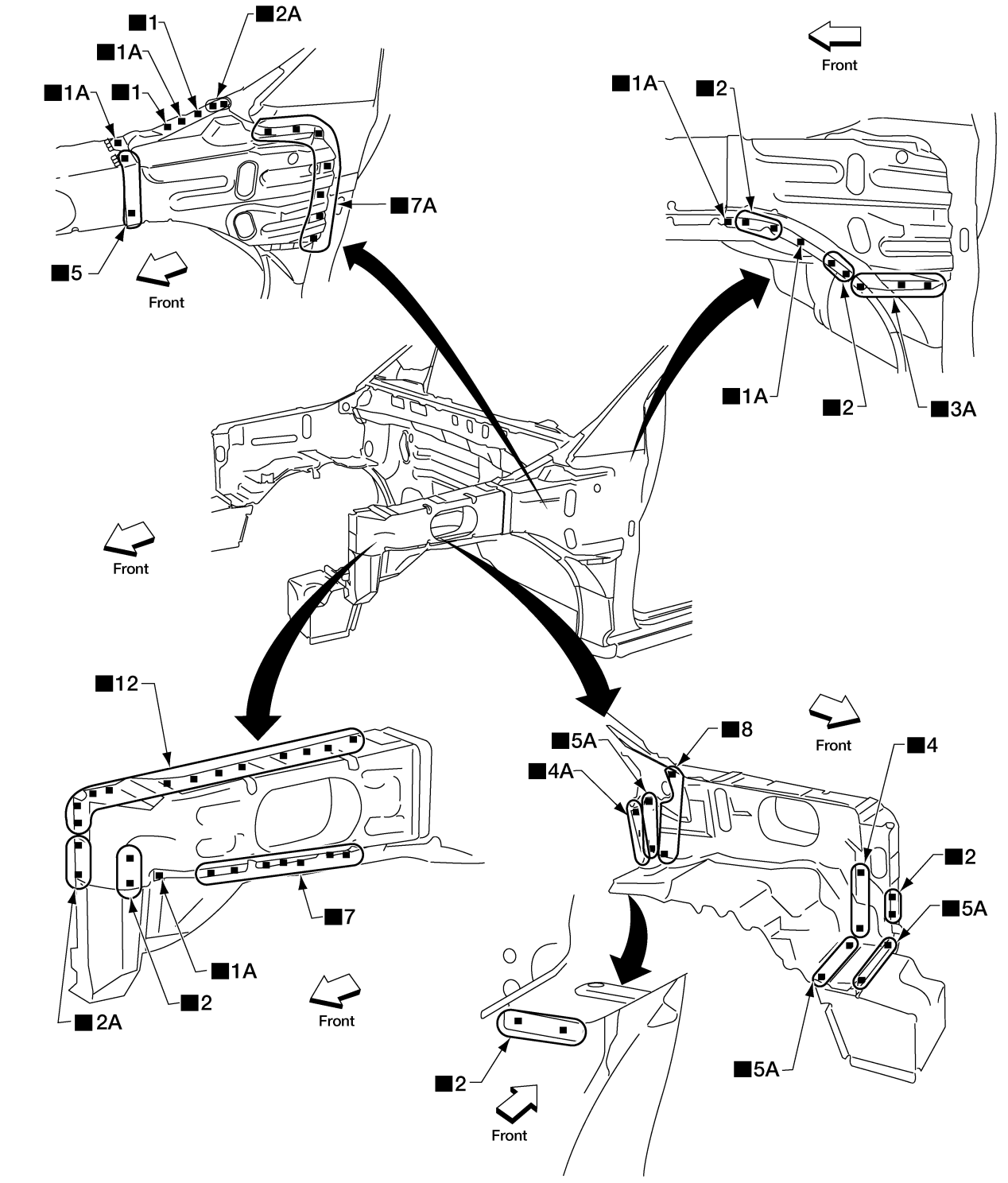
1. Mark cutting lines.
   A: Cut position of outer pillar
   B: Cut position of inner pillar
2. Align cutting line with notch on jig. Clamp jig to pillar.
3. Cut outer pillar along groove of jig. (At position A)
4. Remove jig and cut remaining portions.
5. Cut inner pillar at position B in same manner.



HOODLEDGE

- Work after radiator core support has been removed.

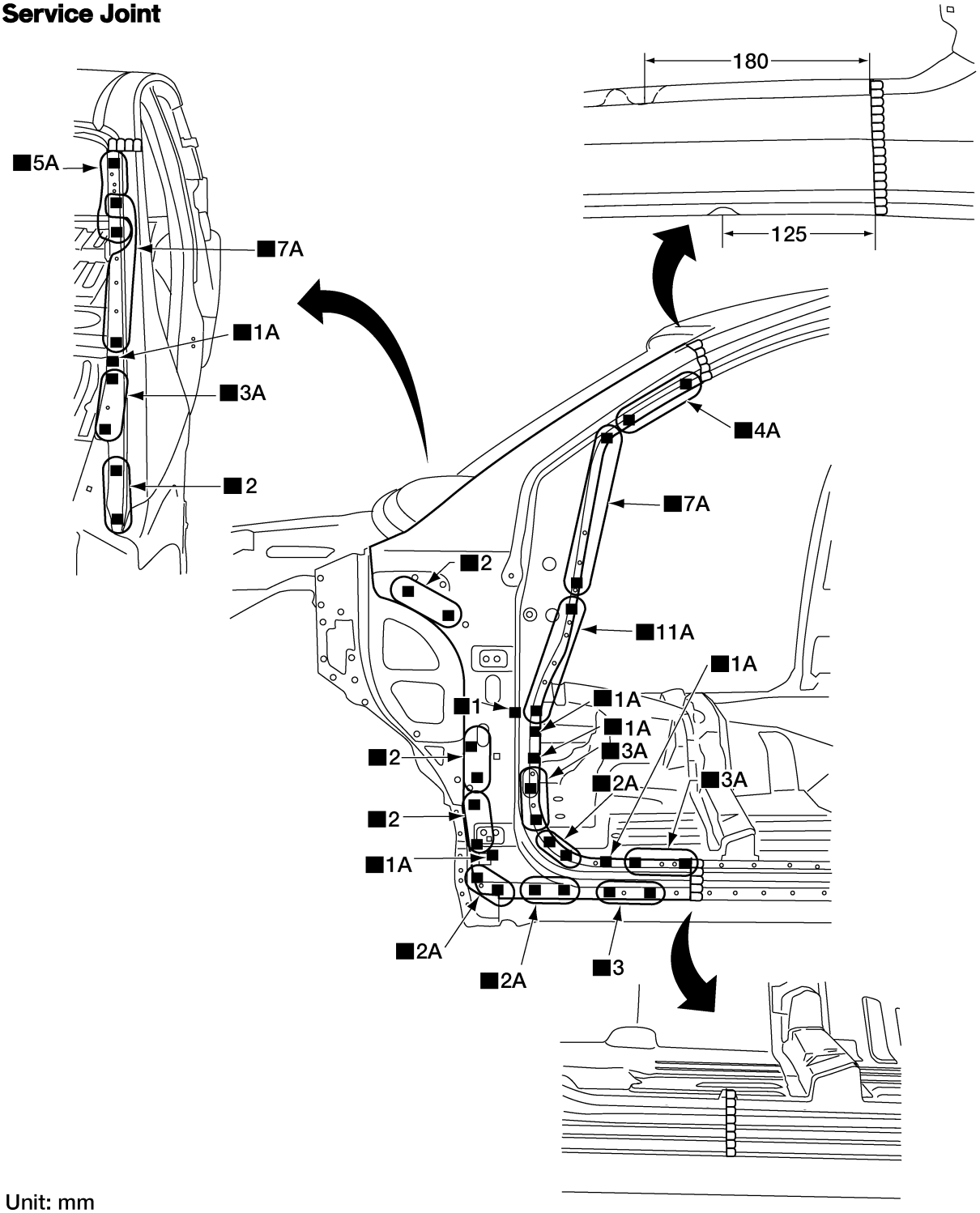
Service Joint



FRONT PILLAR

- Work after rear hoodledge reinforcement has been removed.

Service Joint

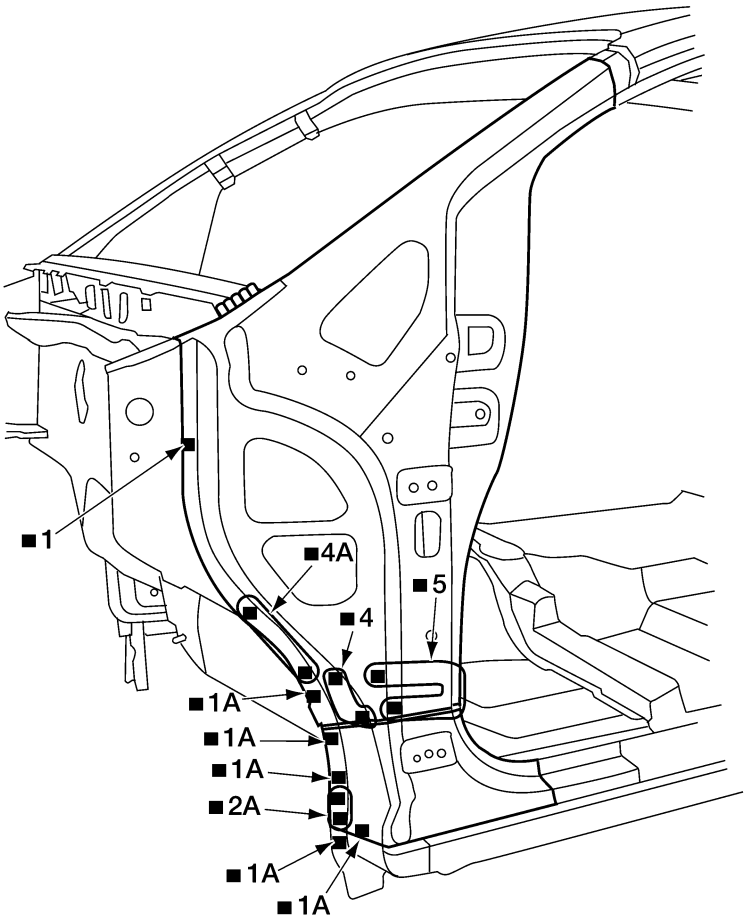


Unit: mm

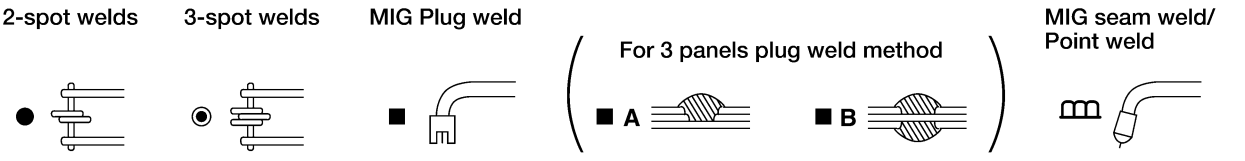
2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A | B) | MIG seam weld/ Point weld

