

SECTION **BL**

BODY, LOCK & SECURITY SYSTEM

A
B
C
D
E
F
G
H
I
J
K
L
M

CONTENTS

PRECAUTIONS	5	System Description	19
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	5	WITHOUT AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM..	19
Precautions for work	5	WITH AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM	20
Wiring Diagnosis and Trouble Diagnosis	5	OUTLINE	21
PREPARATION	6	Schematic	22
Special Service Tool	6	WITHOUT AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM..	22
Commercial Service Tool	6	WITH RIGHT HAND AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM	23
SQUEAK AND RATTLE TROUBLE DIAGNOSES	7	WITH RIGHT AND LEFT HAND AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM	24
Work Flow	7	Wiring Diagram — D/LOCK —	25
CUSTOMER INTERVIEW	7	WITHOUT AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM..	25
DUPLICATE THE NOISE AND TEST DRIVE	8	WITH RIGHT HAND AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM	29
CHECK RELATED SERVICE BULLETINS	8	WITH RIGHT AND LEFT HAND AUTO SLIDE DOOR CLOSURE AND AUTOMATIC BACK DOOR SYSTEM	33
LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE	8	Terminals and Reference Value for BCM	37
REPAIR THE CAUSE	8	Work Flow	37
CONFIRM THE REPAIR	9	CONSULT-II Function (BCM)	38
Generic Squeak and Rattle Troubleshooting	9	CONSULT-II INSPECTION PROCEDURE	38
INSTRUMENT PANEL	9	DATA MONITOR	39
CENTER CONSOLE	9	ACTIVE TEST	39
DOORS	9	Trouble Diagnoses Symptom Chart	39
TRUNK	10	BCM Power Supply and Ground Circuit Check	40
SUNROOF/HEADLINING	10	Door Switch Check (Without Automatic Back Door System)	41
OVERHEAD CONSOLE (FRONT AND REAR)..	10	Door Switch Check (With Automatic Back Door System)	43
SEATS	10	Key Switch (Insert) Check	45
UNDERHOOD	10	Door Lock/Unlock Switch Check	46
Diagnostic Worksheet	11	Front Door Lock Assembly LH (Actuator) Check ...	48
HOOD	13	Front Door Lock Actuator RH Check	50
Fitting Adjustment	13		
CLEARANCE AND SURFACE HEIGHT ADJUSTMENT	14		
HOOD LOCK ADJUSTMENT	14		
Removal and Installation of Hood Assembly	15		
Removal and Installation of Hood Lock Control	16		
REMOVAL	16		
INSTALLATION	17		
Hood Lock Control Inspection	17		
POWER DOOR LOCK SYSTEM	18		
Component Parts and Harness Connector Location..	18		



Door Lock Actuator Check (Sliding Door)	51	FIG. 1	92
Front Door Lock Assembly LH (Key Cylinder Switch) Check	52	FIG. 2	93
REMOTE KEYLESS ENTRY SYSTEM	54	FIG. 3	94
Component Parts and Harness Connector Location..	54	FIG. 4	95
System Description	55	FIG. 5	96
INPUTS	55	Terminals and Reference Value for BCM	97
OPERATION PROCEDURE	56	Terminals and Reference Value for IPDM E/R	97
CAN Communication System Description	60	CONSULT-II Function (BCM)	98
Schematic	61	CONSULT-II INSPECTION PROCEDURE	98
Wiring Diagram — KEYLES —	62	CONSULT-II APPLICATION ITEM	99
FIG. 1	62	Trouble Diagnosis	101
FIG. 2	63	WORK FLOW	101
FIG. 3	64	Preliminary Check	102
Terminals and Reference Value for BCM	65	Symptom Chart	103
Terminals and Reference Value for IPDM E/R	66	Diagnostic Procedure 1	104
CONSULT-II Function (BCM)	66	Diagnostic Procedure 2	108
CONSULT-II Inspection Procedure	67	Diagnostic Procedure 3	110
“MULTI REMOTE ENT”	67	Diagnostic Procedure 4	111
CONSULT-II Application Items	68	Diagnostic Procedure 5	111
“MULTI REMOTE ENT”	68	Diagnostic Procedure 6	111
Trouble Diagnosis Procedure	70	AUTOMATIC SLIDING DOOR SYSTEM	112
Pre-Diagnosis Inspection	70	Component Parts and Harness Connector Location	112
BCM POWER SUPPLY AND GROUND CIRCUIT INSPECTION	70	System Description	112
Trouble Diagnoses	71	OPERATION DESCRIPTION	112
SYMPTOM CHART	71	SLIDING DOOR INITIALIZATION PROCEDURE	119
Key Switch Check	73	SLIDING DOOR LATCH AUTO CLOSURE FUNCTION DESCRIPTION	120
Door Switch Check (Without Automatic Back Door System)	74	SLIDING DOOR LATCH AUTO CLOSURE OPERATION DESCRIPTION	120
Door Switch Check (With Automatic Back Door Sys- tem)	76	Schematic	121
Keyfob Battery and Function Check	78	WITH RIGHT HAND SLIDE DOOR AUTO CLO- SURE SYSTEM	121
Remote Keyless Entry Receiver System Check	79	WITH RIGHT AND LEFT HAND SLIDE DOOR AUTO CLOSURE SYSTEM	122
ACC Power Check	80	Wiring Diagram — S/CLOS —	124
IPDM E/R Operation Check	81	WITH RIGHT HAND SLIDE DOOR AUTO CLO- SURE SYSTEM	124
Check Hazard Function	82	WITH RIGHT AND LEFT HAND SLIDE DOOR AUTO CLOSURE SYSTEM	129
Check Horn Function	82	Terminals and Reference Value for Sliding Door Control Unit RH	139
Check Headlamp Function	82	Terminals and Reference Value for Sliding Door Control Unit LH	141
Check Map Lamp and Ignition Key Illumination Function	82	Terminals and Reference Value for Sliding Door Latch Control Unit	143
ID Code Entry Procedure	83	Terminals and Reference Value for BCM	144
KEYFOB ID SET UP WITH CONSULT-II	83	Trouble Diagnosis Procedure	145
KEYFOB ID SET UP WITHOUT CONSULT-II	85	Self-Diagnosis Procedures	145
Keyfob Battery Replacement	86	INPUT SIGNAL CHECK MODE	145
VEHICLE SECURITY (THEFT WARNING) SYSTEM..	87	OPERATING CHECK MODE	145
Component Parts and Harness Connector Location..	87	Diagnosis Chart	147
System Description	88	Auto Sliding Door Power Supply and Ground Circuit Inspection	148
DESCRIPTION	88	Automatic Door Main Switch System Inspection .	148
POWER SUPPLY AND GROUND CIRCUIT	88	Sliding Door Open/Close Switch System Inspection	149
INITIAL CONDITION TO ACTIVATE THE SYS- TEM	89	Sliding Door Motor System Inspection	150
VEHICLE SECURITY SYSTEM ALARM OPER- ATION	89	Magnetic Clutch Line Check	151
VEHICLE SECURITY SYSTEM DEACTIVATION..	89	Sliding Door Encoder System Inspection	151
PANIC ALARM OPERATION	90	Sliding Door Remote Control Switch System	
CAN Communication System Description	90		
Schematic	91		
Wiring Diagram — VEHSEC —	92		

Inspection	153	INSTALLATION	203	
Child Lockout Switch System Inspection	154	Back Door Power Lift Assembly	203	A
Latch Release Actuator System Inspection	155	REMOVAL	203	
Warning Chime System Inspection	156	INSTALLATION	204	
Half-Latch Switch System Inspection	156	FUEL FILLER LID OPENER	205	B
Full-Latch Switch System Inspection	157	Wiring Diagram — F/LID —	205	
Neutral Switch System Inspection	158	NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)	206	C
Cinch Latch Motor System Inspection	159	Component Parts and Harness Connector Location	206	
AUTOMATIC BACK DOOR SYSTEM	161	System Description	207	
Component Parts and Harness Connector Location	161	System Composition	207	
System Description	161	ECM Re-communicating Function	208	D
OPERATION DESCRIPTION	162	Wiring Diagram — NATS —	209	
Schematic	167	Terminals and Reference Value for BCM	211	E
Wiring Diagram — B/CLOS —	168	CONSULT-II	211	
Terminals and Reference Value for Back Door Control Unit	173	CONSULT-II INSPECTION PROCEDURE	211	
Terminals and Reference Value for BCM	174	CONSULT-II DIAGNOSTIC TEST MODE FUNCTION	212	F
Trouble Diagnosis Procedure	175	HOW TO READ SELF-DIAGNOSTIC RESULTS	213	
Self-Diagnosis Procedures	175	NVIS (NATS) SELF-DIAGNOSTIC RESULTS		
INPUT SIGNAL CHECK MODE	175	ITEM CHART	213	G
OPERATING CHECK MODE	175	Work Flow	214	
Diagnosis Chart	177	Trouble Diagnoses	215	
Back Door Control Unit Power Supply and Ground		SYMPTOM MATRIX CHART 1	215	H
Circuit Inspection	177	SYMPTOM MATRIX CHART 2	216	
Automatic Door Main Switch System Inspection	178	DIAGNOSTIC SYSTEM DIAGRAM	216	
Back Door Close Switch System Inspection	179	Diagnostic Procedure 1	217	
Pinch Strip System Inspection	180	Diagnostic Procedure 2	218	
Back Door Warning Chime System Inspection	181	Diagnostic Procedure 3	219	
Half-Latch Switch System Inspection	182	Diagnostic Procedure 4	220	
Open Switch System Inspection	183	Diagnostic Procedure 5	221	
Close Switch System Inspection	184	Diagnostic Procedure 6	224	J
Back Door Handle Switch System Inspection	185	How to Replace NATS Antenna Amp.	225	
Cinch Latch Motor System Inspection	186	HOMELINK UNIVERSAL TRANSCEIVER	226	K
DOOR	187	Wiring Diagram — TRNSCV —	226	
Fitting Adjustment	187	Trouble Diagnoses	227	
FRONT DOOR	187	DIAGNOSTIC PROCEDURE	227	
SLIDE DOOR	188	BODY REPAIR	229	L
BACK DOOR	189	Body Exterior Paint Color	229	
Removal and Installation	191	Body Component Parts	230	
FRONT DOOR	191	UNDERBODY COMPONENT PARTS	230	
SLIDE DOOR	192	BODY COMPONENT PARTS	232	M
BACK DOOR	193	Corrosion Protection	234	
FRONT DOOR LOCK	194	DESCRIPTION	234	
Component Structure	194	ANTI-CORROSIVE WAX	235	
Removal and Installation	194	UNDERCOATING	236	
Disassembly and Assembly	196	Body Sealing	237	
DOOR KEY CYLINDER ASSEMBLY	196	DESCRIPTION	237	
SLIDE DOOR LOCK	197	Body Construction	240	
Removal and Installation	197	BODY CONSTRUCTION	240	
OUTSIDE HANDLE	197	Body Alignment	241	
SLIDING DOOR LOCK ASSEMBLY	199	BODY CENTER MARKS	241	
SLIDING DOOR CABLE ASSEMBLY AND		PANEL PARTS MATCHING MARKS	243	
MOTOR	200	DESCRIPTION	245	
BACK DOOR LOCK	201	ENGINE COMPARTMENT	246	
Component Structure	201	UNDERBODY	248	
Back Door Latch	202	PASSENGER COMPARTMENT	250	
REMOVAL	203	REAR BODY	253	
		Handling Precautions for Plastics	255	