WIIA0342E

Service Joint

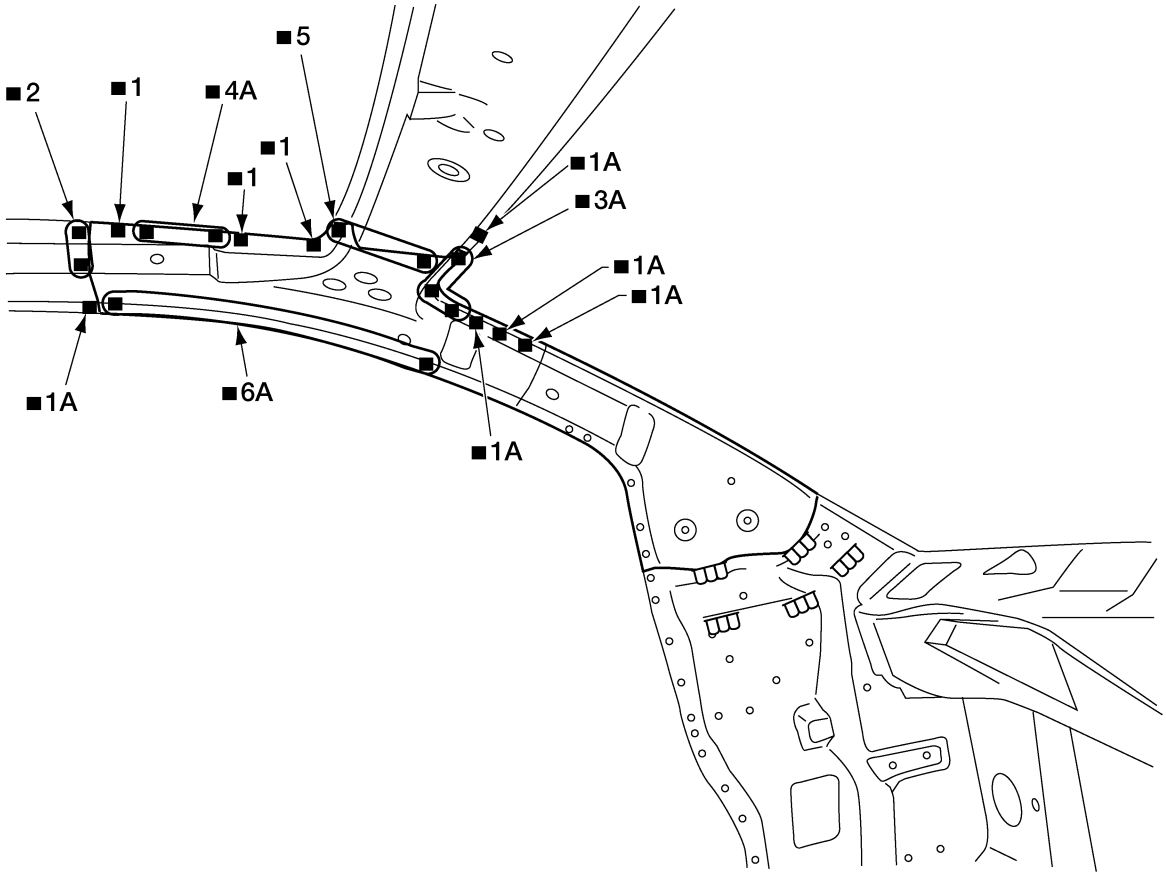


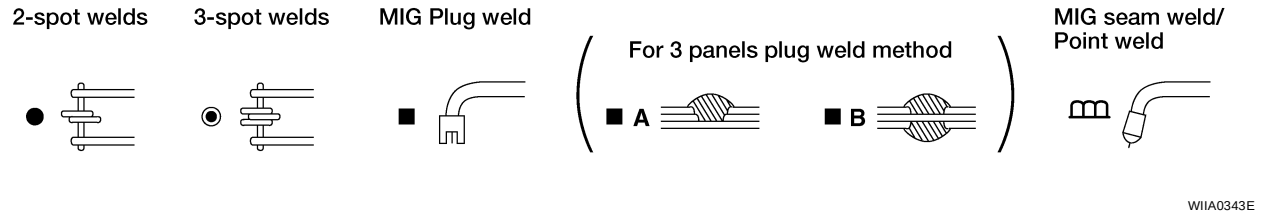
Unit : mm



LIIA1156E

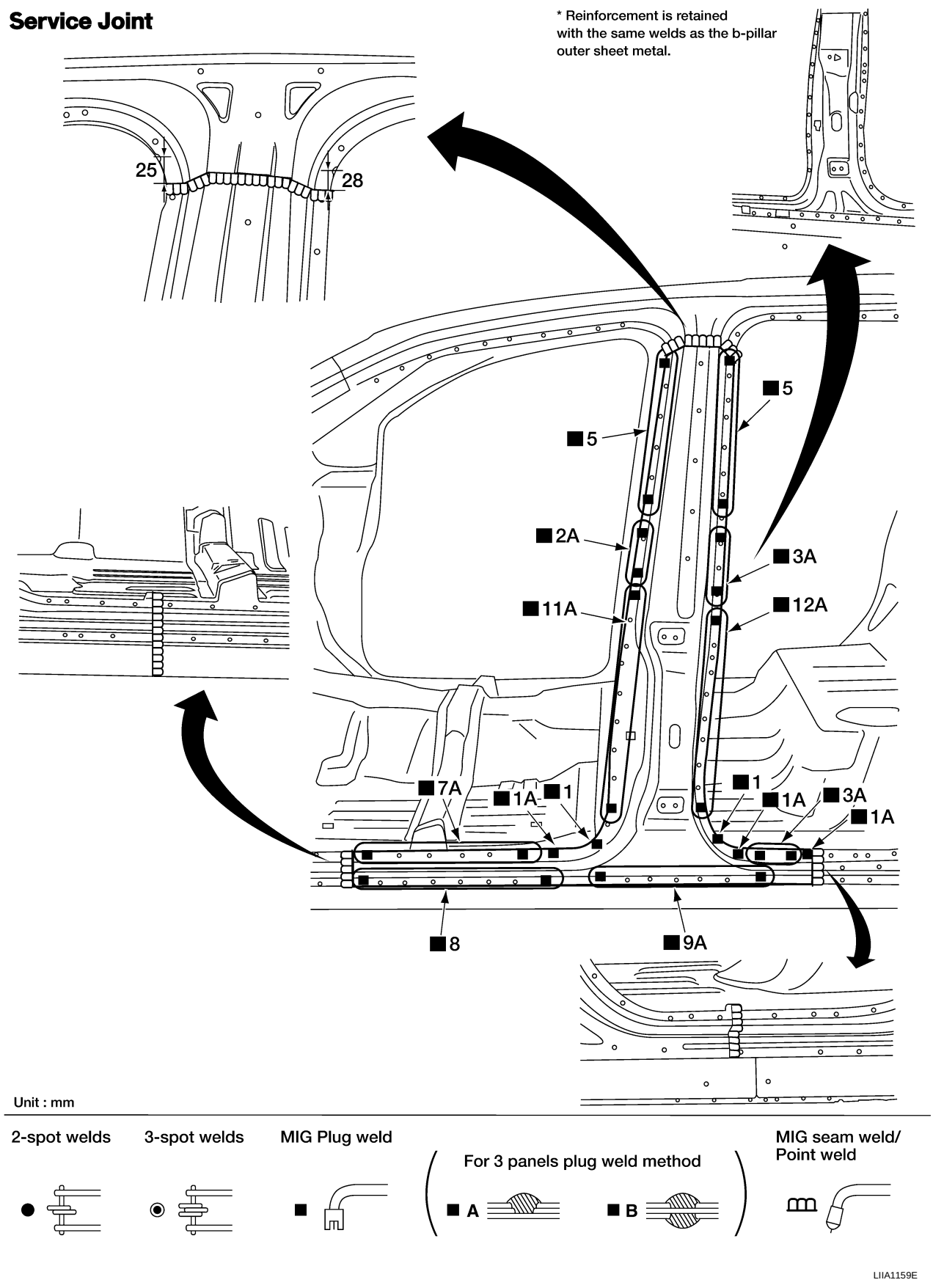
Service Joint



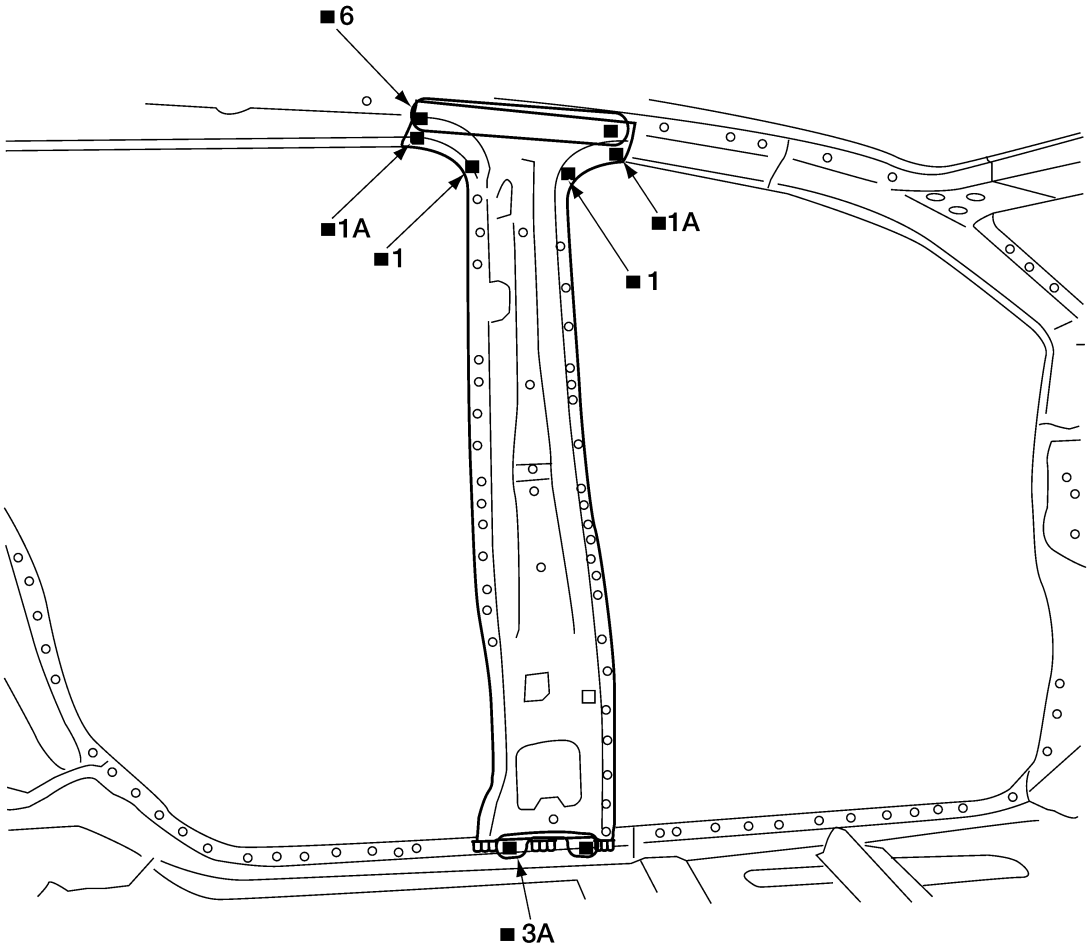


WIIA0343E

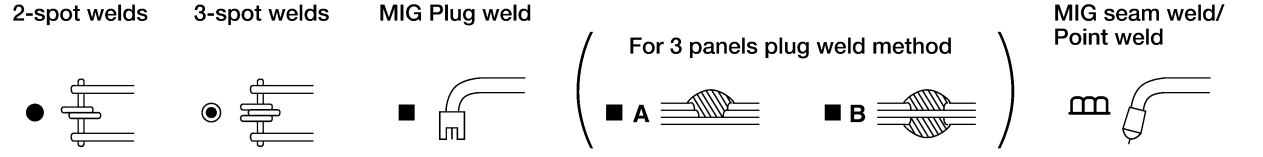
CENTER PILLAR



Service Joint



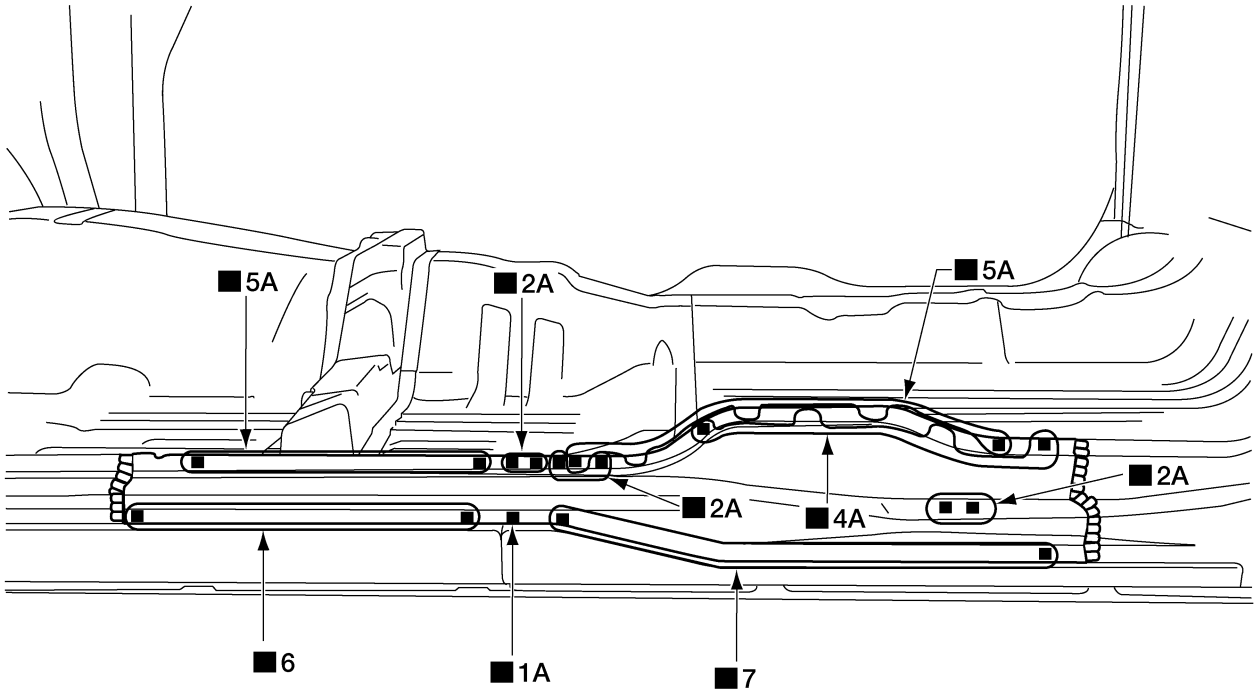
Unit : mm

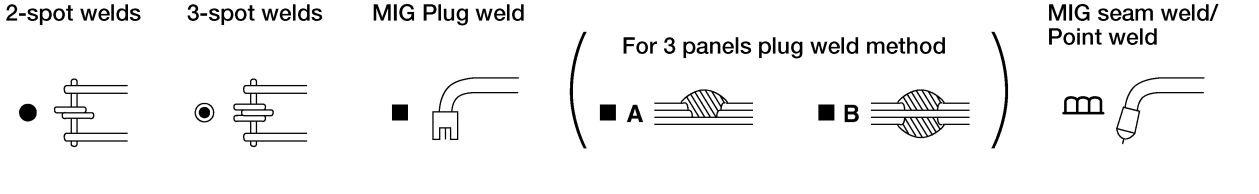


LIIA1112E

OUTER SILL
KING CAB

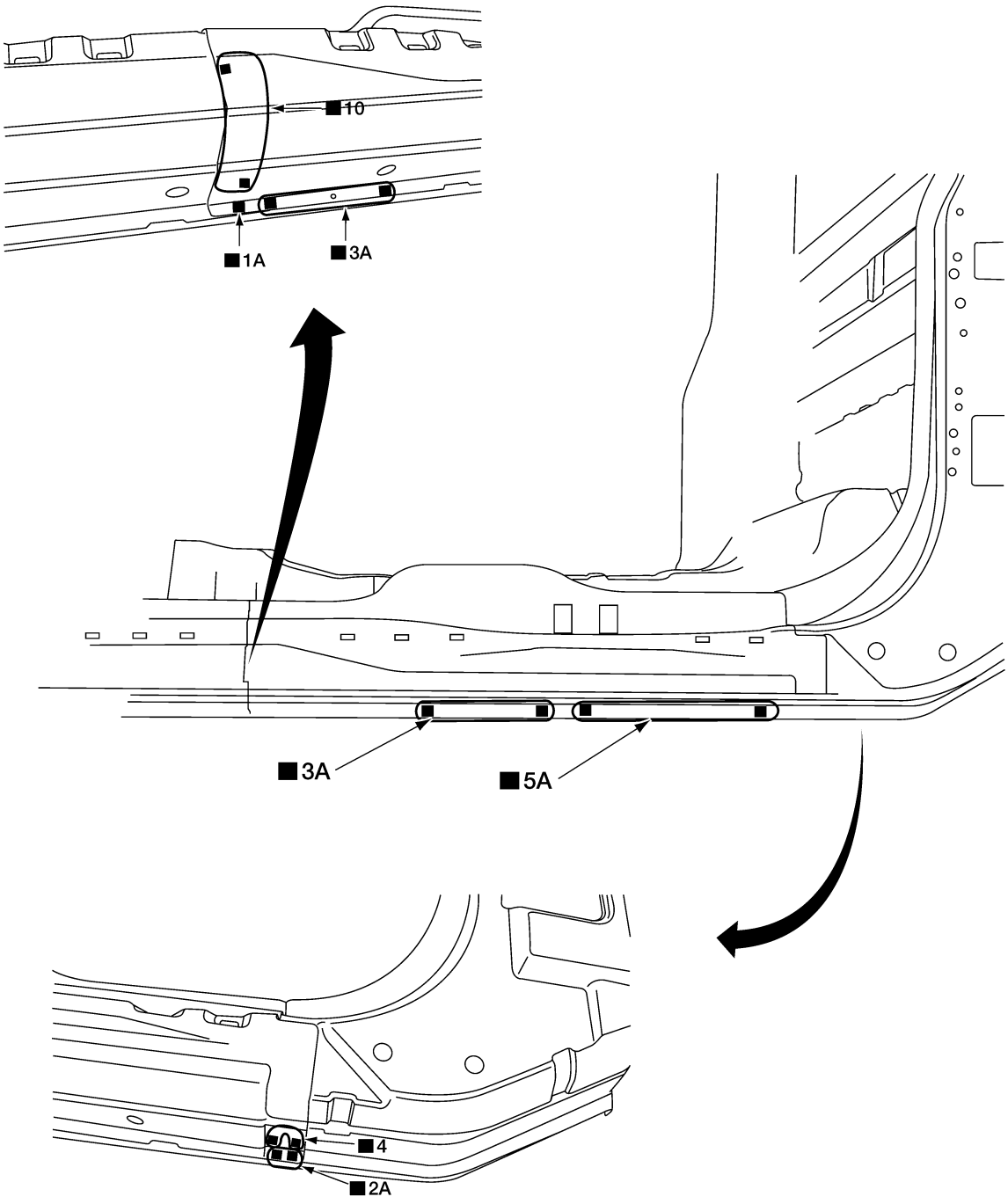
Service Joint

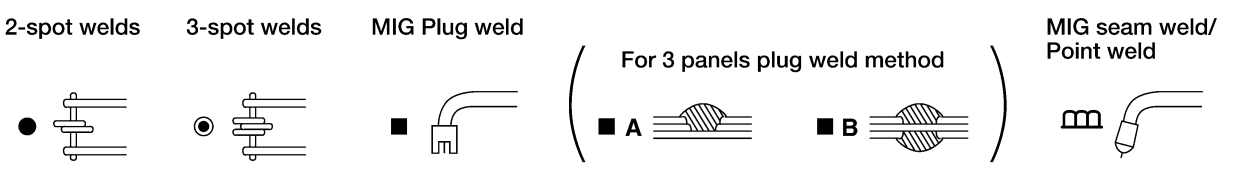




WIIA0344E

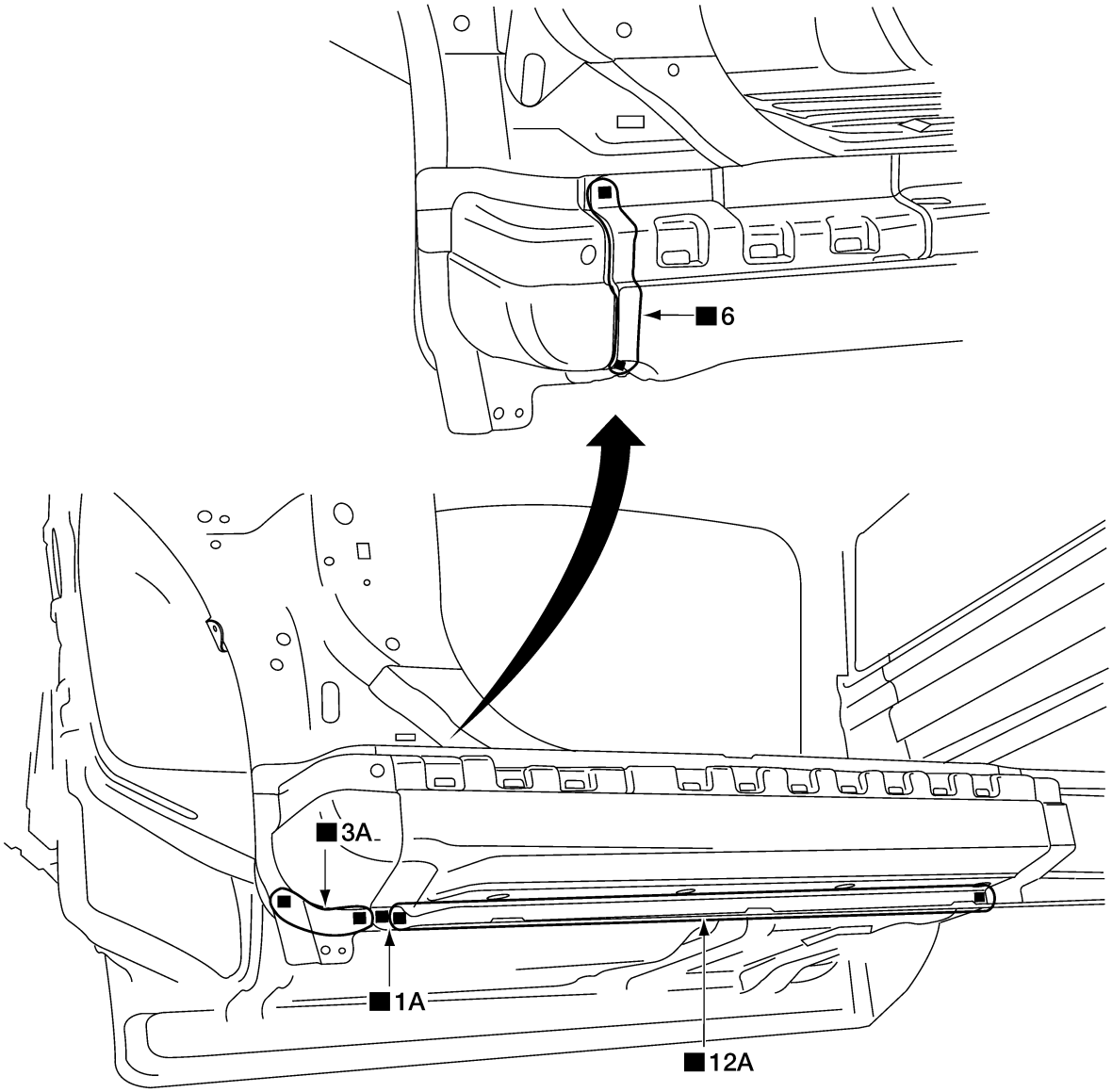
Service Joint

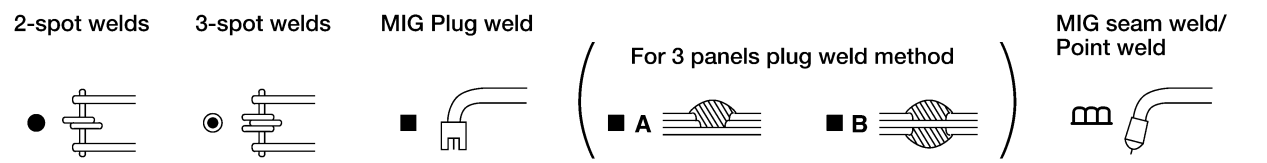




LIIA1195E

Service Joint

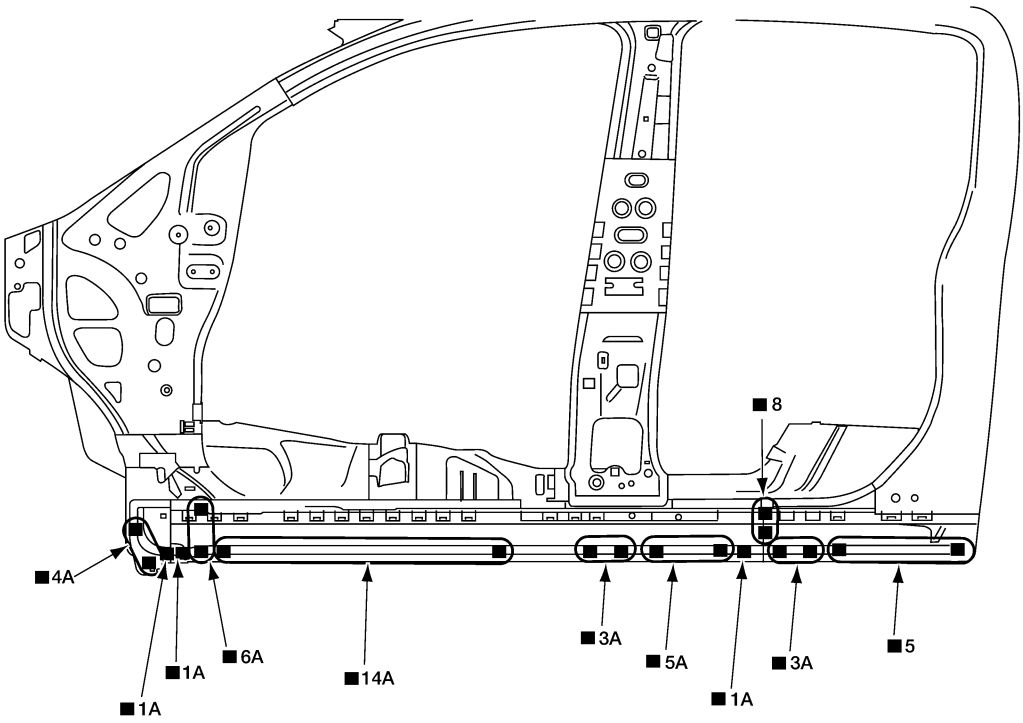


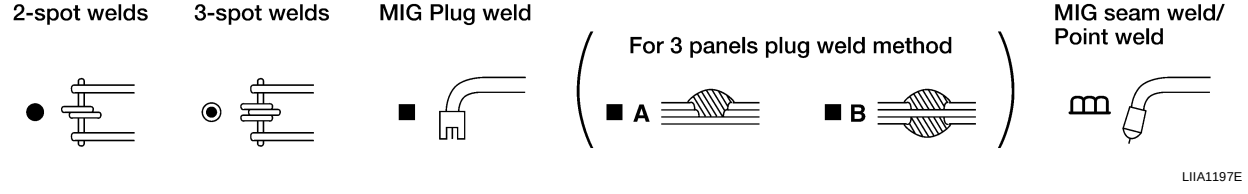


LIIA1196E

CREW CAB

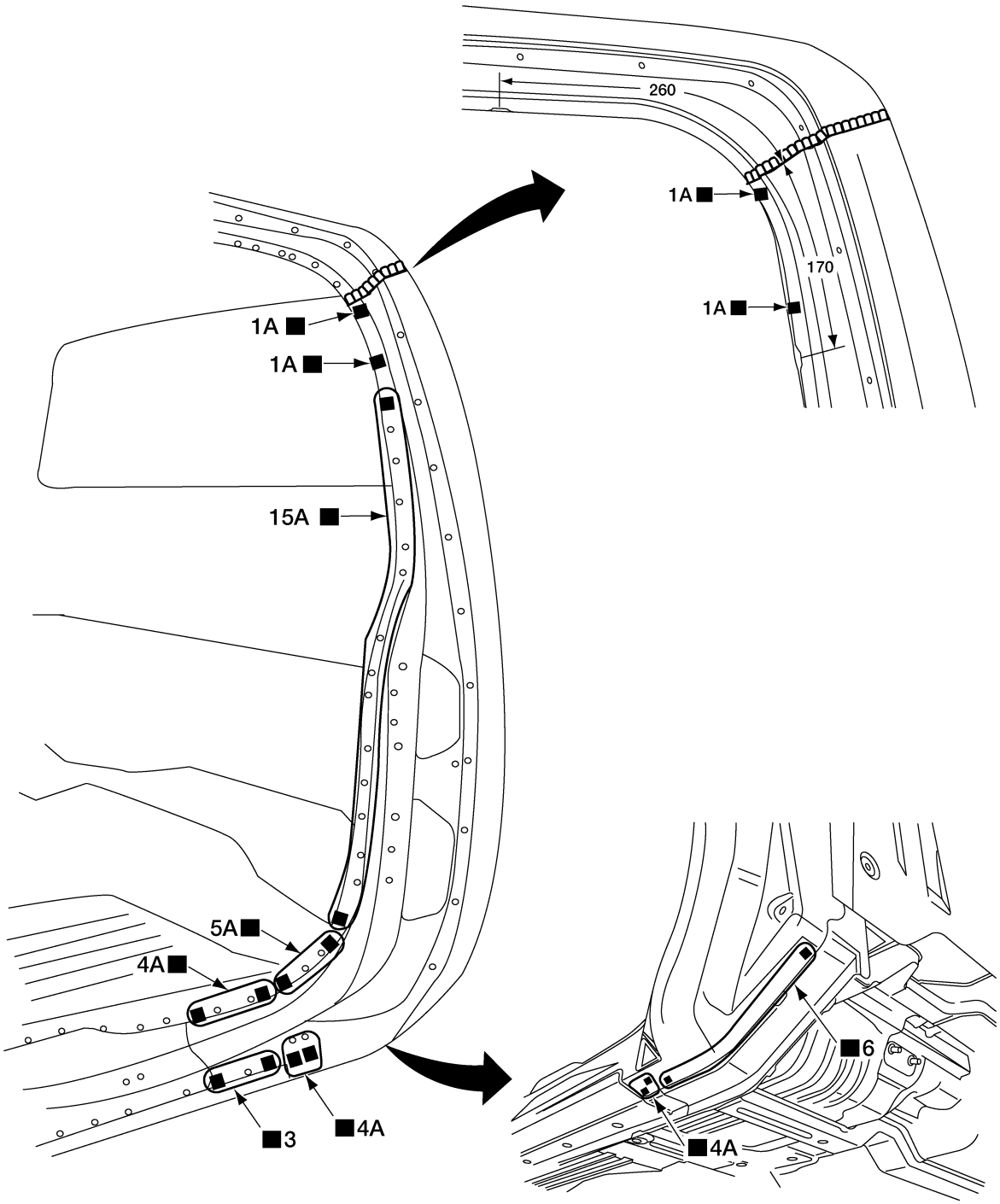
Service Joint





REAR CAB PILLAR
KING CAB

Service Joint

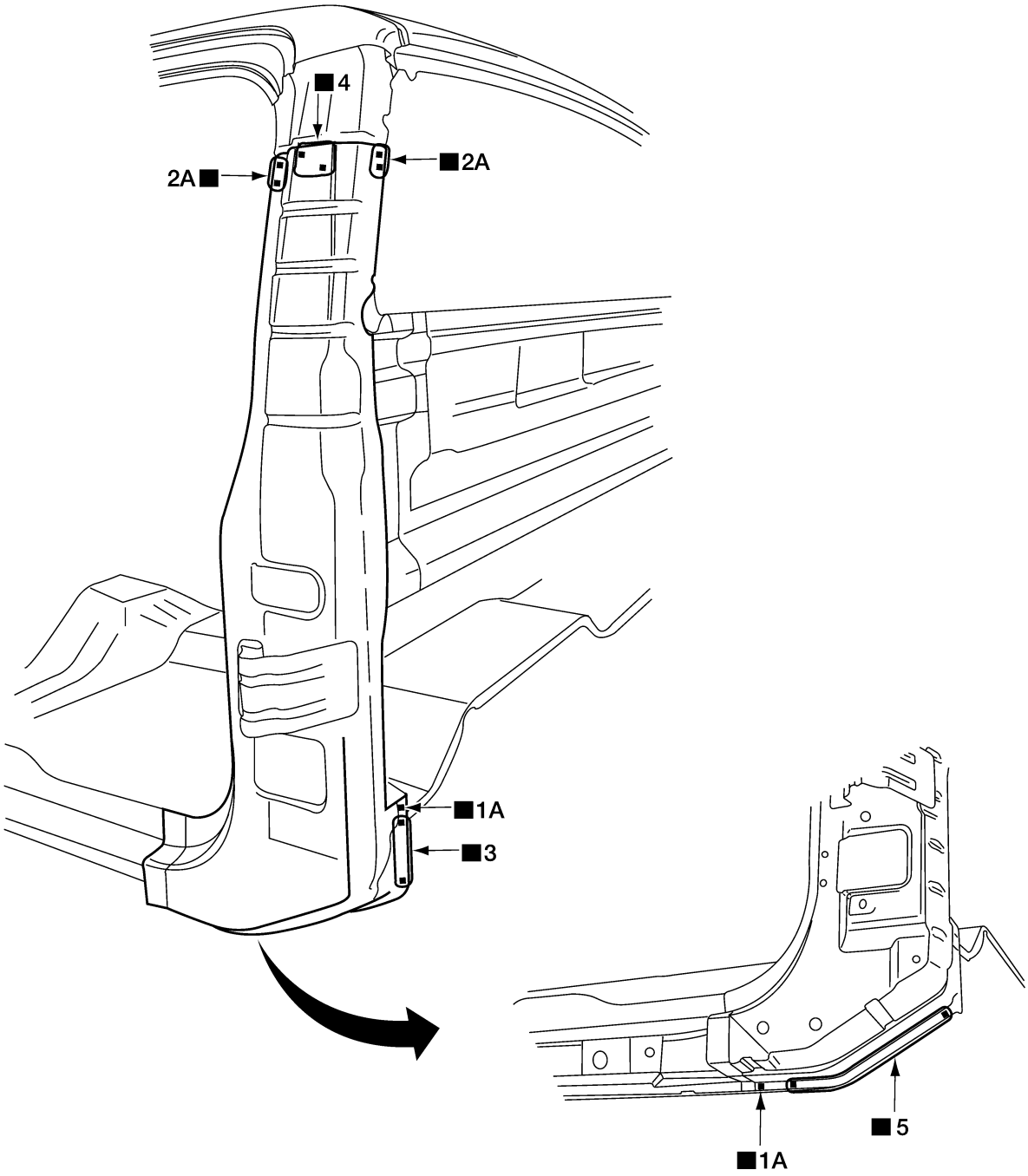


Unit: mm

2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A, B) | MIG seam weld/ Point weld