HANDLING PRECAUTIONS FOR PLASTICS	255	MENT)	267
LOCATION OF PLASTIC PARTS	256	FRONT PILLAR	268
Precautions in Repairing High Strength Steel	258	CENTER PILLAR	271
HIGH STRENGTH STEEL (HSS) USED IN NIS-		OUTER SILL	274
SAN VEHICLES	258	REAR FENDER	275
Foam Repair	260	REAR PANEL	276
URETHANE FOAM APPLICATIONS	260	REAR FLOOR REAR	277
FILL PROCEDURES	260	REAR SIDE MEMBER EXTENSION	278
Replacement Operations	261		
DESCRIPTION	261		
HOODLEDGE	264		
FRONT SIDE MEMBER	265		
FRONT SIDE MEMBER (PARTIAL REPLACE-			

PRECAUTIONS

PRECAUTIONS

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

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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

EIS001PF

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

Wiring Diagnosis and Trouble Diagnosis

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When you read wiring diagrams, refer to the following:

- [GI-13, "How to Read Wiring Diagrams"](#)
- [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#)

When you perform trouble diagnosis, refer to the following:

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

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PREPARATION

PREPARATION

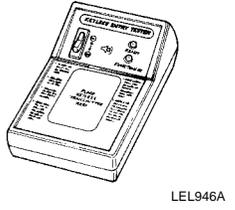
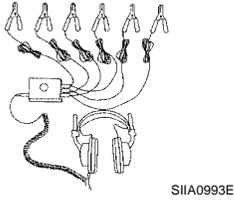
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Special Service Tool

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

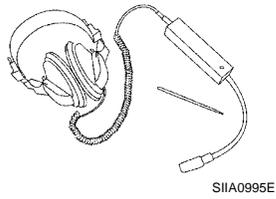
Tool number (Kent-Moore No.) Tool name	Description
— (J-39570) Chassis ear	Locating the noise
— (J-43980) NISSAN Squeak and Rattle Kit	Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester	Used to test keyfobs



Commercial Service Tool

EIS001PI

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



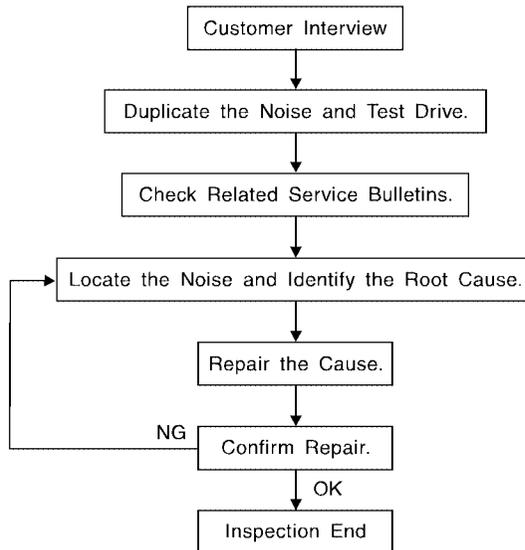
SQUEAK AND RATTLE TROUBLE DIAGNOSES

SQUEAK AND RATTLE TROUBLE DIAGNOSES

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Work Flow

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CUSTOMER INTERVIEW

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

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

SQUEAK AND RATTLE TROUBLE DIAGNOSES

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
 - 2) Tap or push/pull around the area where the noise appears to be coming from.
 - 3) Rev the engine.
 - 4) Use a floor jack to recreate vehicle "twist".
 - 5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T model).
 - 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
 - If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
 - removing the components in the area that you suspect the noise is coming from. Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
 - tapping or pushing/pulling the component that you suspect is causing the noise. Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
 - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
 - placing a piece of paper between components that you suspect are causing the noise.
 - looking for loose components and contact marks.
Refer to [BL-9. "Generic Squeak and Rattle Troubleshooting"](#).

REPAIR THE CAUSE

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

CAUTION:

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

Always check with the Parts Department for the latest parts information.

The following materials are contained in the NISSAN Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005: 100×135 mm (3.94×5.31 in)/76884-71L01: 60×85 mm (2.36×3.35 in)/76884-71L02: 15×25 mm (0.59×0.98 in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick, 50×50 mm (1.97×1.97 in)/73982-50Y00: 10 mm (0.39 in) thick, 50×50 mm (1.97×1.97 in)

INSULATOR (Light foam block)

SQUEAK AND RATTLE TROUBLE DIAGNOSES

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

EIS003PO

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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Diagnostic Worksheet

EIS003PP



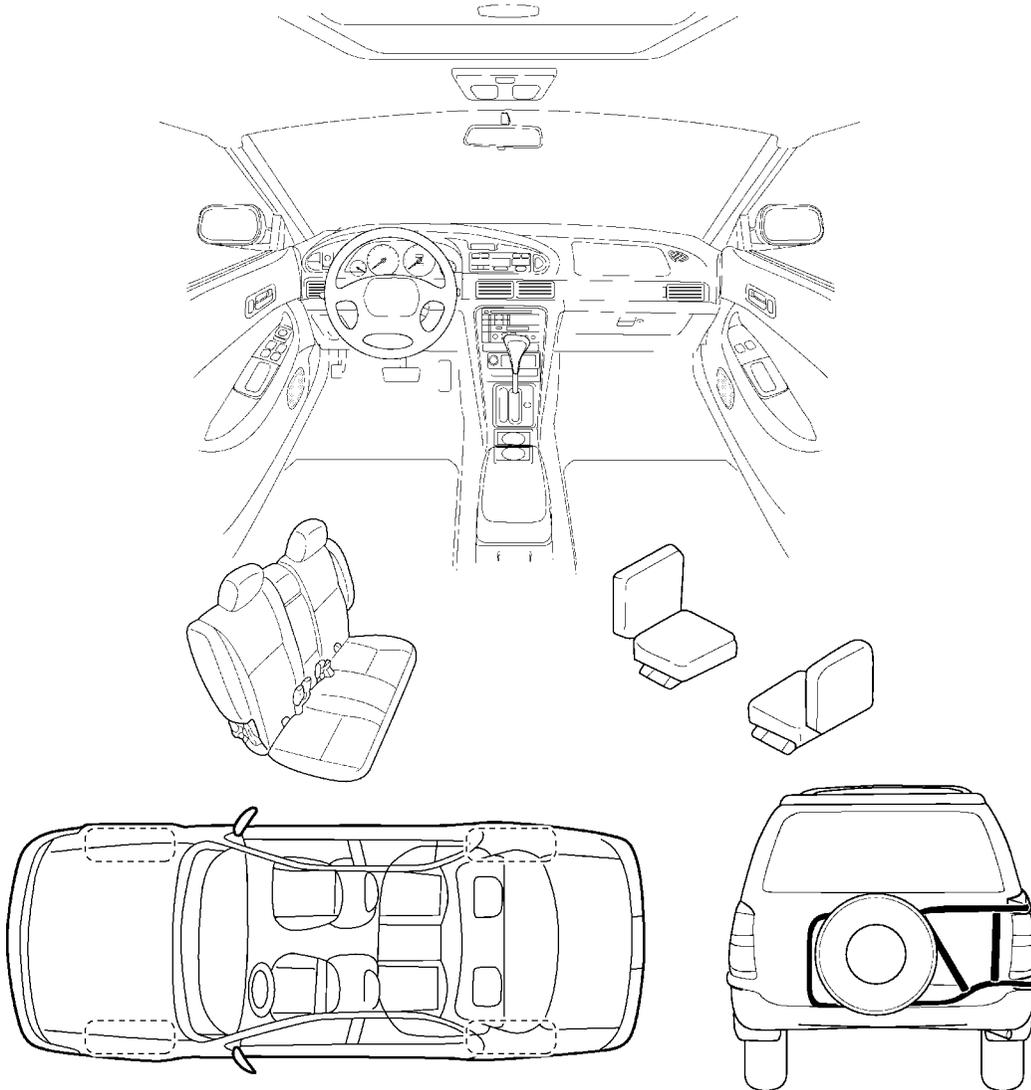
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Nissan Customer:

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

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

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



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

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

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

- | | |
|--|---|
| <input type="checkbox"/> anytime | <input type="checkbox"/> after sitting out in the sun |
| <input type="checkbox"/> 1 st time in the morning | <input type="checkbox"/> when it is raining or wet |
| <input type="checkbox"/> only when it is cold outside | <input type="checkbox"/> dry or dusty conditions |
| <input type="checkbox"/> only when it is hot outside | <input type="checkbox"/> other: _____ |

III. WHEN DRIVING:

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

IV. WHAT TYPE OF NOISE?

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

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

	<u>YES</u>	<u>NO</u>	<u>Initials of person performing</u>
Vehicle test driven with customer	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise verified on test drive	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise source located and repaired	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Follow up test drive performed to confirm repair	<input type="checkbox"/>	<input type="checkbox"/>	_____

VIN: _____ Customer Name: _____

W.O. #: _____ Date: _____

SBT844

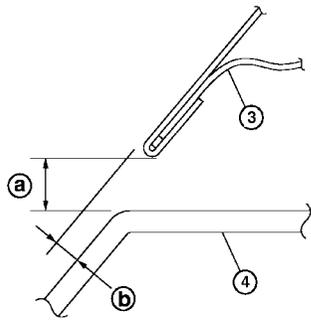
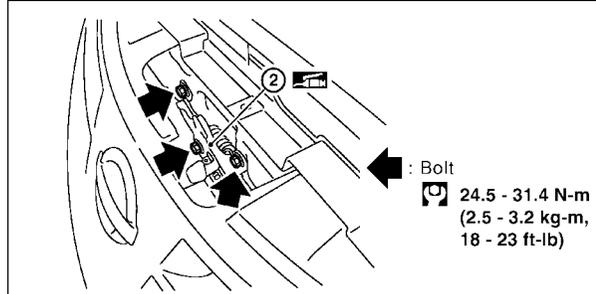
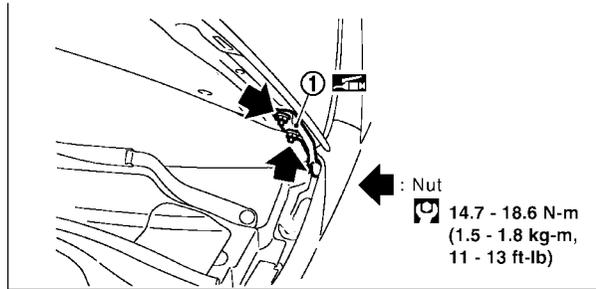
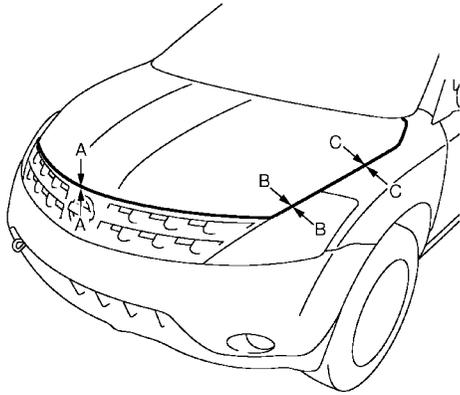
This form must be attached to Work Order

HOOD

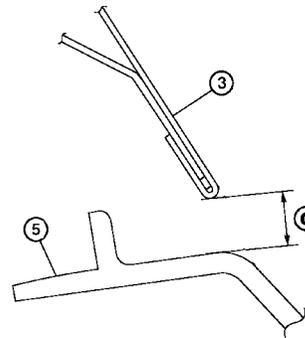
PF5:F5100

EIS0021K

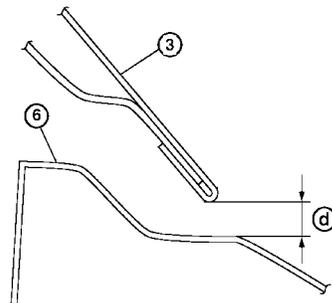
HOOD Fitting Adjustment



A - A



B - B



C - C

CLEARANCE	a	6.0 - 10.0 (0.236 - 0.394)
	c	5.3 - 9.3 (0.209 - 0.366)
	d	5.1 - 7.1 (0.201 - 0.280)
SURFACE HEIGHT	b	0.0 - 4.0 (0.000 - 0.157)

Unit: mm (in)

: Apply body grease.

- | | | |
|-----------------|-----------------------|------------------|
| 1. Hood hinge | 2. Hood lock assembly | 3. Hood assembly |
| 4. Front grille | 5. Headlamp | 6. Front fender |

LIA0880E

HOOD

CLEARANCE AND SURFACE HEIGHT ADJUSTMENT

1. 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.
2. Temporarily tighten the hood lock, and position it by engaging it with the hood striker. Check the lock and striker for looseness, and tighten the lock bolt to the specified torque.
3. 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 2.0 mm

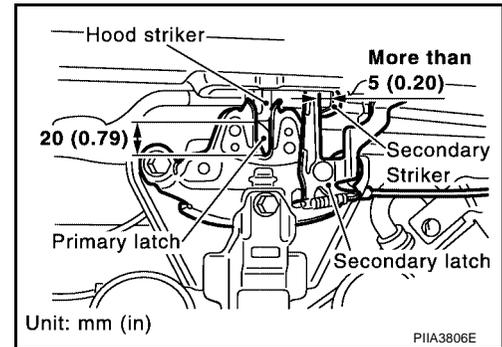
HOOD LOCK ADJUSTMENT

1. 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).
2. 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.

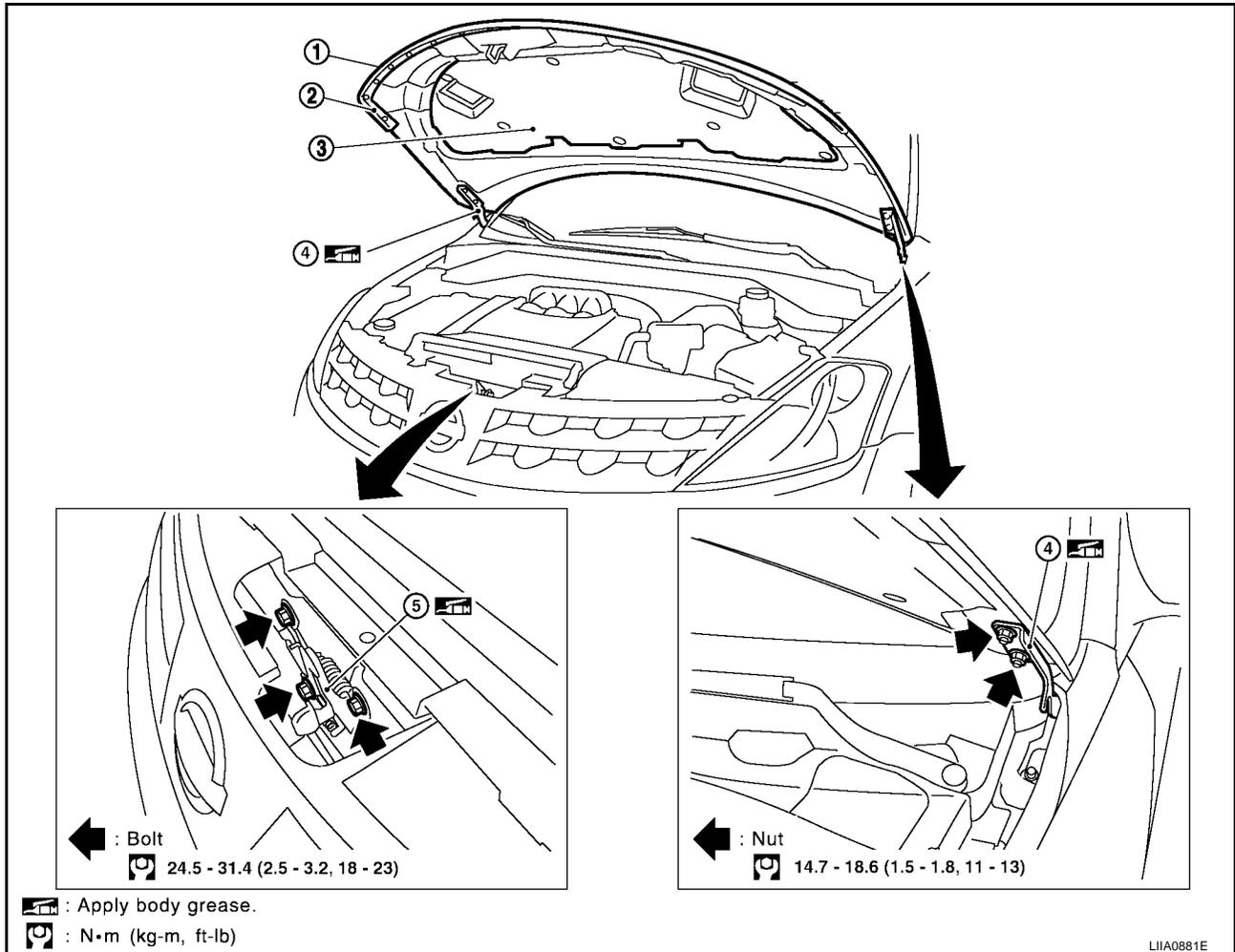
3. After adjusting hood lock, tighten the lock bolts to the specified torque.



HOOD

Removal and Installation of Hood Assembly

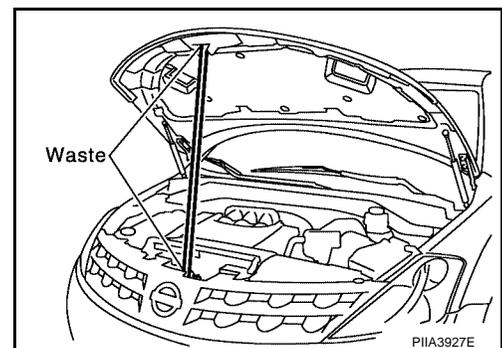
EIS0021L



1. Support the hood striker with a proper material to prevent it from falling.

WARNING:

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



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

CAUTION:

Operate with two workers, because of its heavy weight.

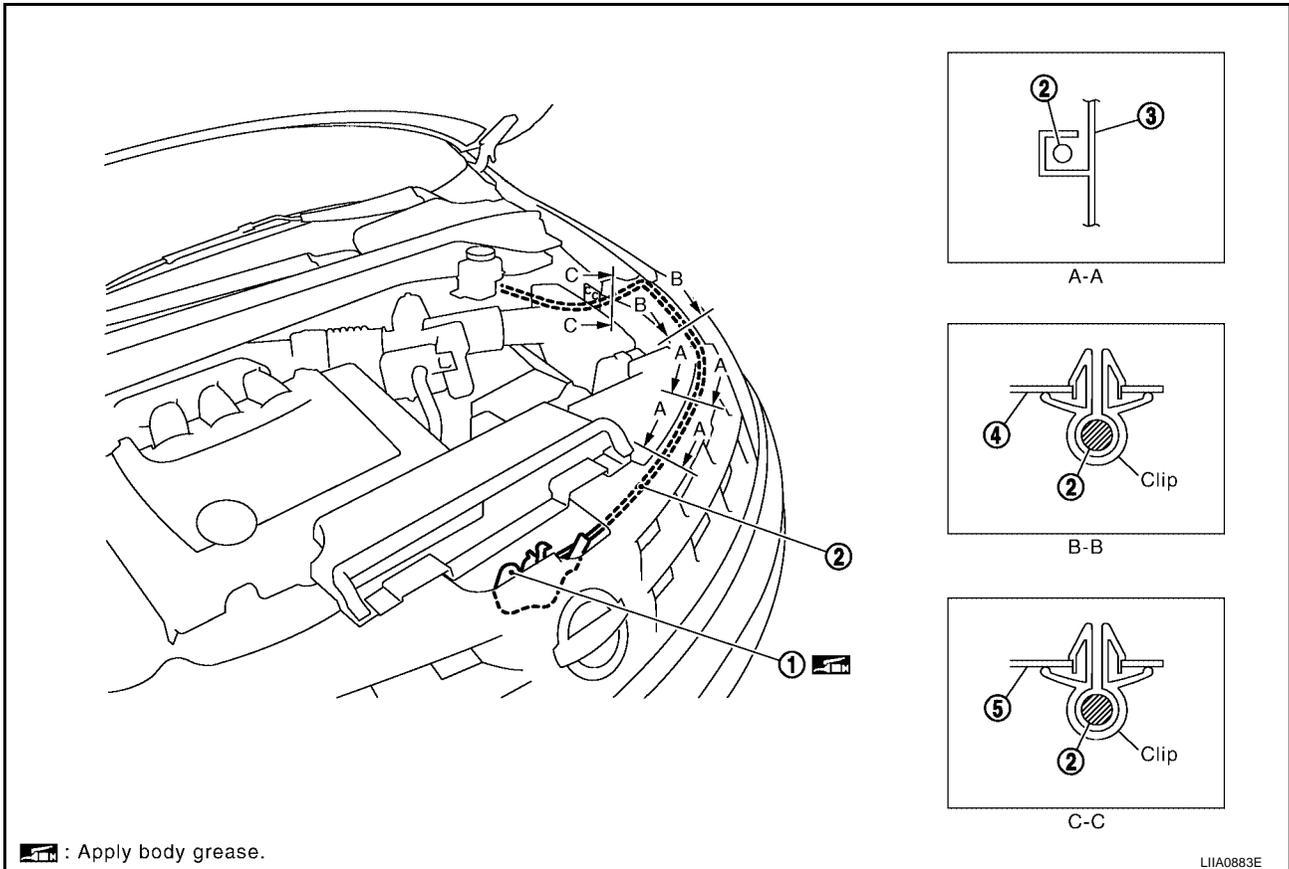
Installation is in the reverse order of removal.