WIIA0345E

Service Joint

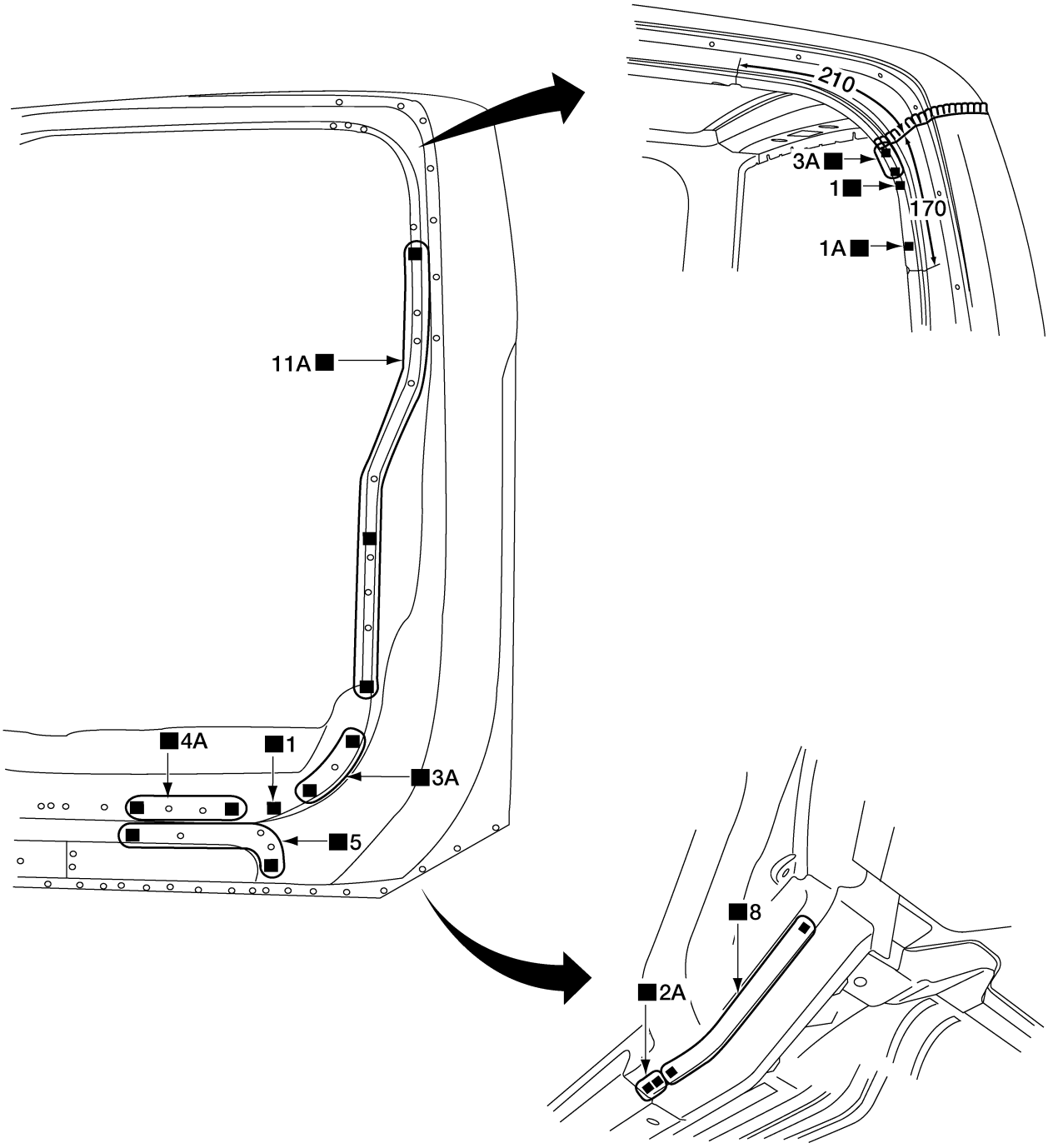


2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A | B) | MIG seam weld/ Point weld

LIIA1201E

CREW CAB

Service Joint

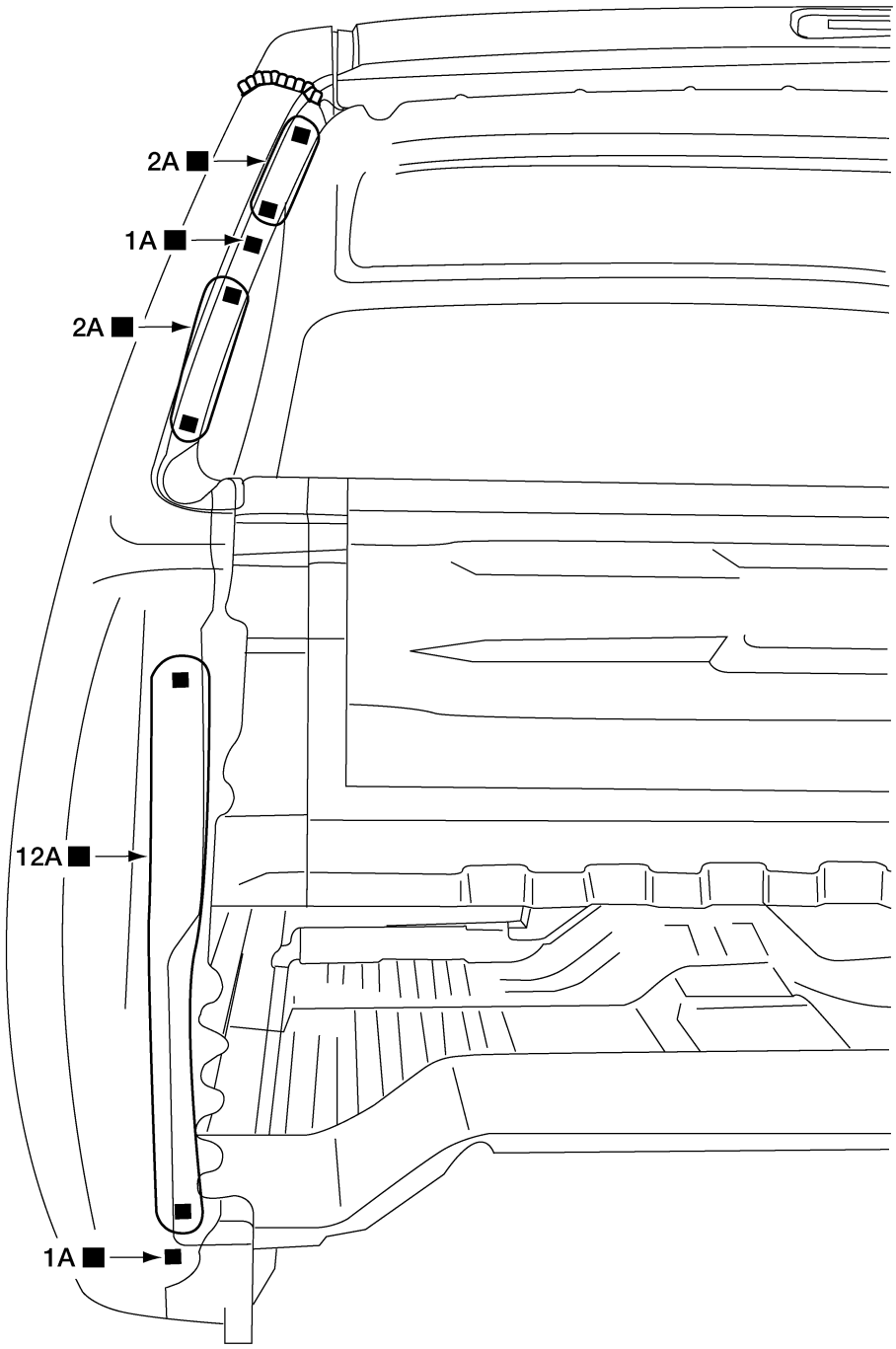


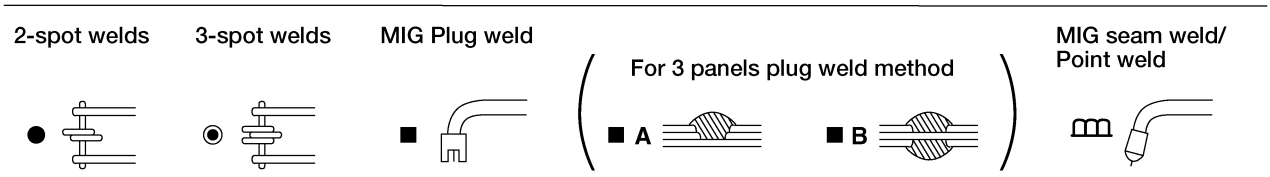
Unit: mm

2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A | B) | MIG seam weld/ Point weld

WIIA0346E

Service Joint

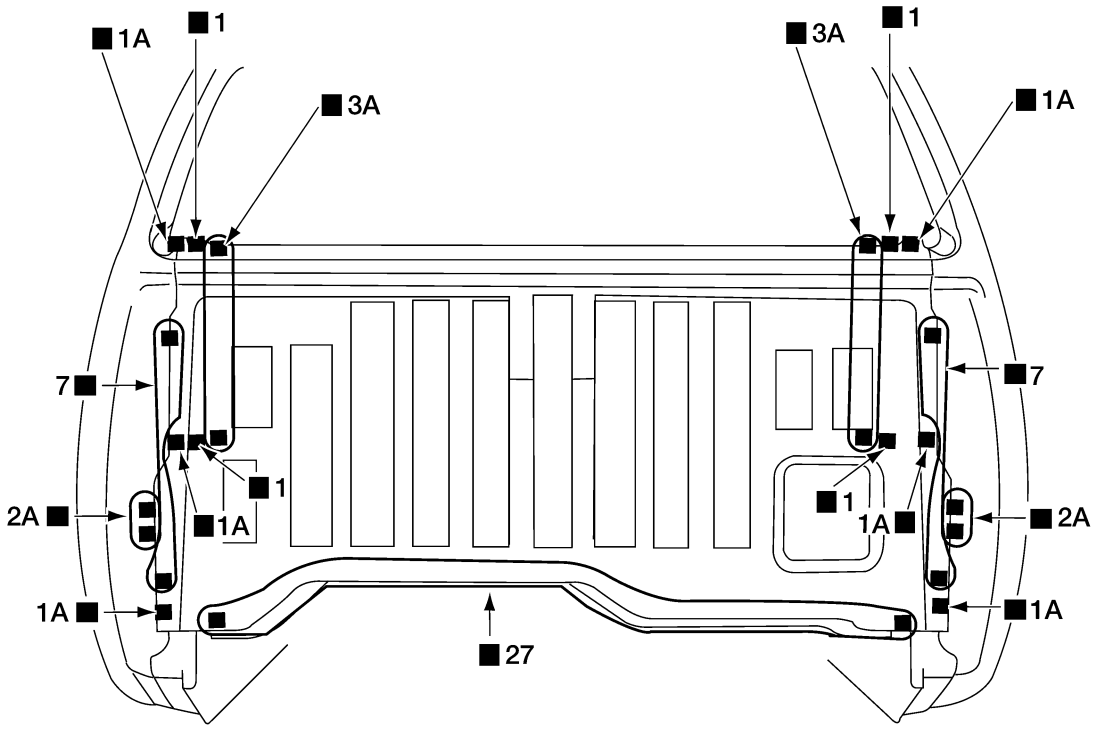


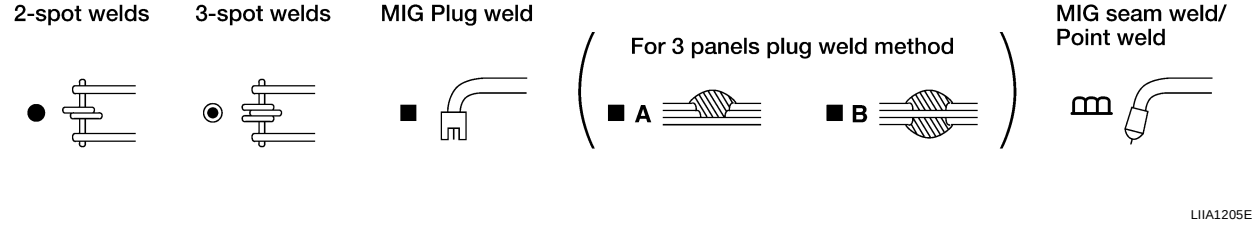


WIIA0347E

REAR PANEL

Service Joint

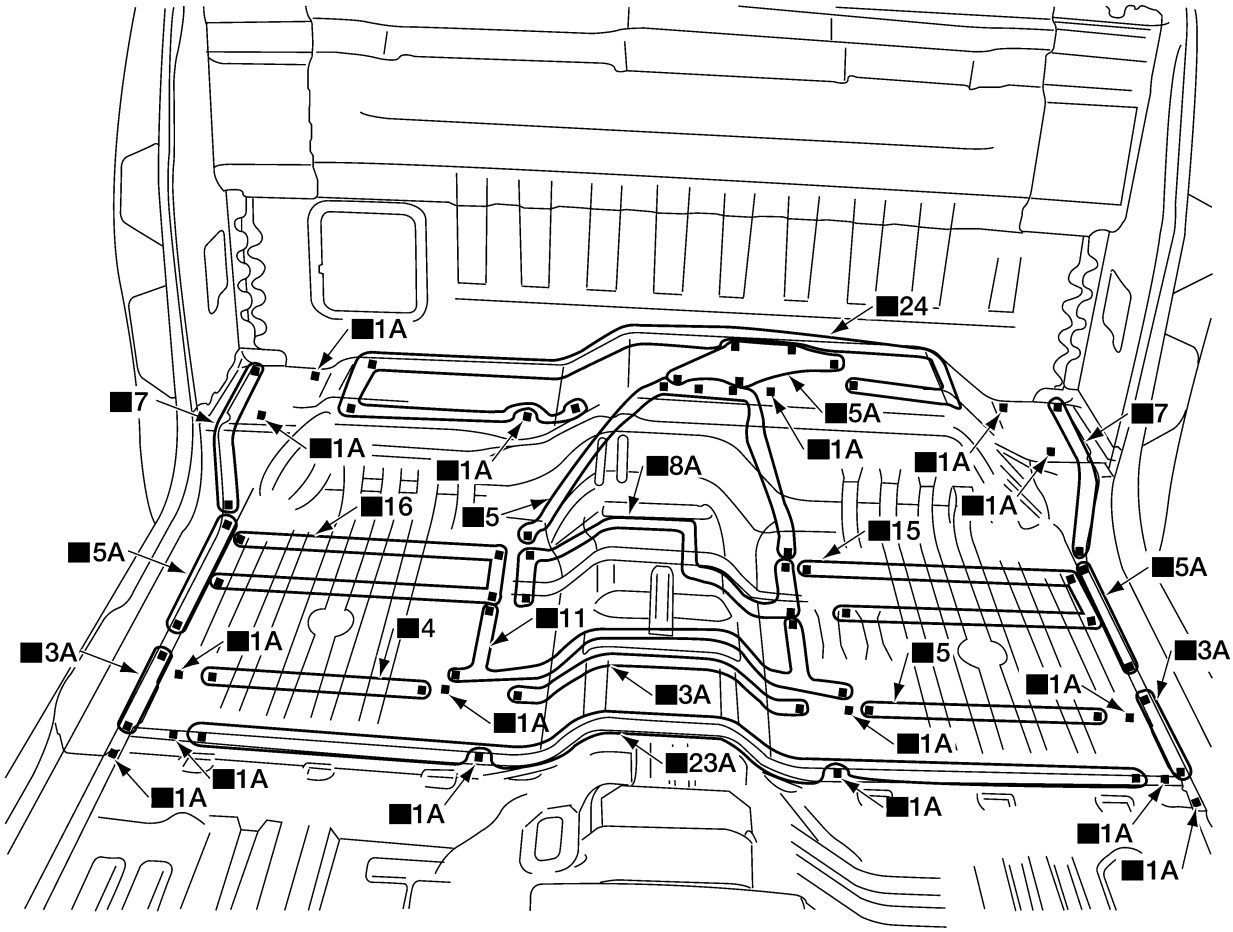


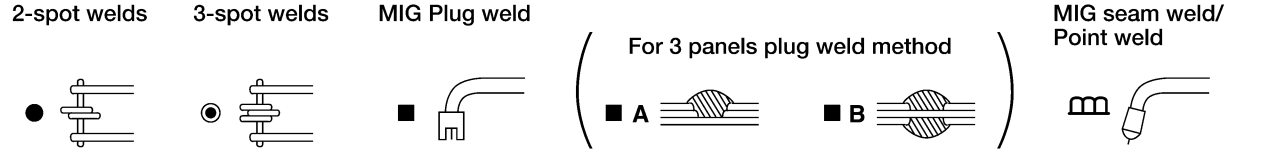


LIIA1205E

REAR FLOOR REAR
KING CAB

Service Joint

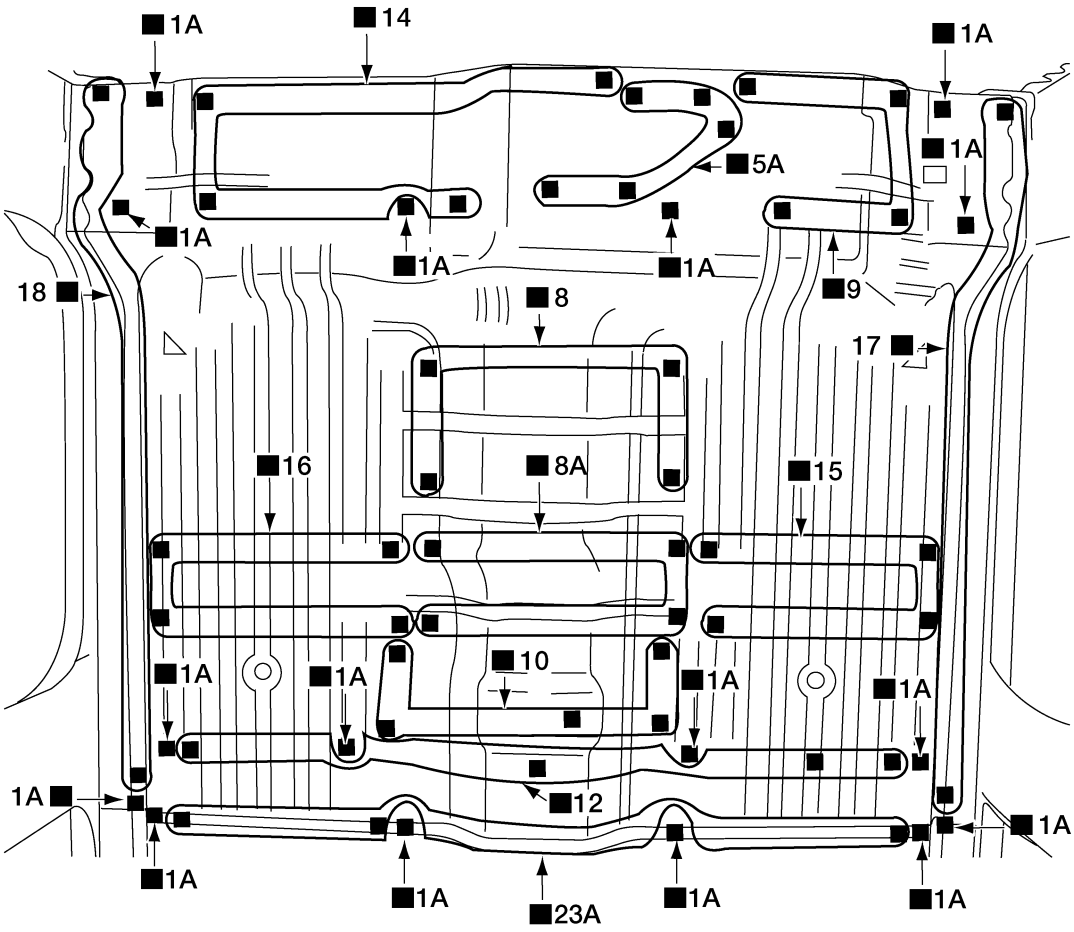


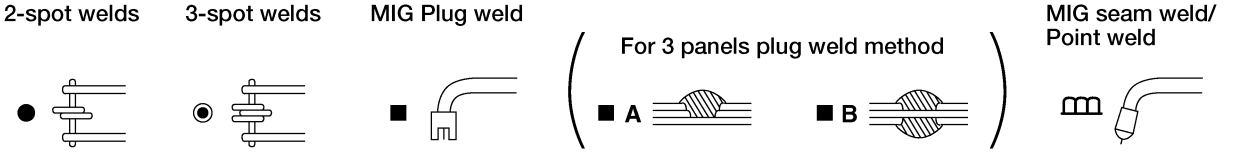


LIIA1203E

CREW CAB

Service Joint

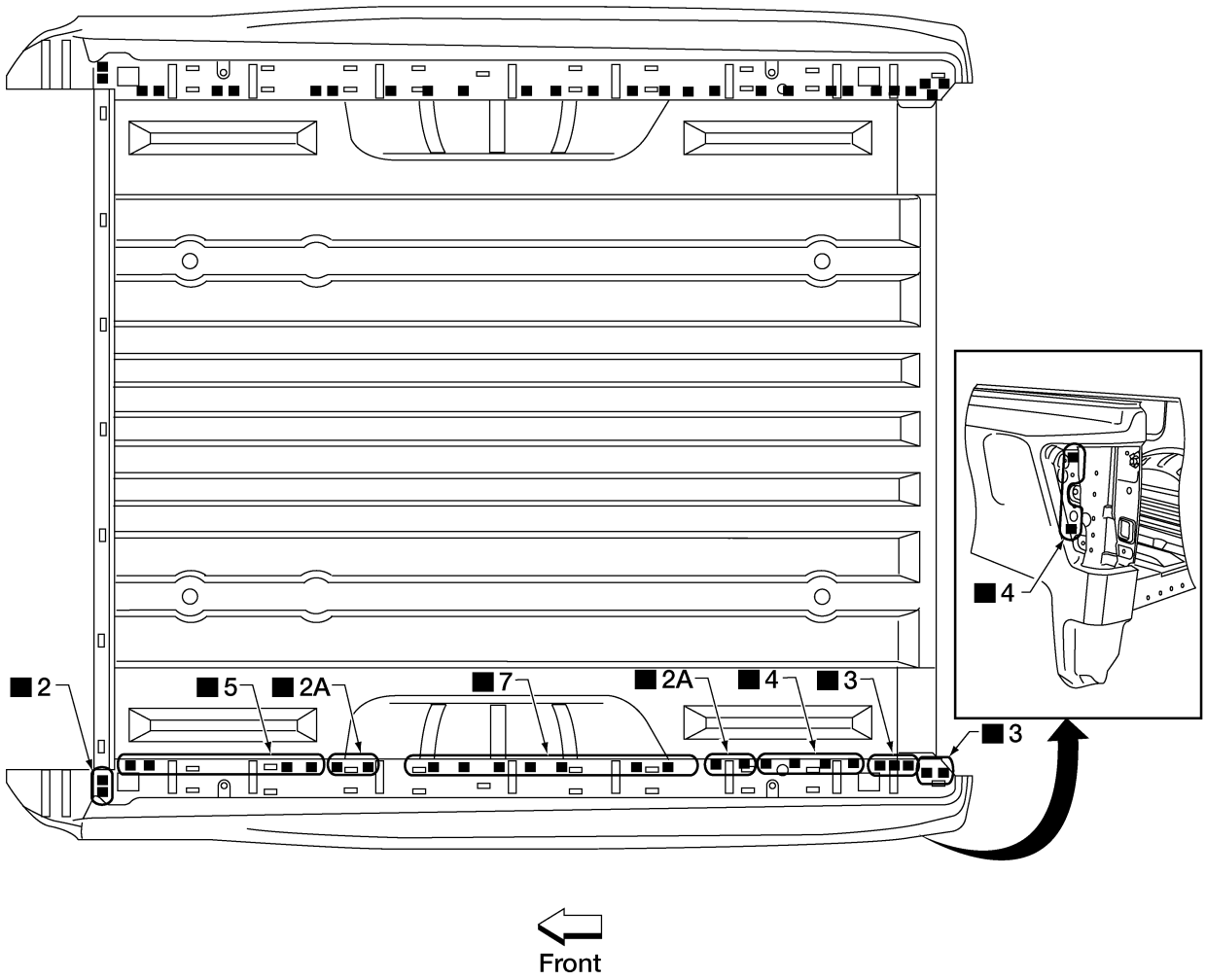


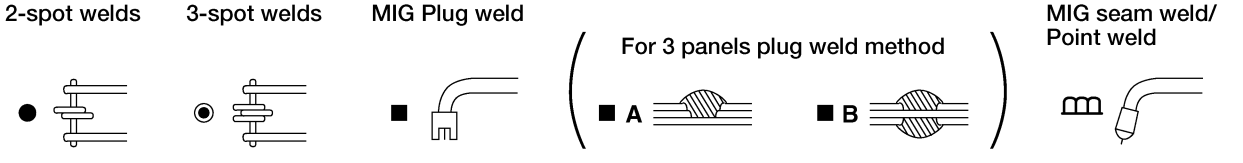


WIIA0348E

PICKUP BED
KING CAB

Service Joint





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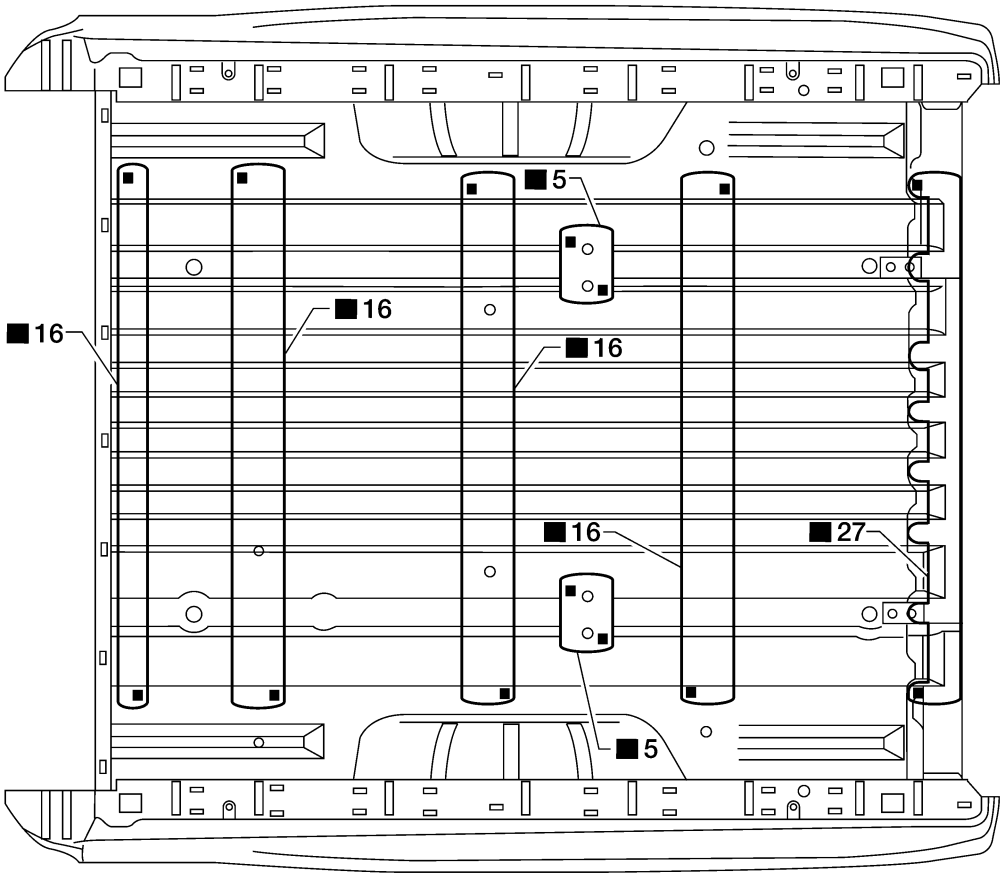
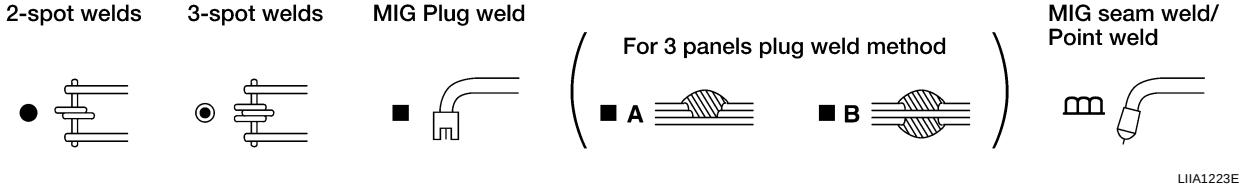
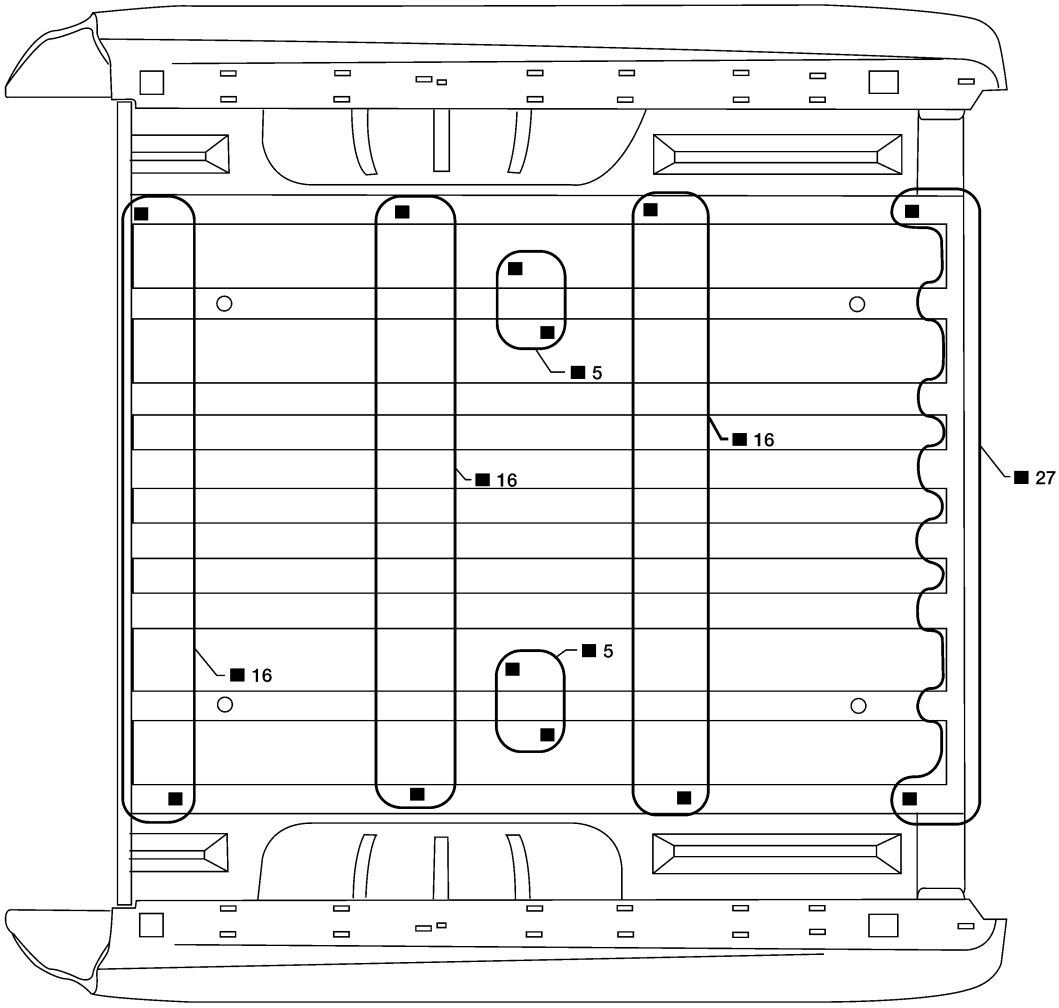
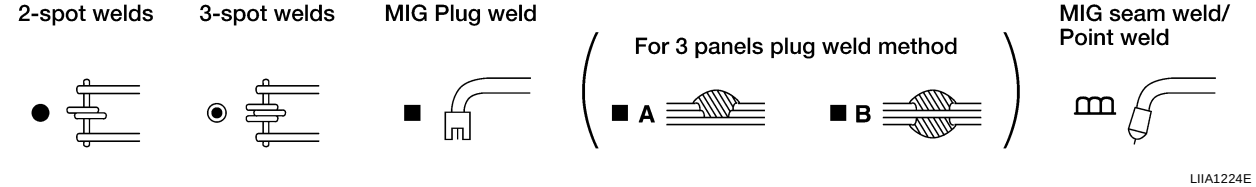