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HOOD

Removal and Installation of Hood Lock Control

EIS0021M



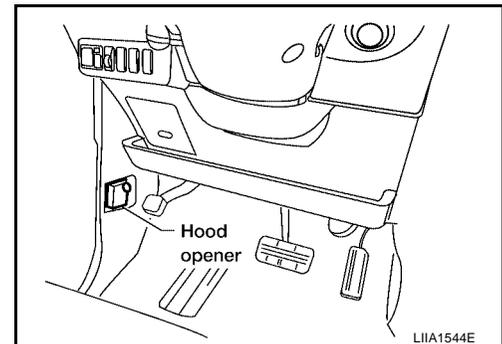
1. Hood lock assembly
2. Hood lock cable
3. Radiator core support side
4. Hood ledge reinforce upper
5. Hood ledge upper

REMOVAL

1. Remove the front grille. Refer to [EI-18, "Removal and Installation"](#).
2. Remove the front fender protector (LH). Refer to [EI-22, "Removal and Installation"](#).
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 on the dash lower panel, and pull the hood lock cable toward the passenger room.

CAUTION:

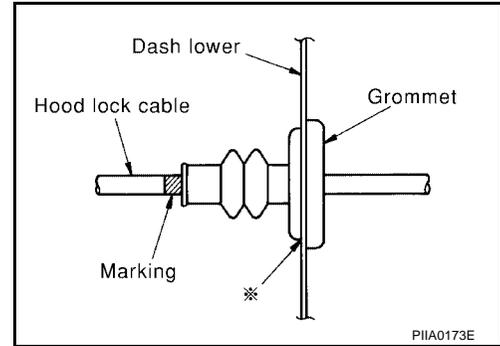
While pulling, be careful not to damage the outside of the hood lock cable.



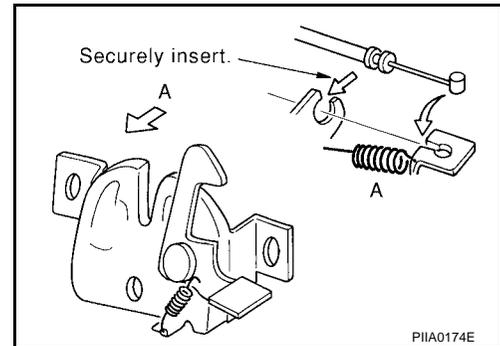
HOOD

INSTALLATION

1. Pull the hood lock cable through the dash lower panel hole to 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 push the grommet into the panel hole securely.
3. Apply the sealant to the grommet (at * mark) properly.



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



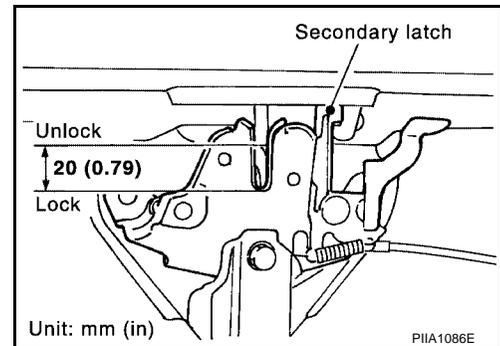
Hood Lock Control Inspection

EIS0021N

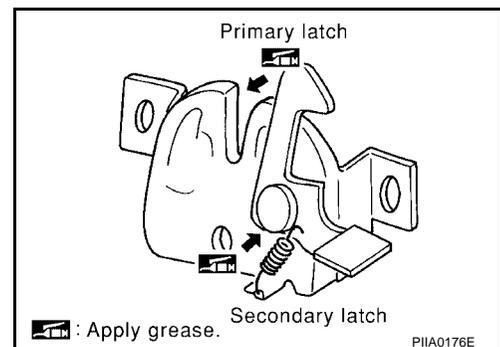
CAUTION:

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.



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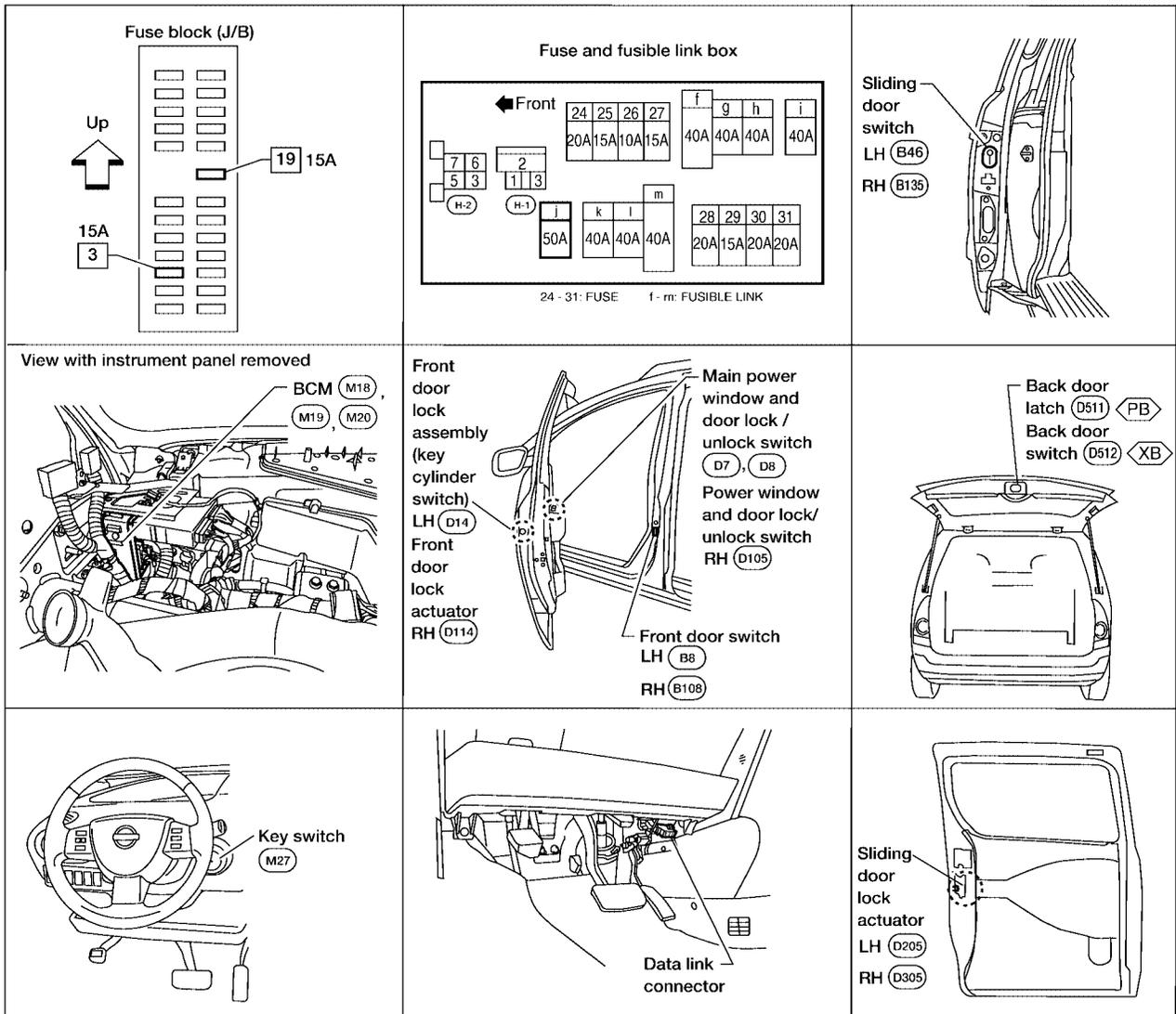
POWER DOOR LOCK SYSTEM

PF24814

POWER DOOR LOCK SYSTEM

Component Parts and Harness Connector Location

EIS001PQ



PB : WITH POWER BACK DOOR
XB : WITHOUT POWER BACK DOOR

LIA1899E

POWER DOOR LOCK SYSTEM

EIS001PR

System Description

WITHOUT AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM

Power is supplied at all times

- through 50A fusible link (letter j, located in the fuse and fusible link box)
- to BCM terminal 55 and
- through 15A fuse [No. 19, located in the fuse block (J/B)]
- to key switch terminal 1
- through 15A fuse [No. 3, located in the fuse block (J/B)]
- to BCM terminal 42.

With ignition key inserted, power is supplied

- through key switch terminal 2
- to BCM terminal 37.

Ground is supplied to terminal 52 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
- 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.

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
- through front door lock assembly LH (key cylinder switch) terminals 1 and 5
- through grounds M57, M61 and M79.

Then front door lock assembly LH (key cylinder switch) operation signal is supplied

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 12.

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
- through front door lock assembly LH (key cylinder switch) terminals 6 and 5
- through grounds M57, M61 and M79.

Then front door lock assembly LH (key cylinder switch) operation signal is supplied

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 12.

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

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

- to BCM terminal 62
- through front door switch LH terminal 1
- 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

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POWER DOOR LOCK SYSTEM

- through front door switch RH terminal 1
- through front door switch RH case ground.

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

- to BCM terminal 63
- through sliding door switch LH terminal 1
- through sliding door switch LH case ground.

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

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

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

- to BCM terminal 58
- through back door switch terminal 1
- through back door switch terminal 3
- through grounds D403 and D404.

WITH AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM

Power is supplied at all times

- through 50A fusible link (letter j, located in the fuse and fusible link box)
- to BCM terminal 55 and
- through 15A fuse [No. 19, located in the fuse block (J/B)]
- to key switch terminal 1
- through 15A fuse [No. 3, located in the fuse block (J/B)]
- to BCM terminal 42.

With ignition key inserted, power is supplied

- through key switch terminal 2
- to BCM terminal 37.

Ground is supplied to terminal 52 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 17
- 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 14.

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 4
- through front door lock assembly LH (key cylinder switch) terminals 1 and 5
- through grounds M57, M61 and M79.

Then the front door lock assembly LH (key cylinder switch) operation signal is supplied

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 14.

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

POWER DOOR LOCK SYSTEM

- to main power window and door lock/unlock switch terminal 6
- through front door lock assembly LH (key cylinder switch) terminals 6 and 5
- through grounds M57, M61 and M79.

Then front door lock assembly LH (key cylinder switch) operation signal is supplied

- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 14.

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 62
- through front door switch LH terminal 1
- 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 1
- through front door switch RH case ground.

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

- to BCM terminal 63
- through sliding door switch LH terminal 1
- through sliding door switch LH case ground.

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

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

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

- to BCM terminal 58
- through back door latch assembly terminal 7
- through back door latch assembly terminal 8
- through grounds D403 and D404.

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 front door lock assembly LH (key cylinder switch)

- 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 (actuator) 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

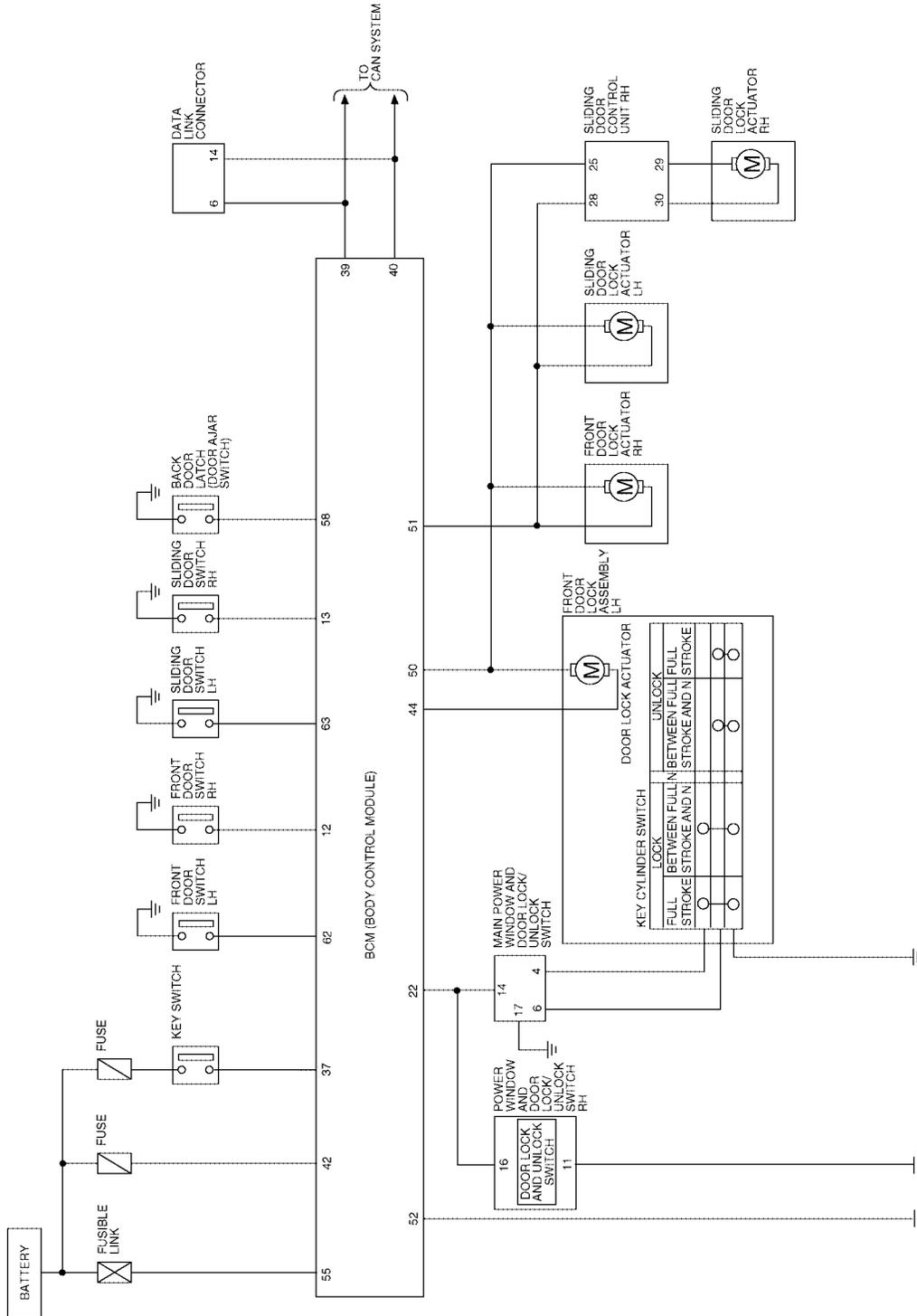
When door lock and unlock switch is operated to lock doors with ignition key in key cylinder and any door open, all door lock actuators are locked and then unlocked.