CREW CAB

Service Joint





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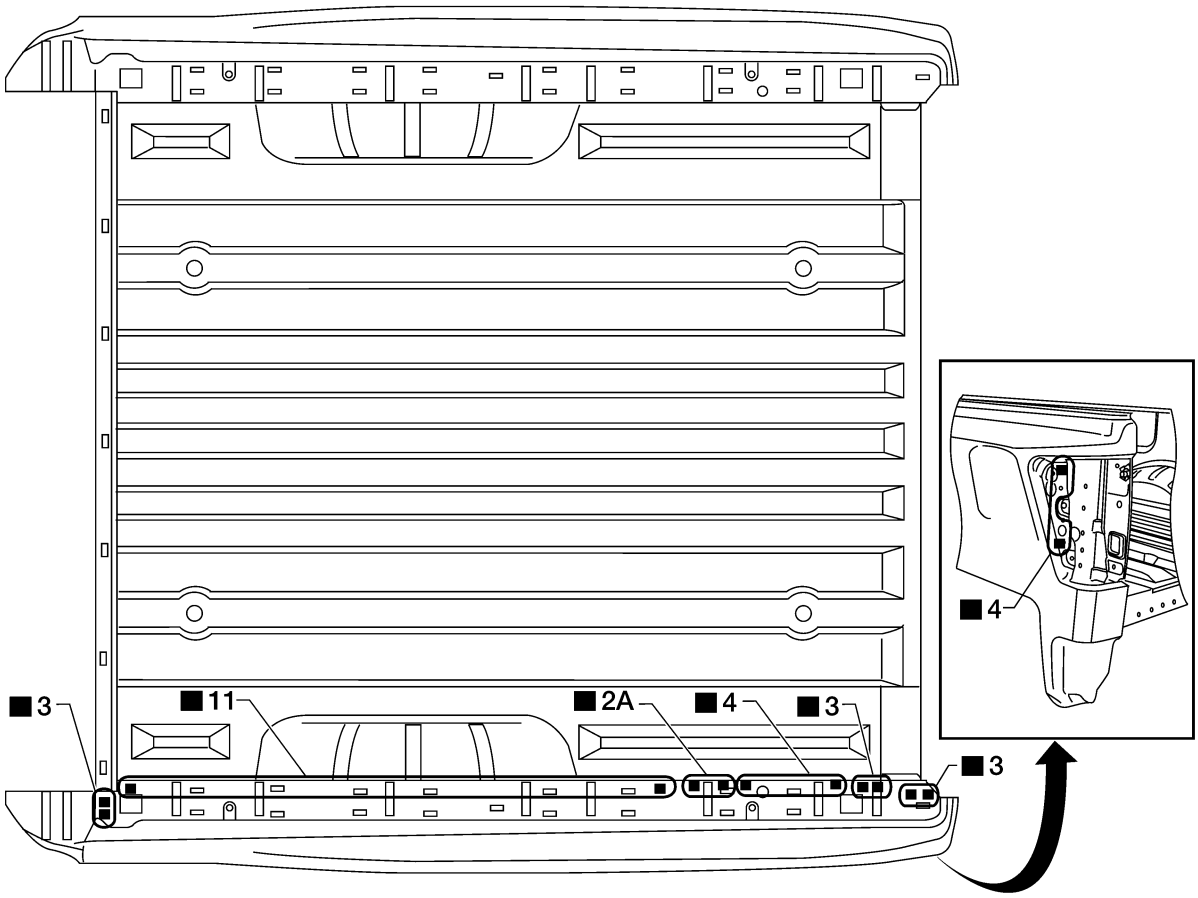

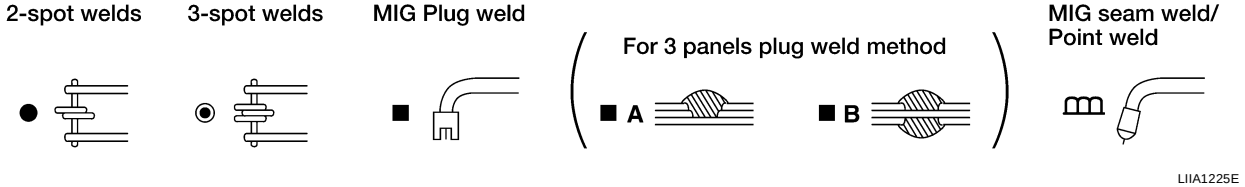

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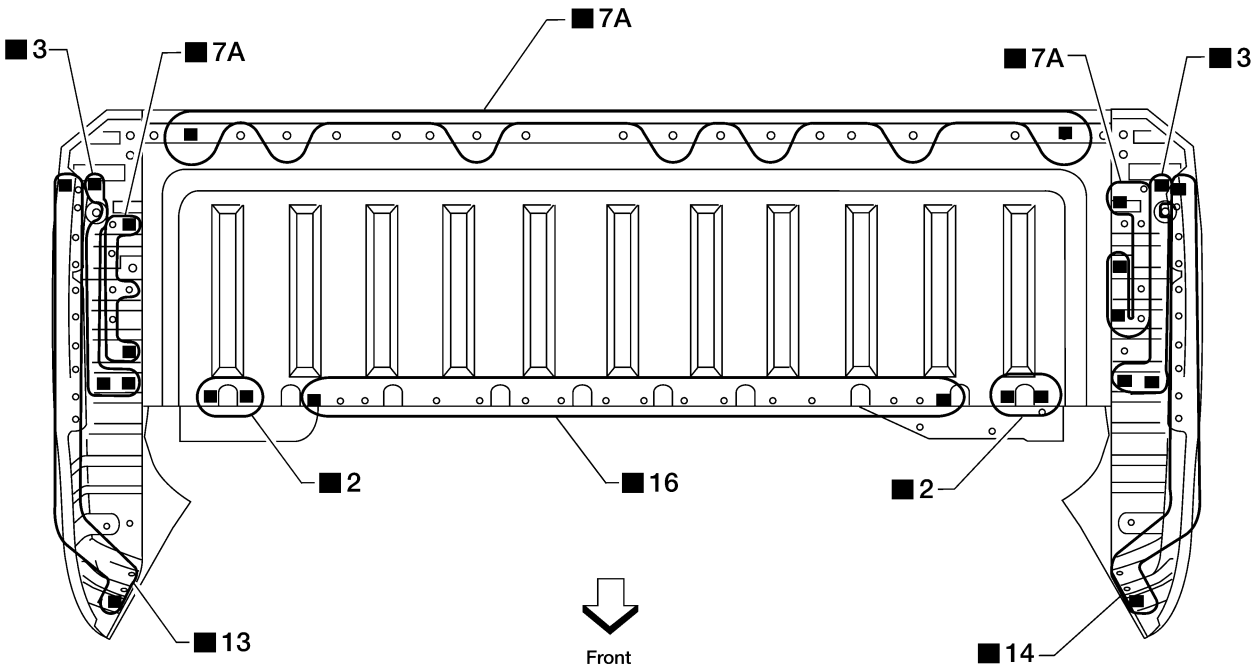

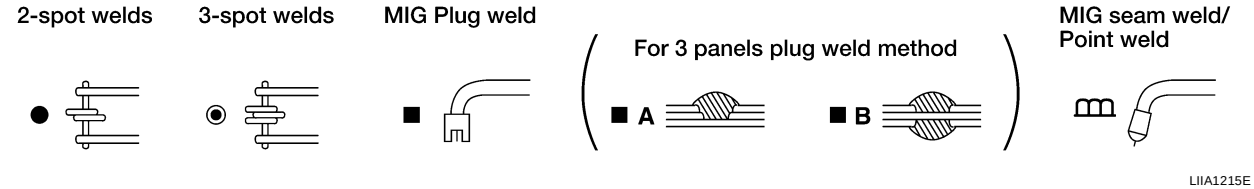

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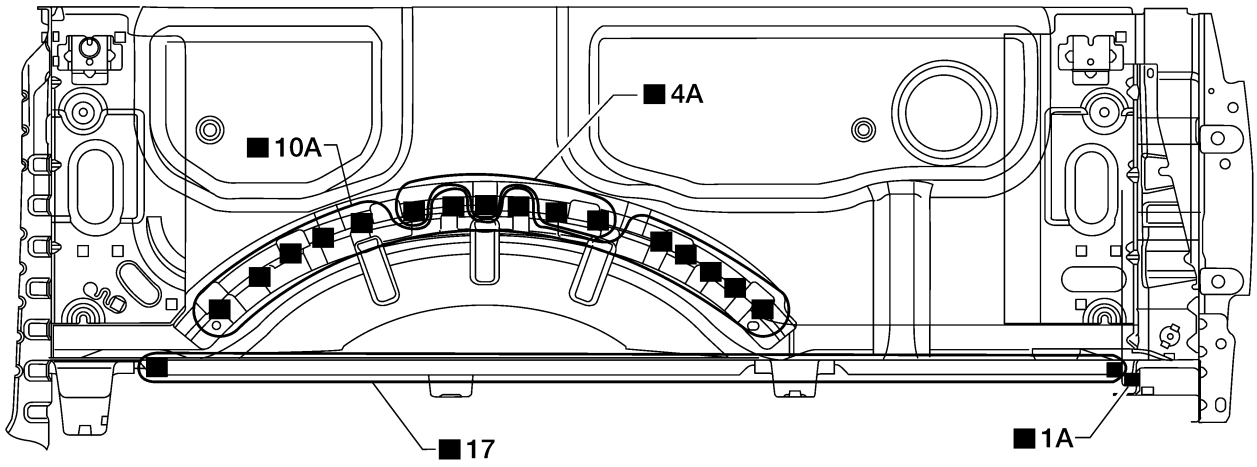

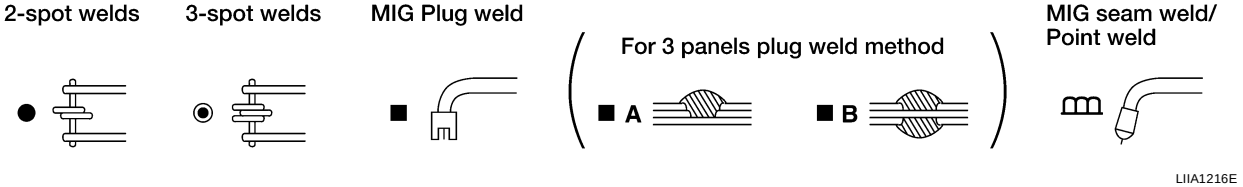

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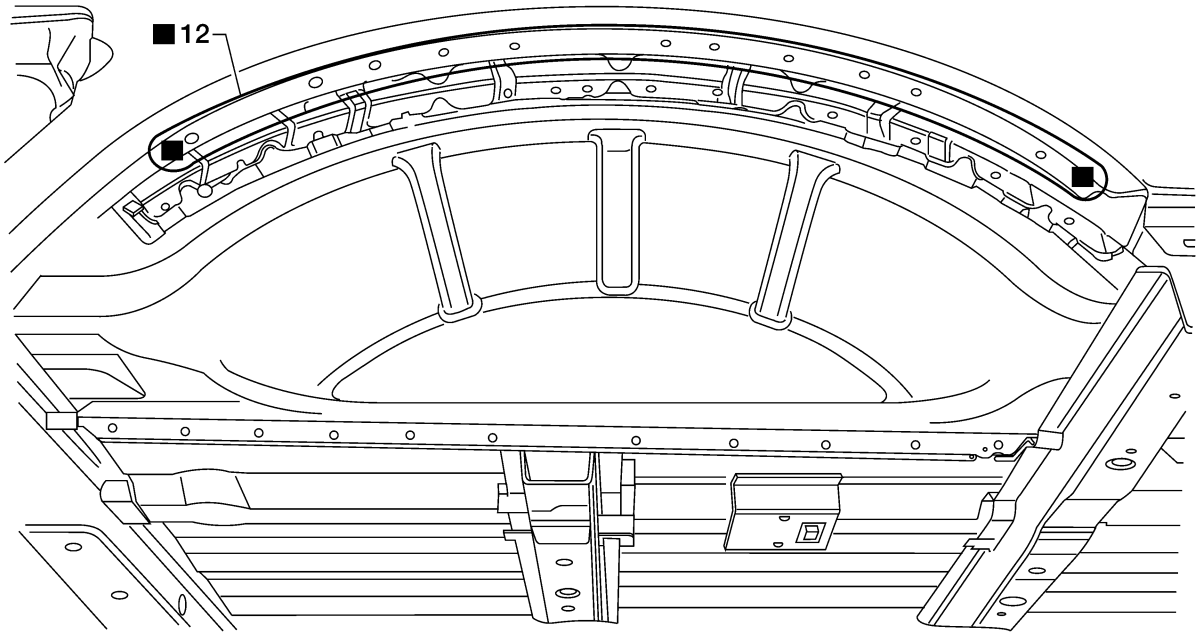

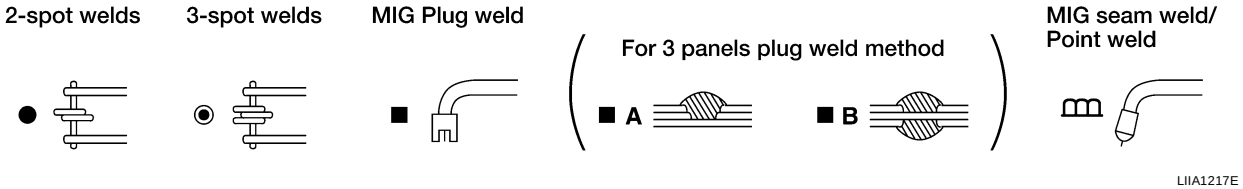

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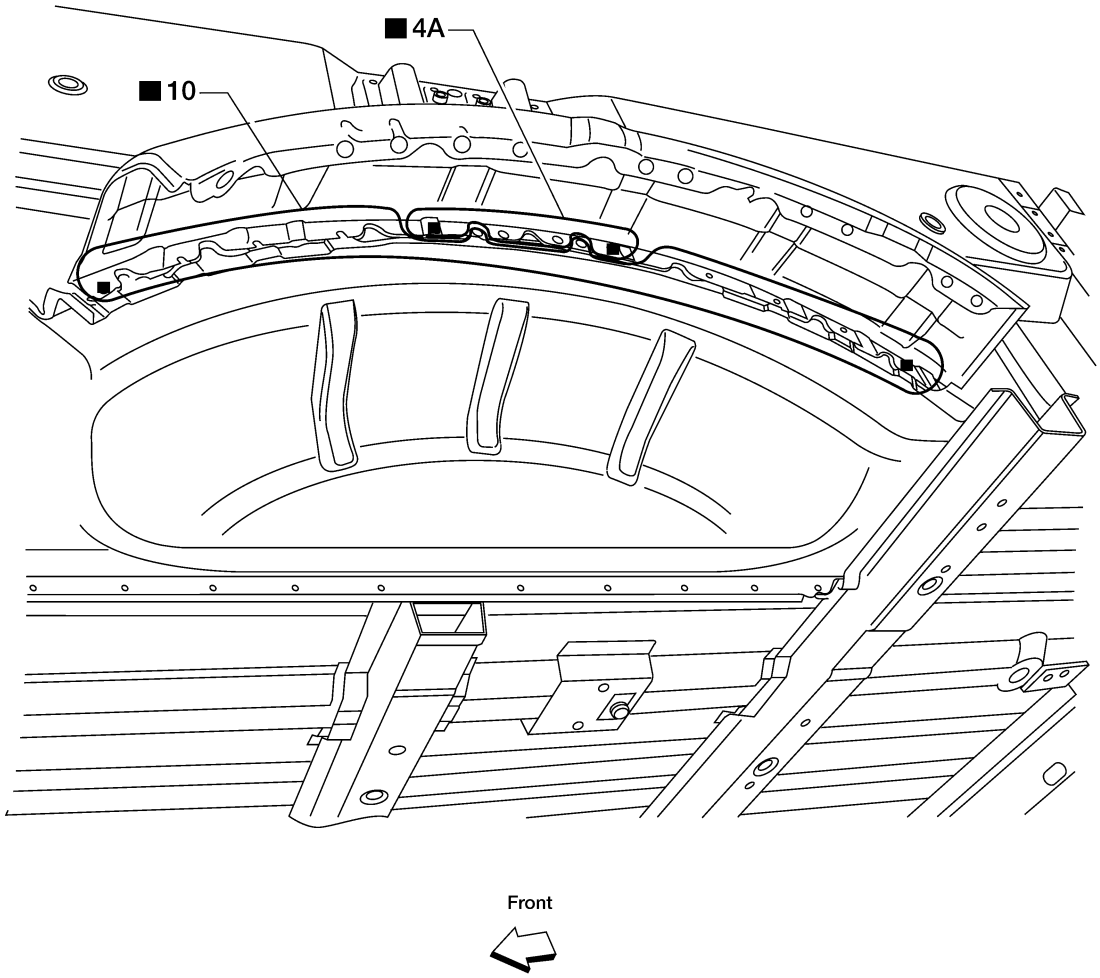