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POWER DOOR LOCK SYSTEM

WITH RIGHT HAND AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM

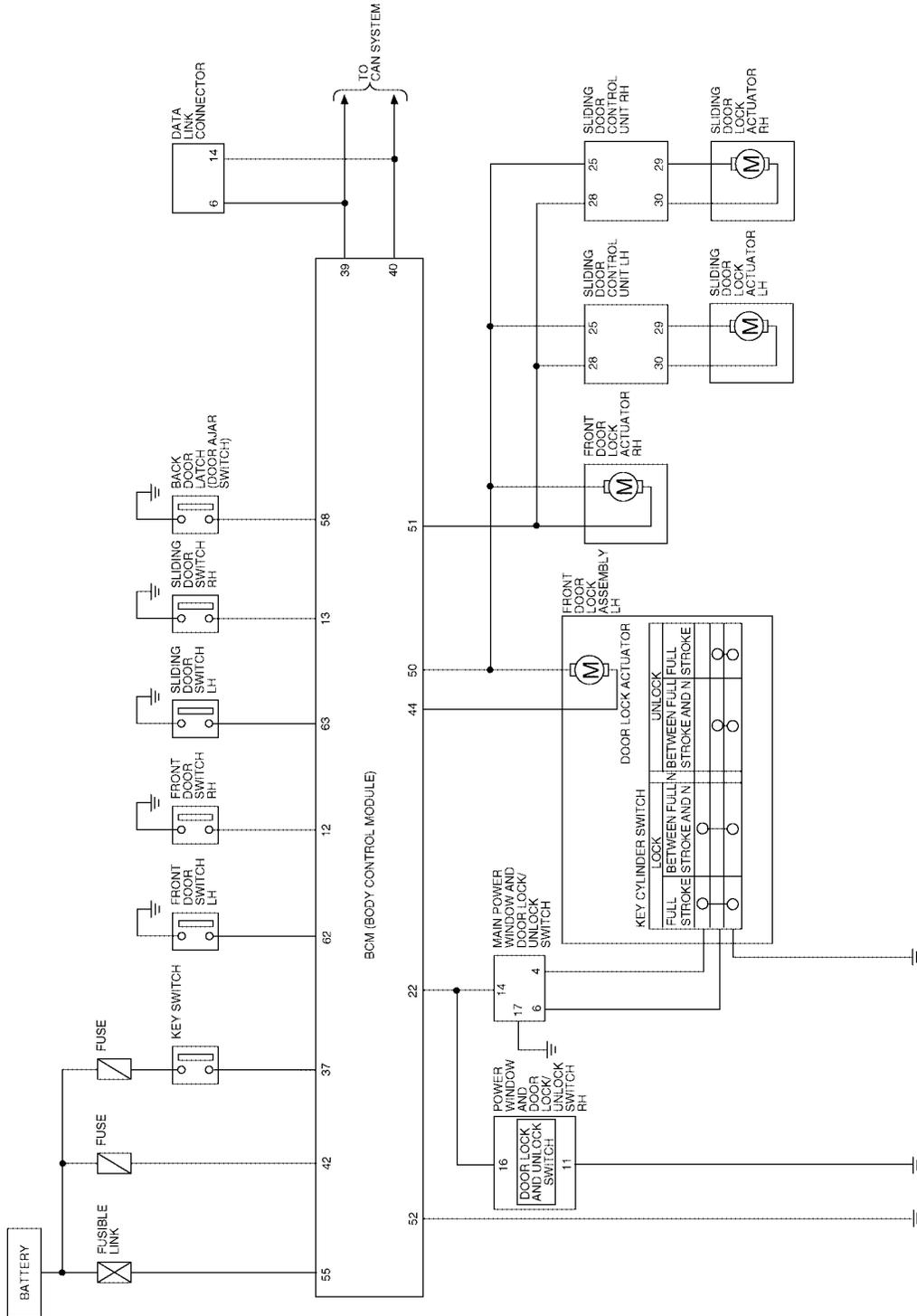


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BL

POWER DOOR LOCK SYSTEM

WITH RIGHT AND LEFT HAND AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM



WIWA0482E

POWER DOOR LOCK SYSTEM

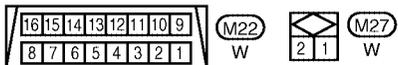
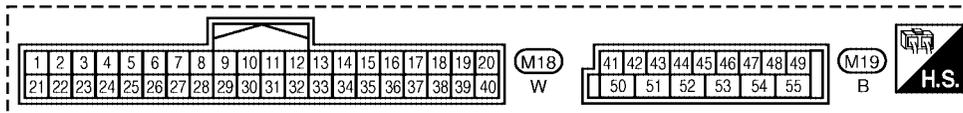
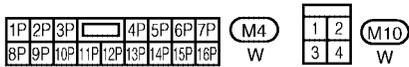
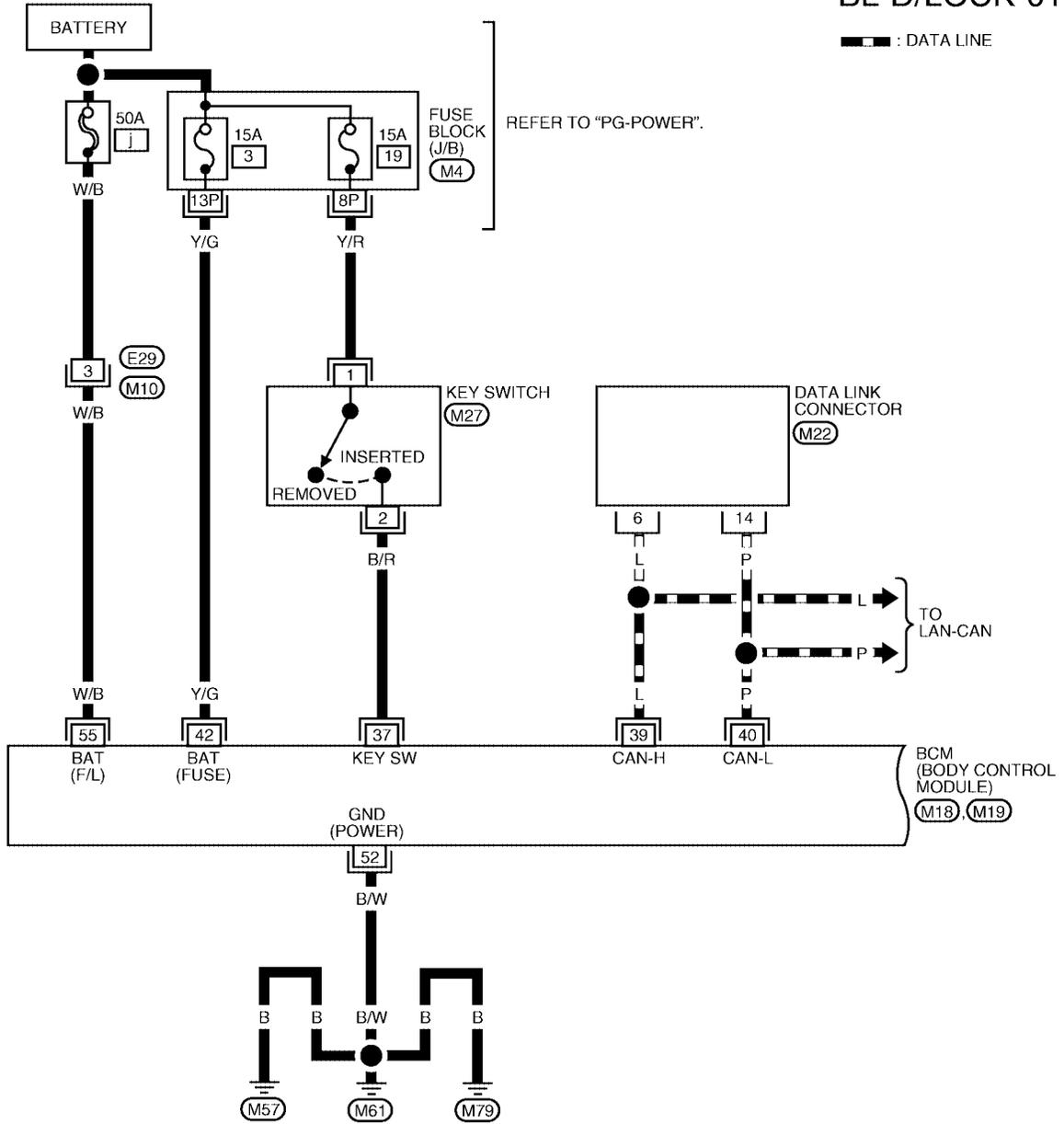
Wiring Diagram — D/LOCK — WITHOUT AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM

EIS001PT

FIG. 1

BL-D/LOCK-01

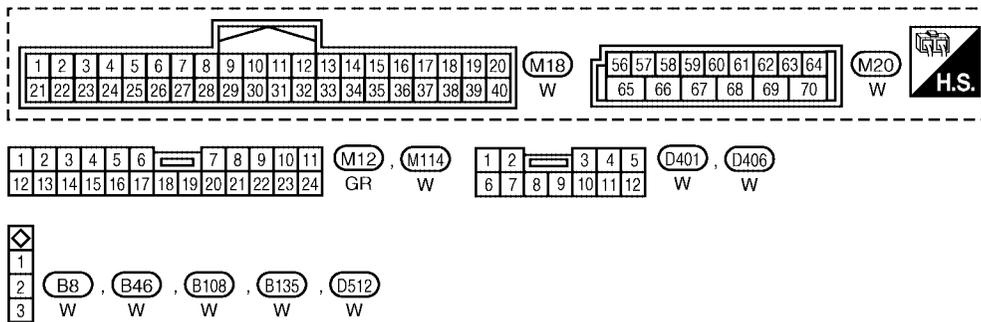
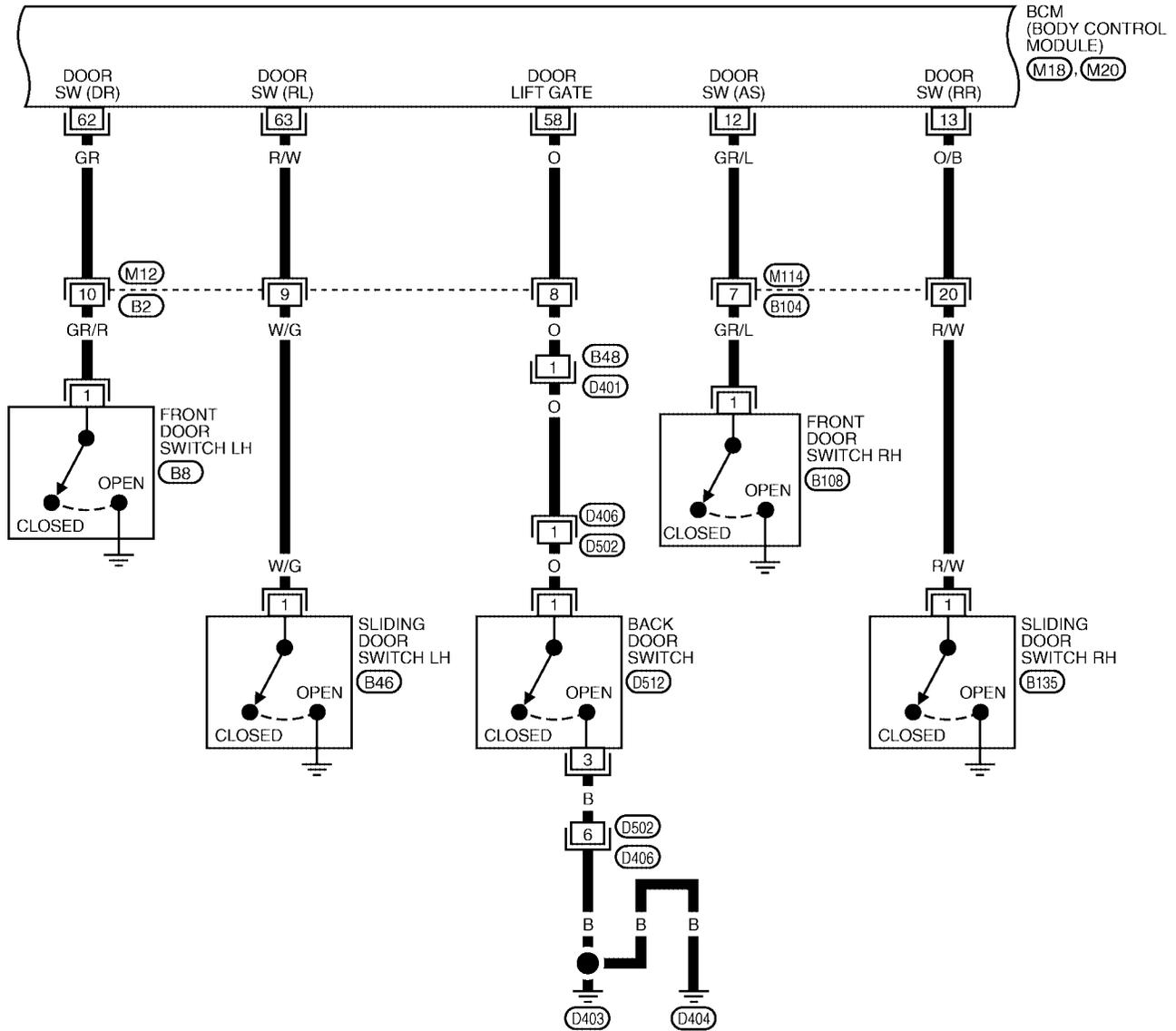
— — — : DATA LINE



POWER DOOR LOCK SYSTEM

FIG. 2

BL-D/LOCK-02

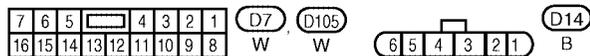
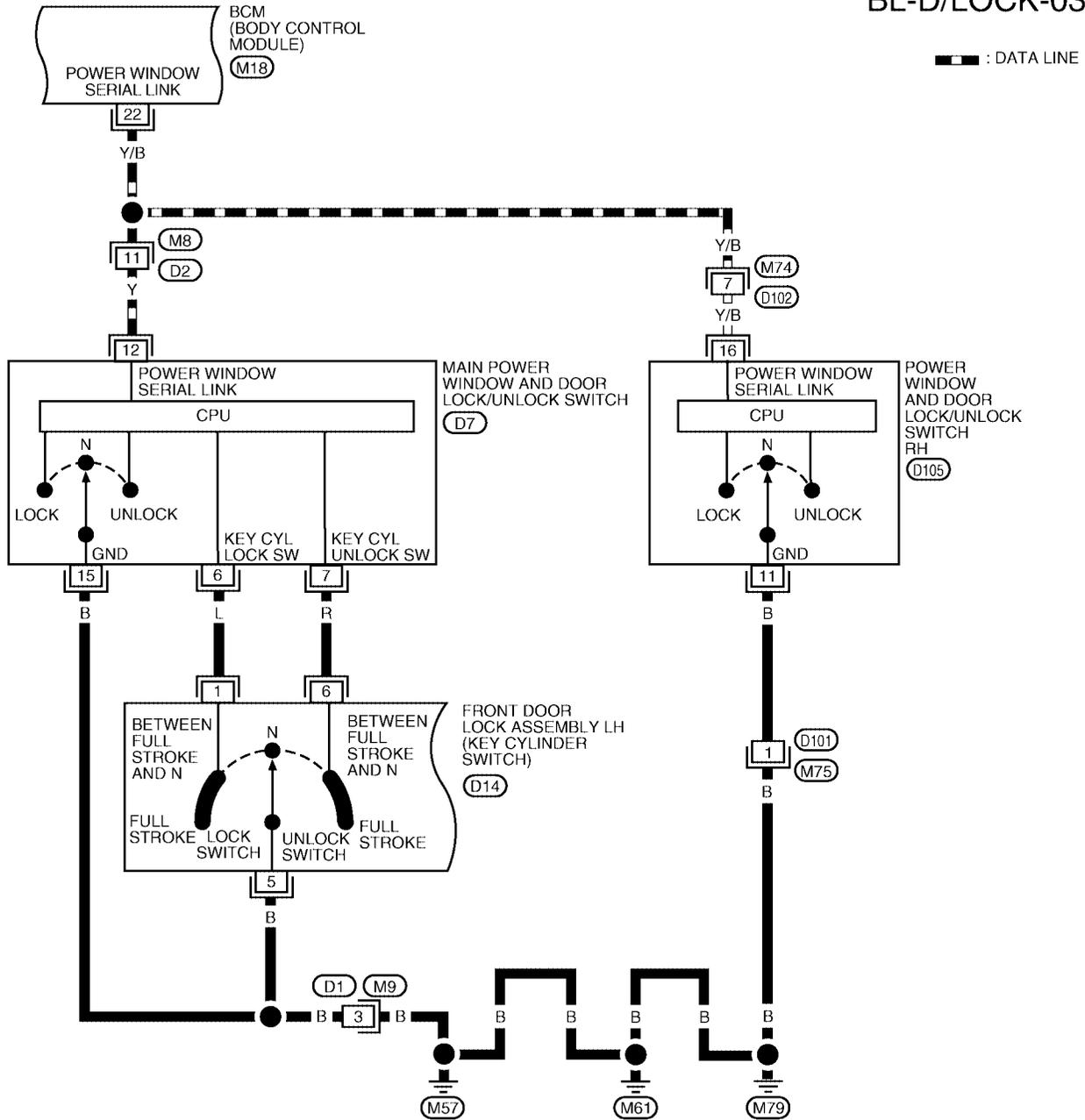


WIWA0484E

POWER DOOR LOCK SYSTEM

FIG. 3

BL-D/LOCK-03

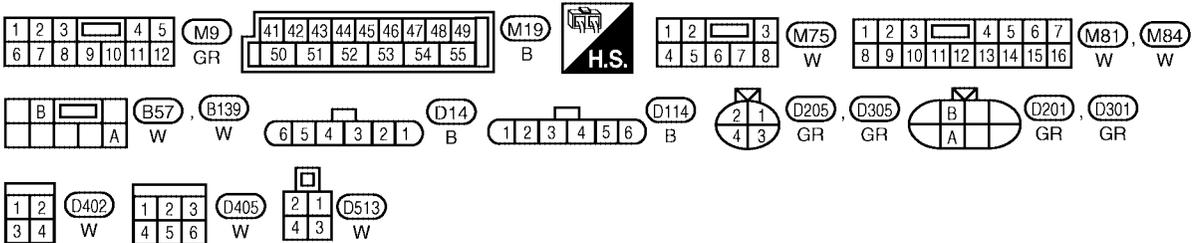
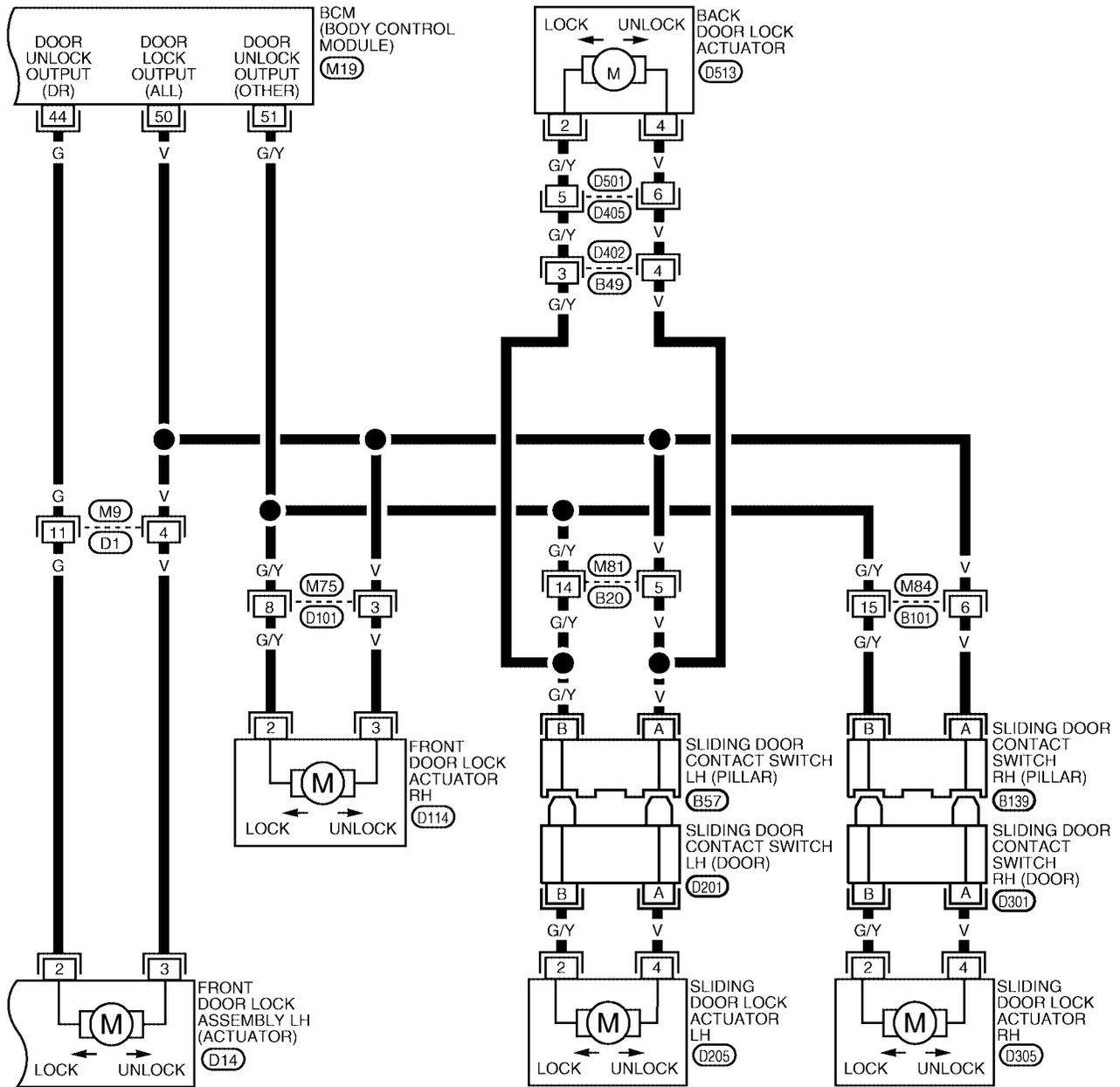


WIWA0485E

POWER DOOR LOCK SYSTEM

FIG. 4

BL-D/LOCK-04

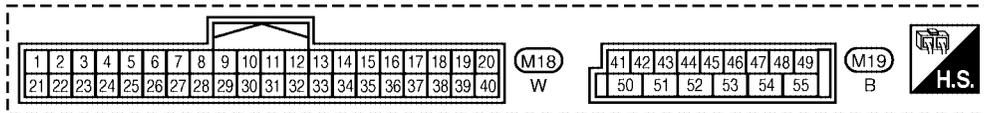
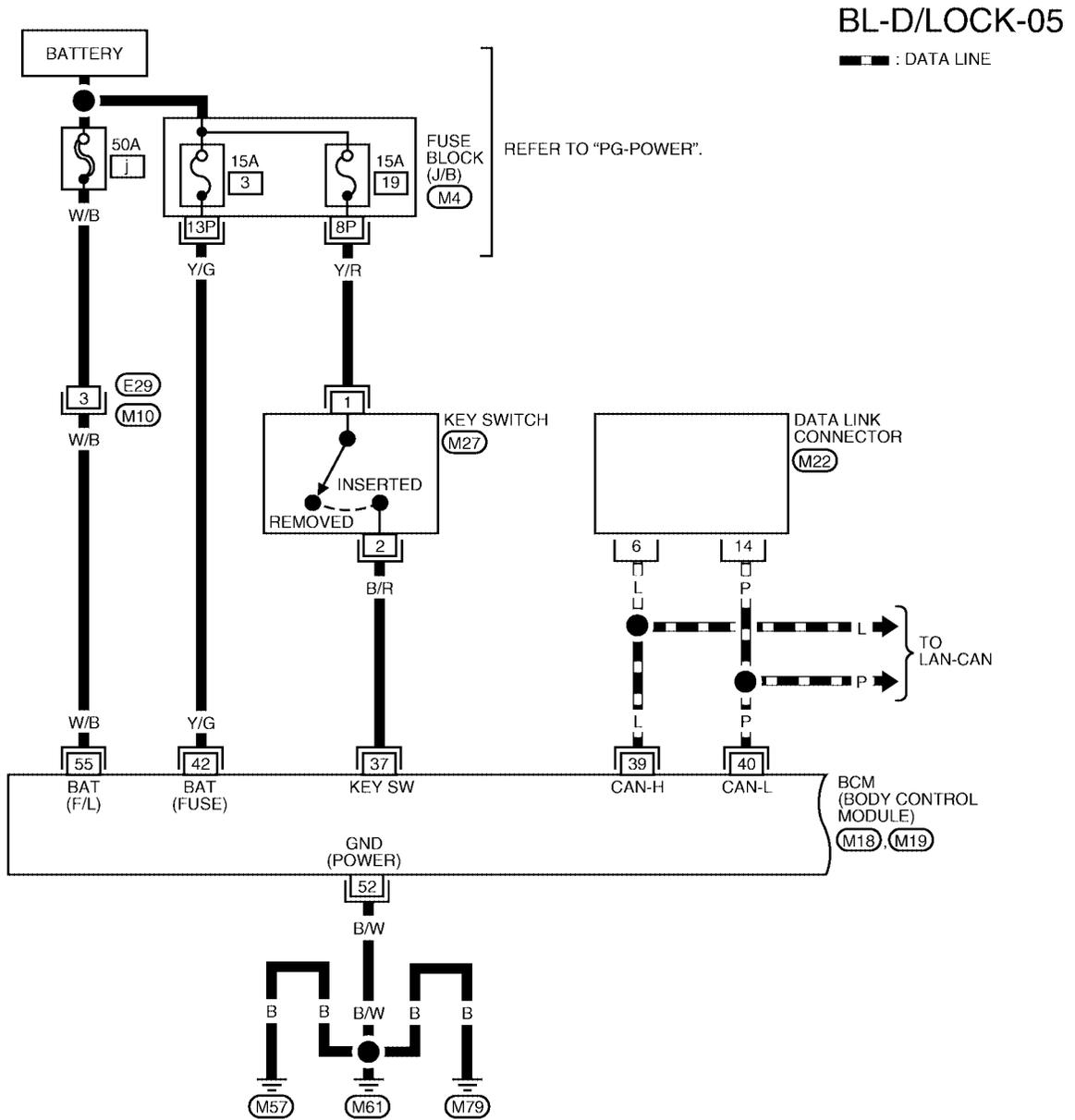