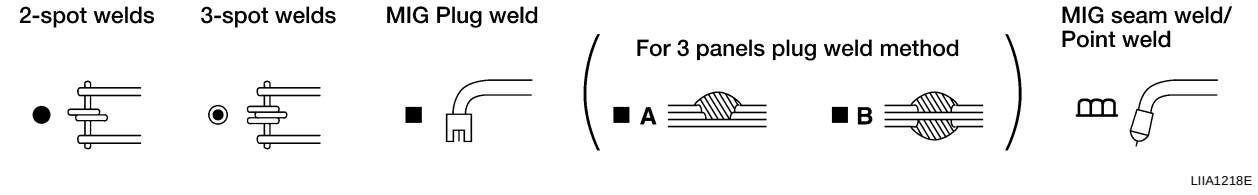

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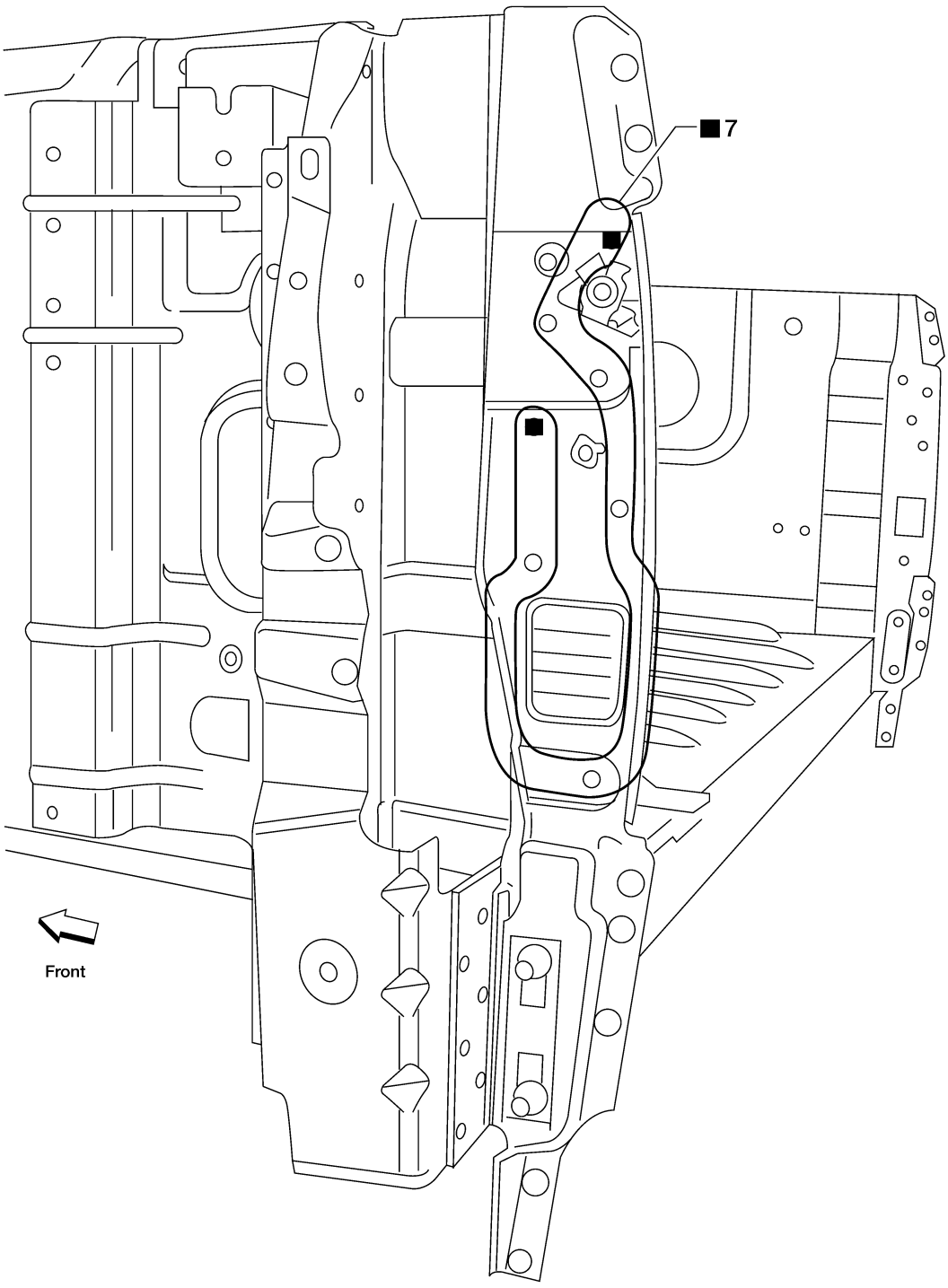

2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (■ A, ■ B) | MIG seam weld/ Point weld

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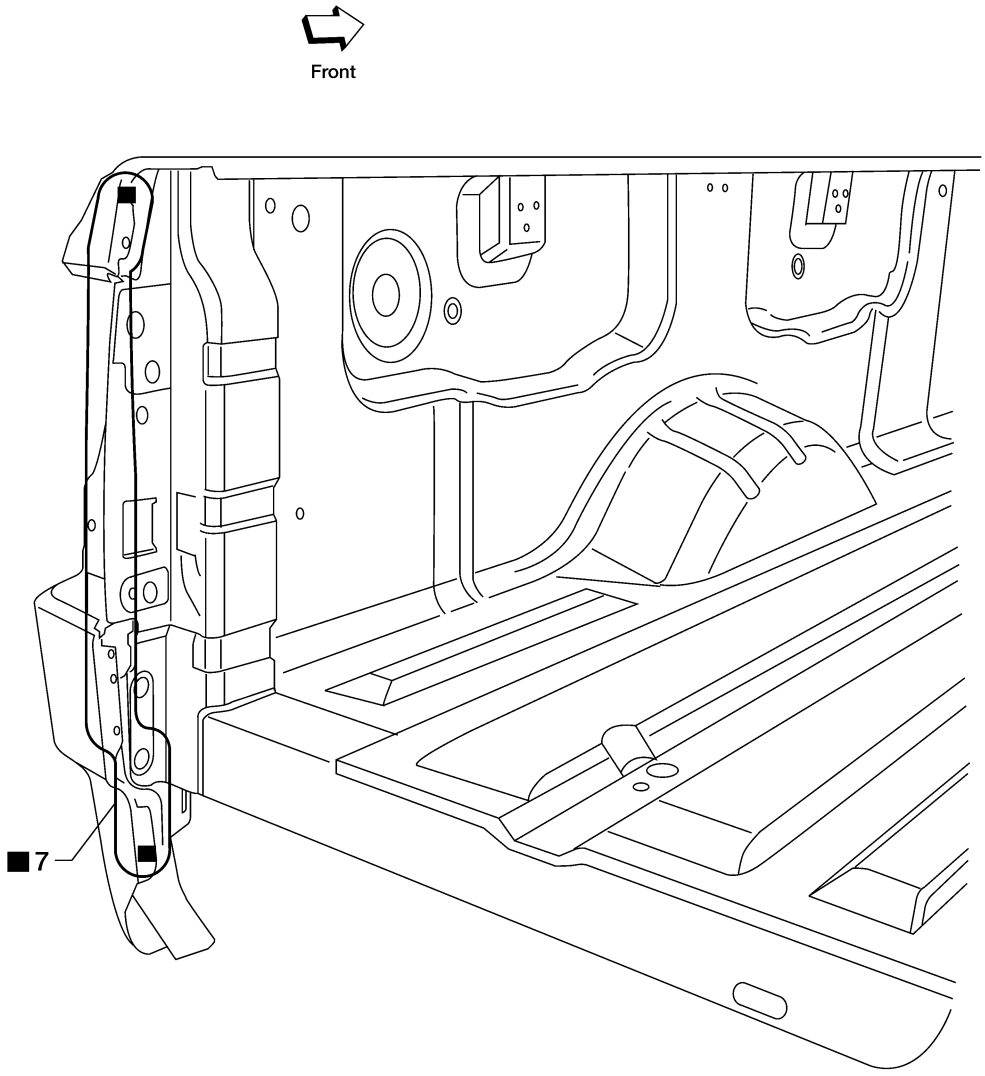
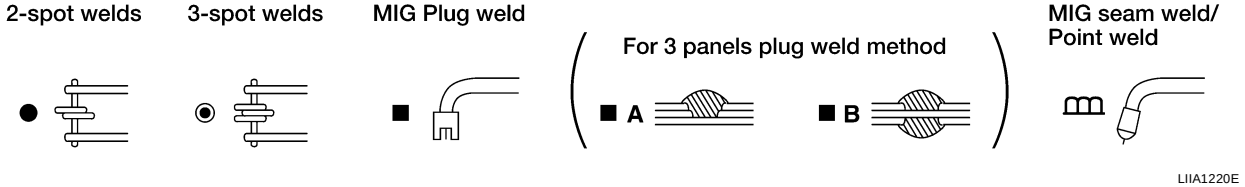
Service Joint





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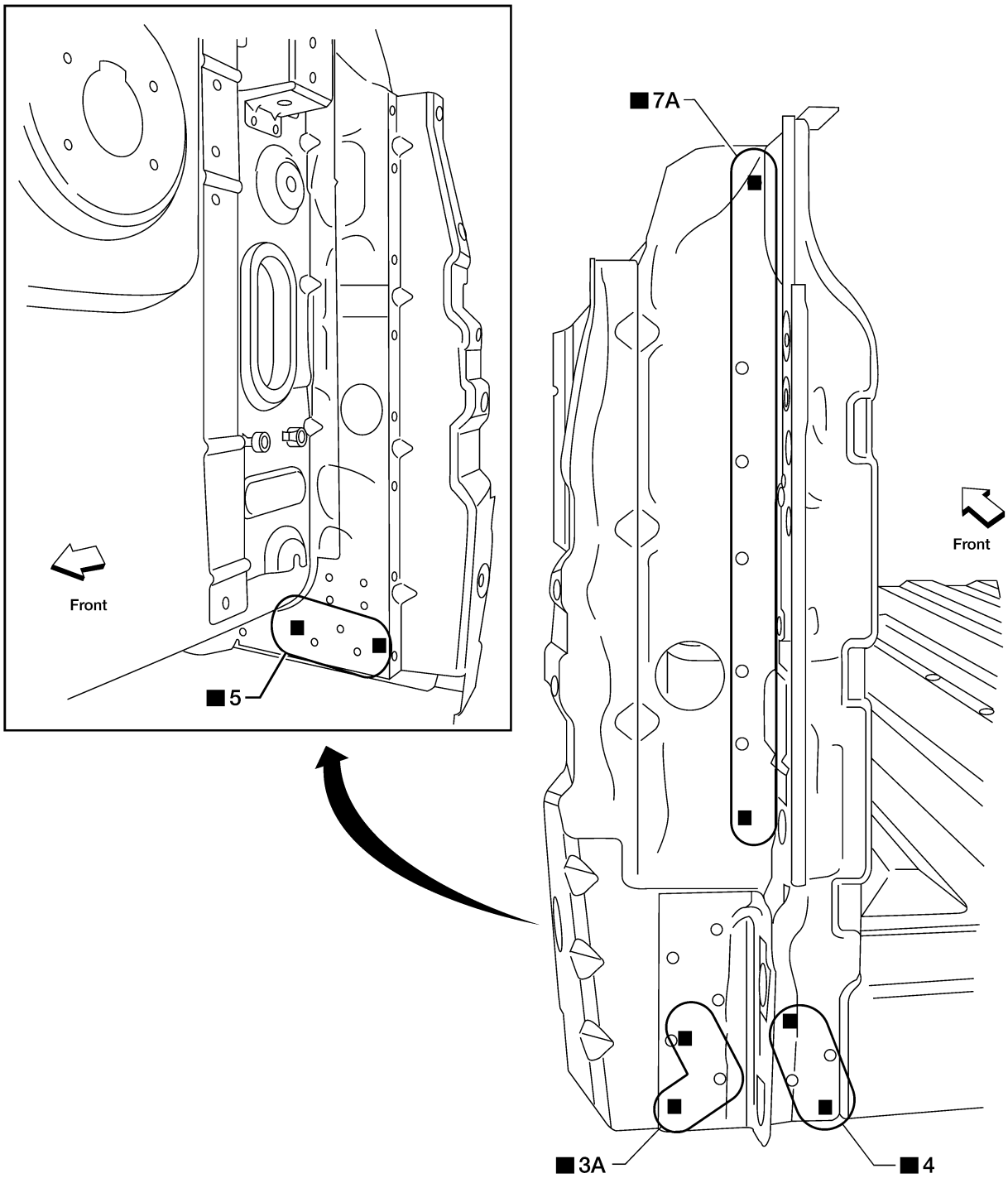

2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A | B) | MIG seam weld/ Point weld

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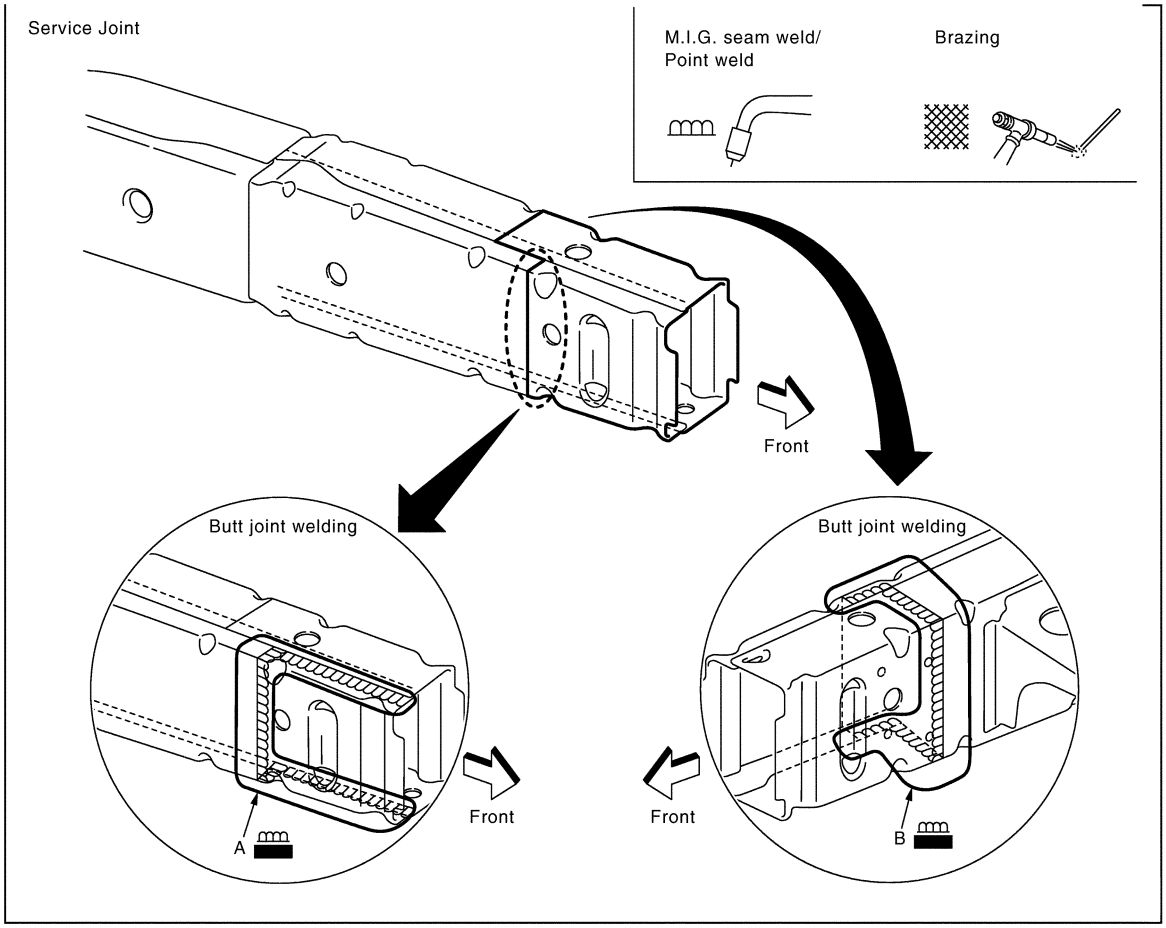
CRUSH HORN

- Work after 1st crossmember has been removed.

Service Joint

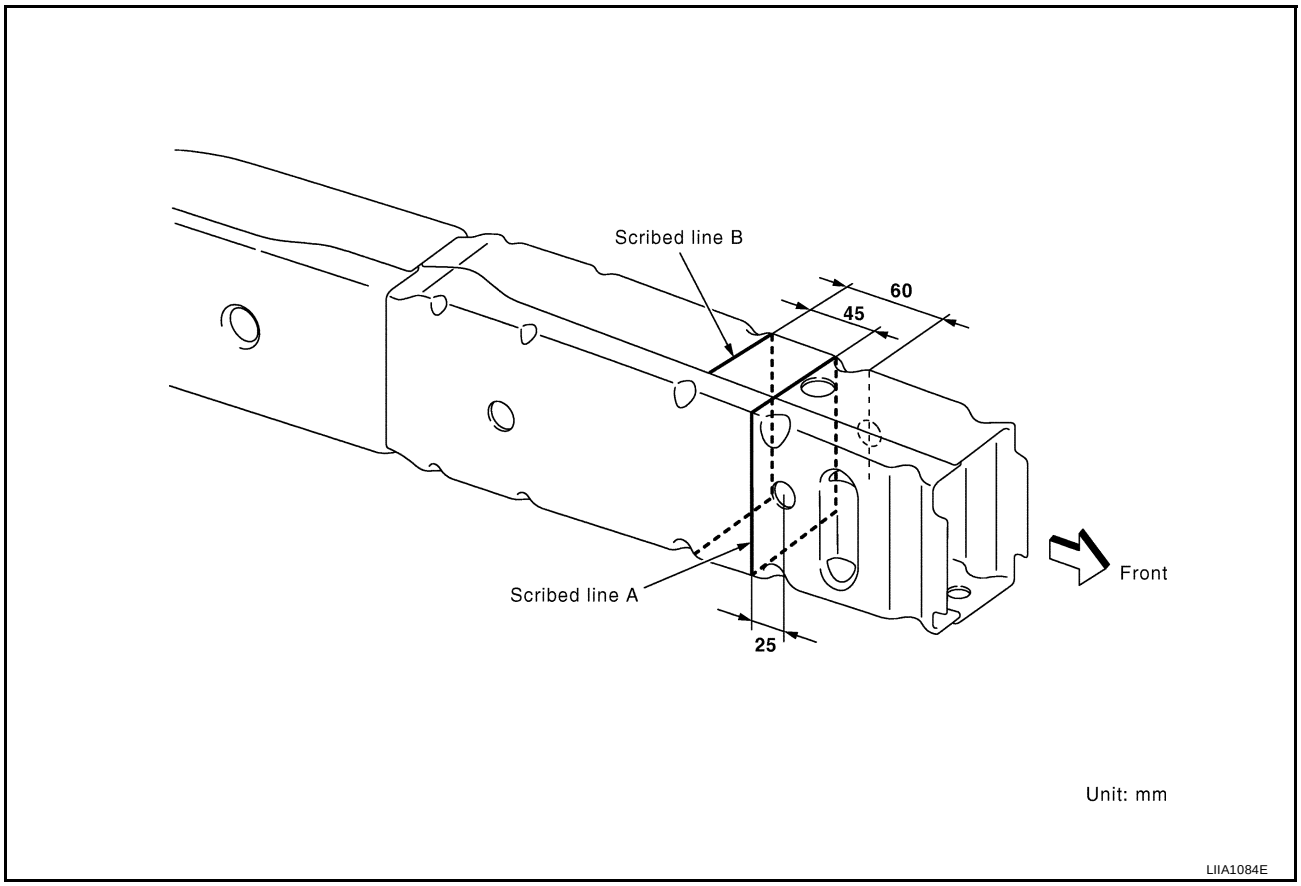


Portions to be welded:

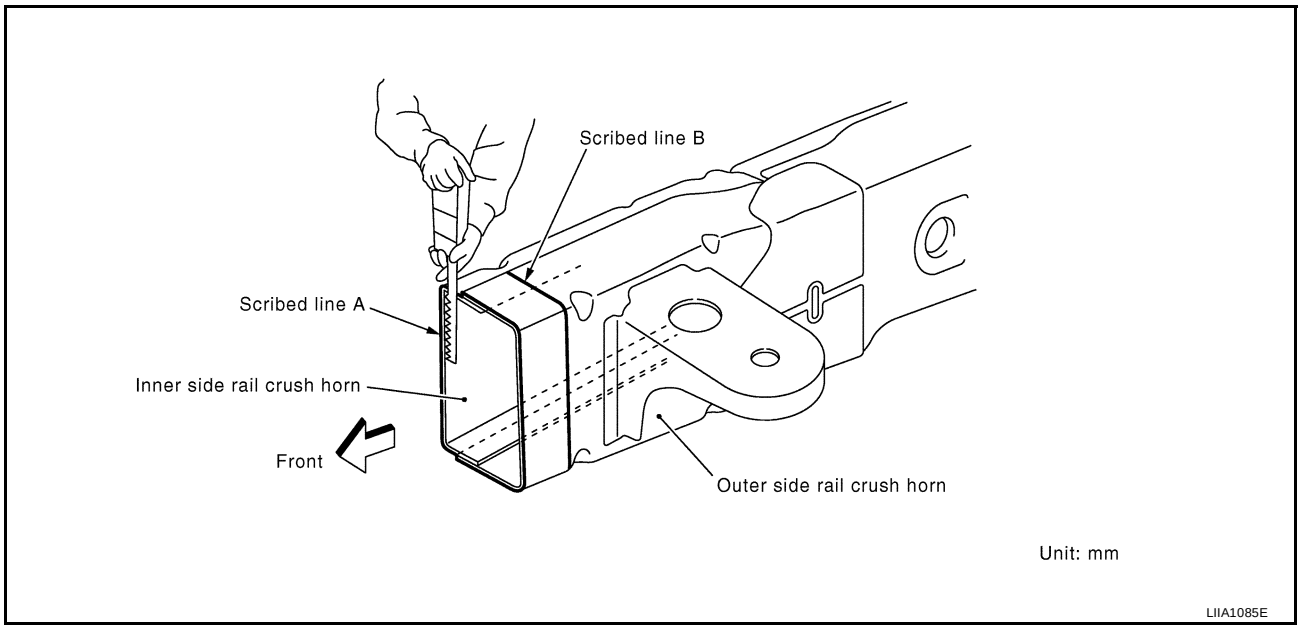
A. Inner side rail crush horn, inner side rail crush horn and outer side rail crush horn.
B. Outer side rail crush horn, outer side rail crush horn and inner side rail crush horn.

Removal Notes

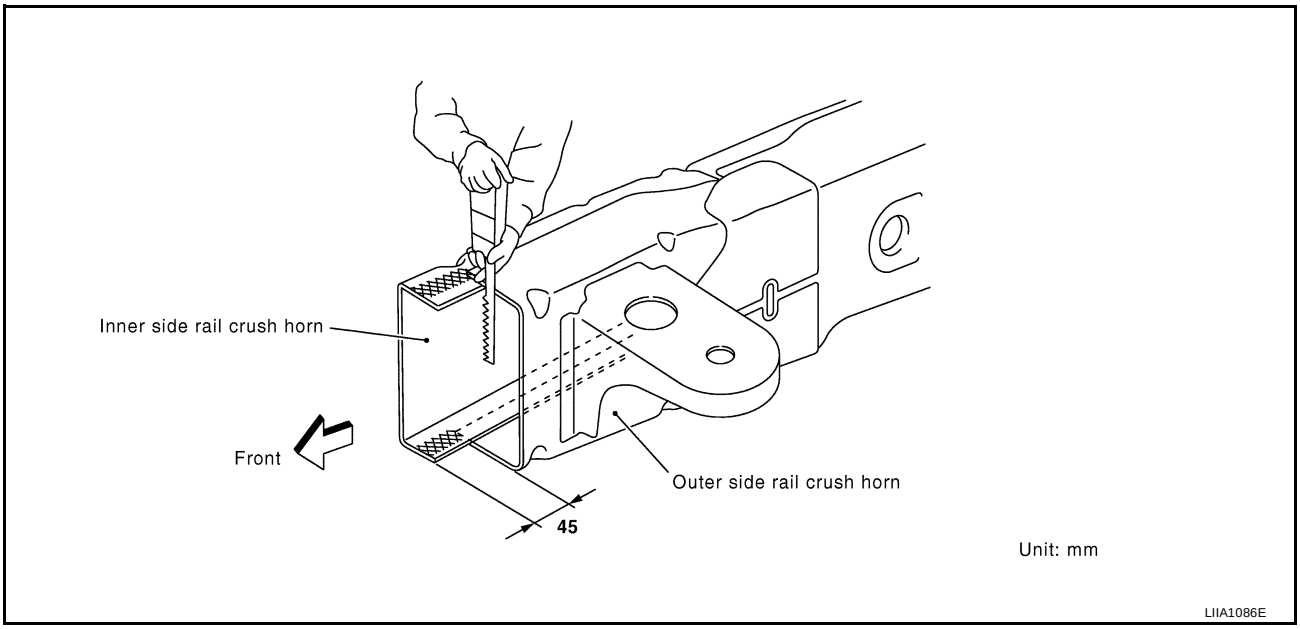
- Scribe a straight line on the outer side rail crush horn and inner side rail crush horn along the hole center as shown in the figure.



- Cut off outer side rail crush horn and inner side rail crush horn along scribed line A. Do not cut on the hole.

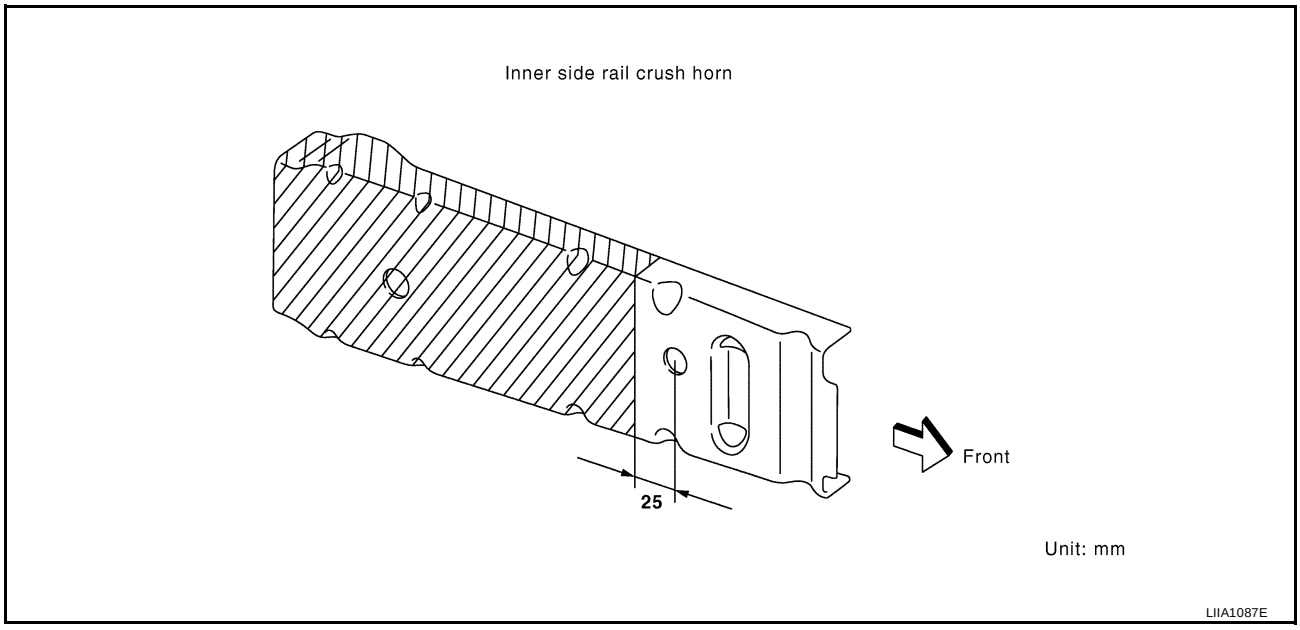


- Cut inner side rail crush horn at 45 mm backward cut position of cut line A. (along line B)

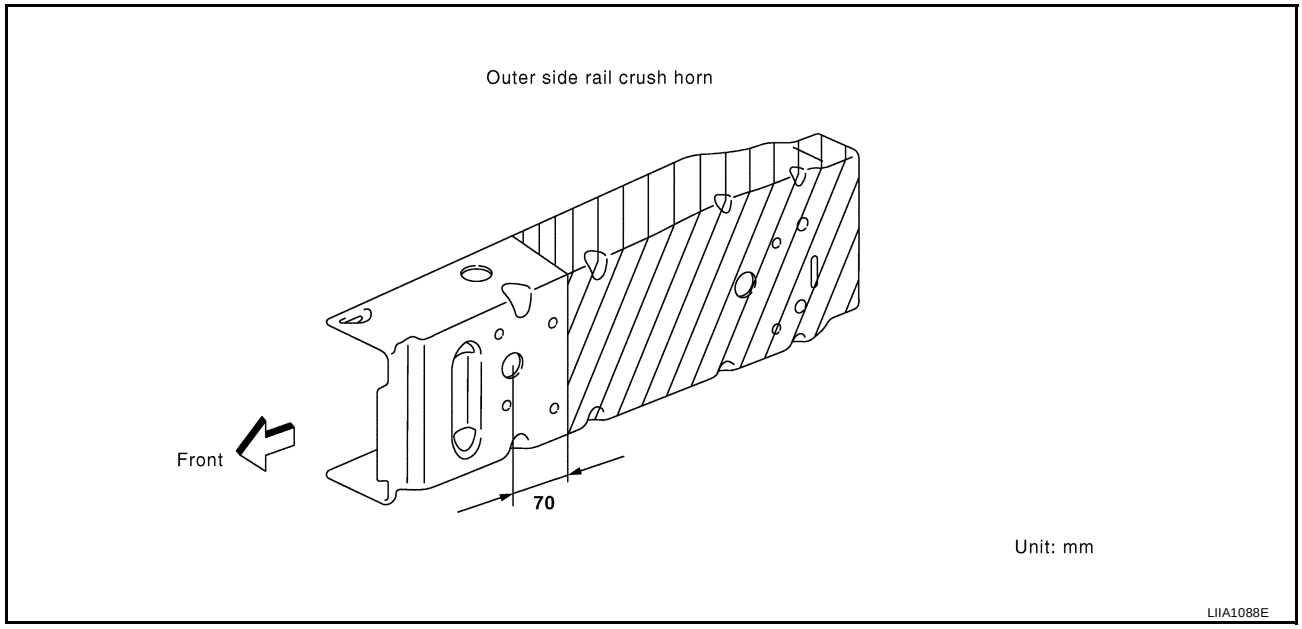


- After removing outer panel, dress area on the inner panel surface with a sander or equivalent.

Installation Notes



- Scribe a straight line on the inner side rail crush horn along the hole center as shown in the figure. Cut off inner side rail crush horn along scribed line.



- Scribe a straight line on the outer side rail crush horn along the hole center as shown in the figure. Cut off outer side rail crush horn along scribed line.

- Weld part to be butt-welded and seam-welded corner to corner as shown in the figure.