WIWA0486E

POWER DOOR LOCK SYSTEM

WITH RIGHT HAND AUTOMATIC SLIDING DOOR SYSTEM AND AUTOMATIC BACK DOOR SYSTEM

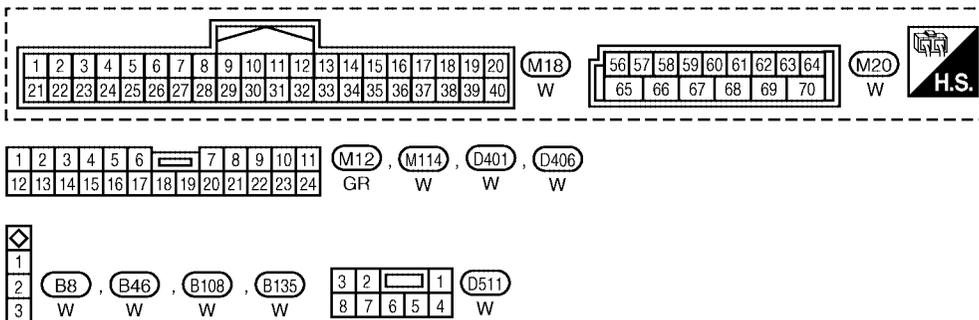
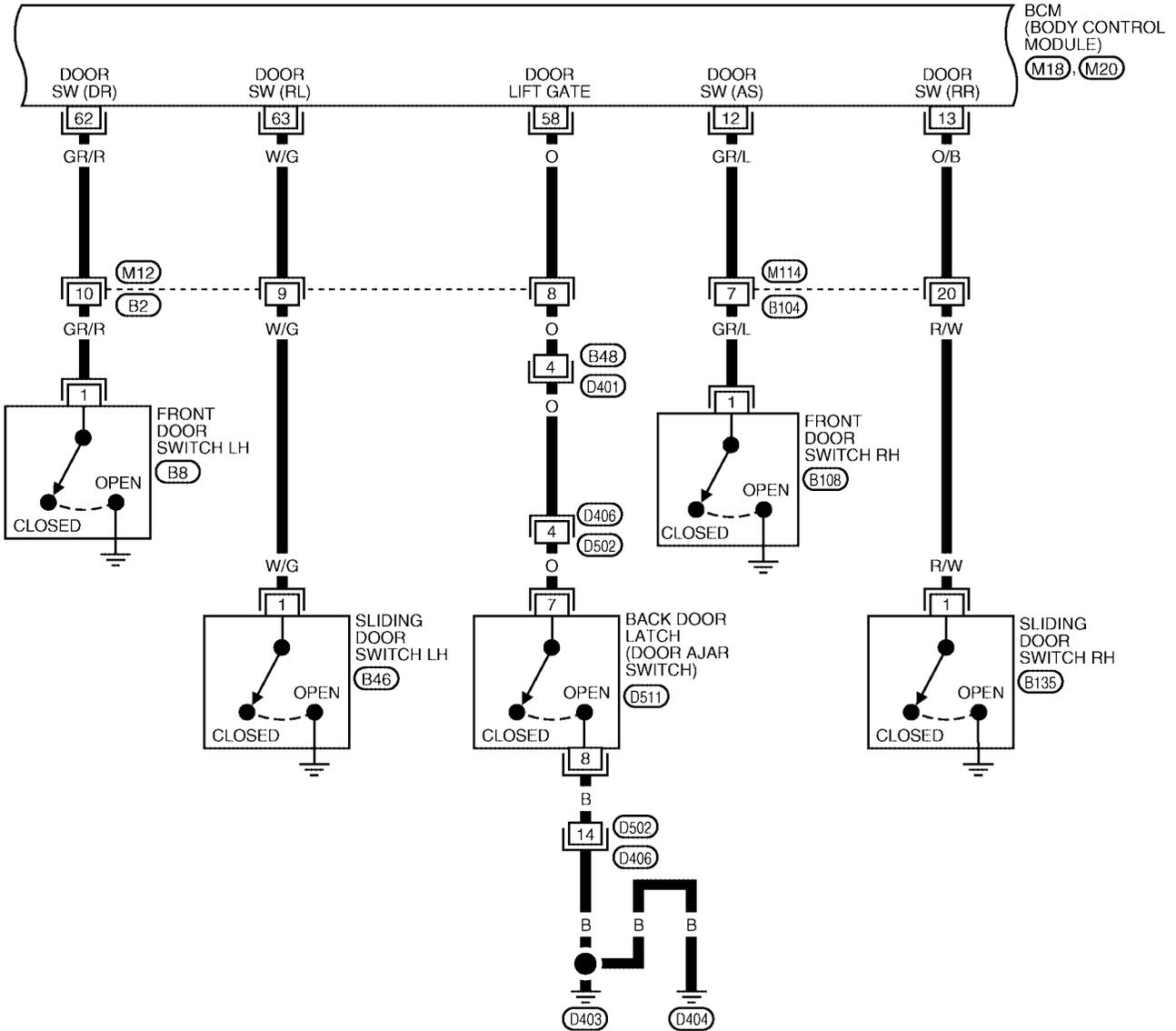
FIG. 5



POWER DOOR LOCK SYSTEM

FIG. 6

BL-D/LOCK-06

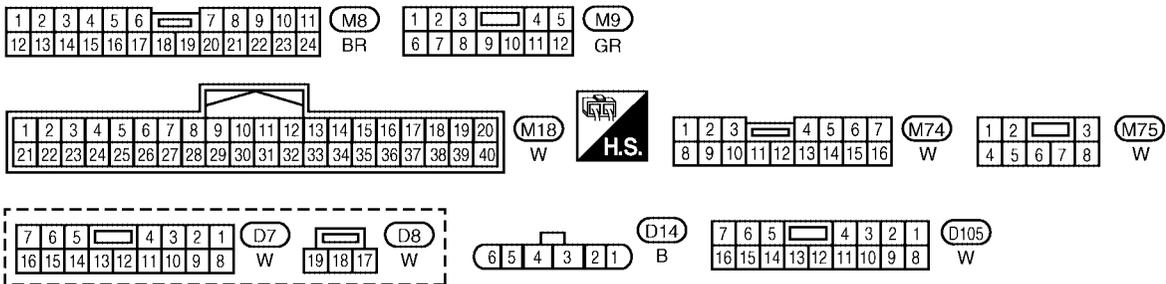
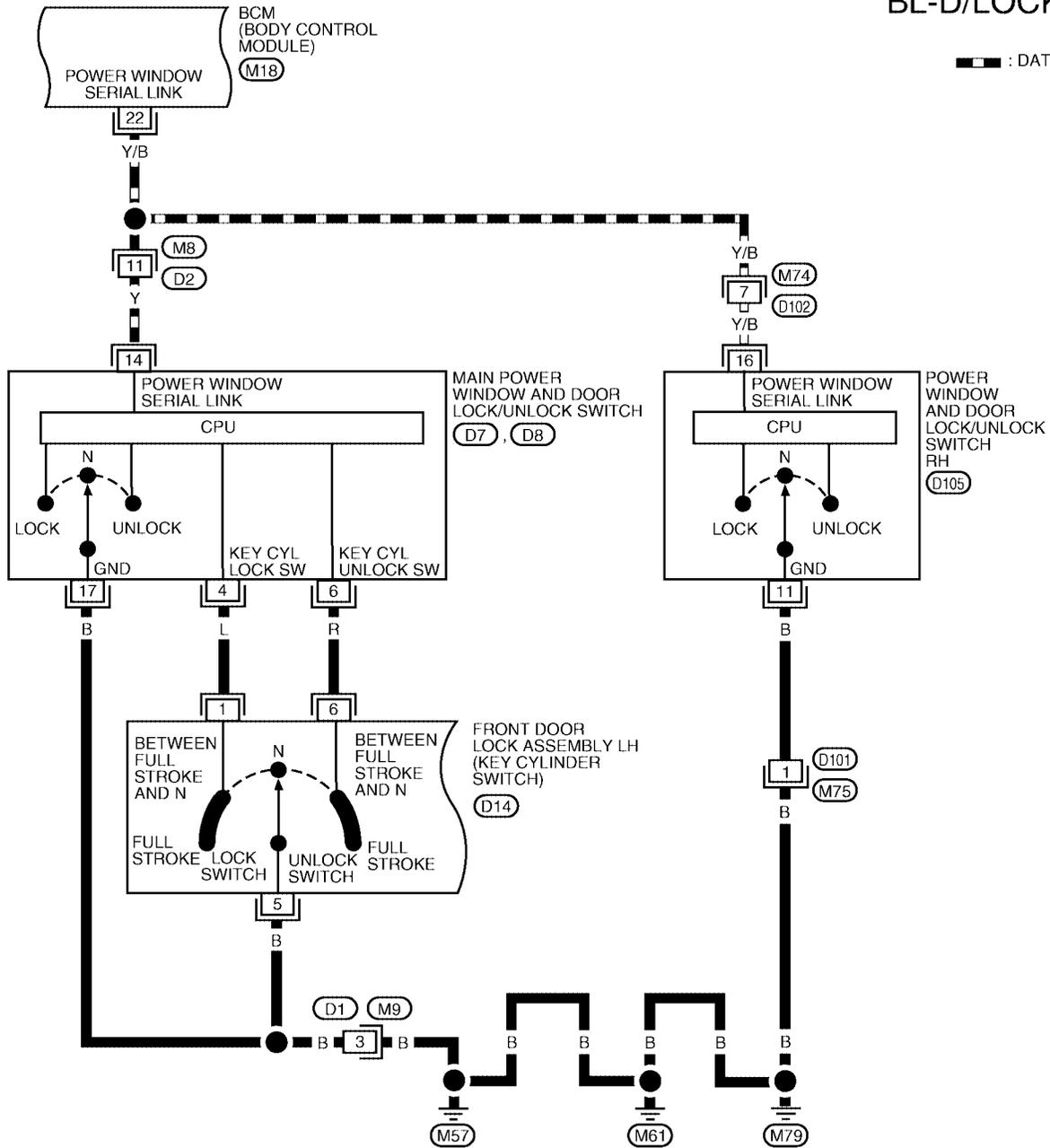


WIWA0488E

POWER DOOR LOCK SYSTEM

FIG. 7

BL-D/LOCK-07

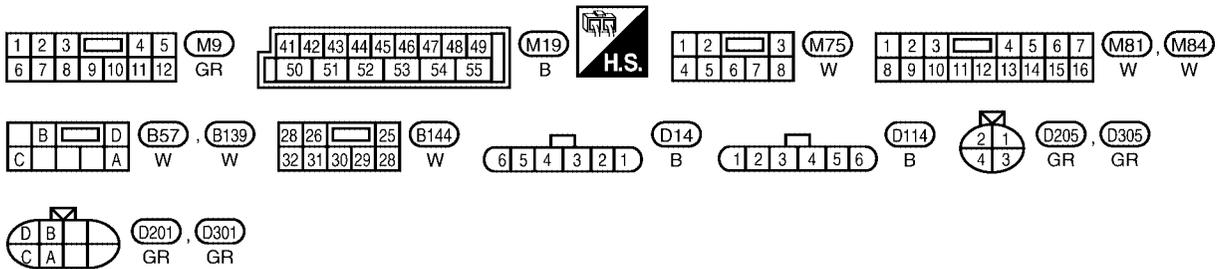
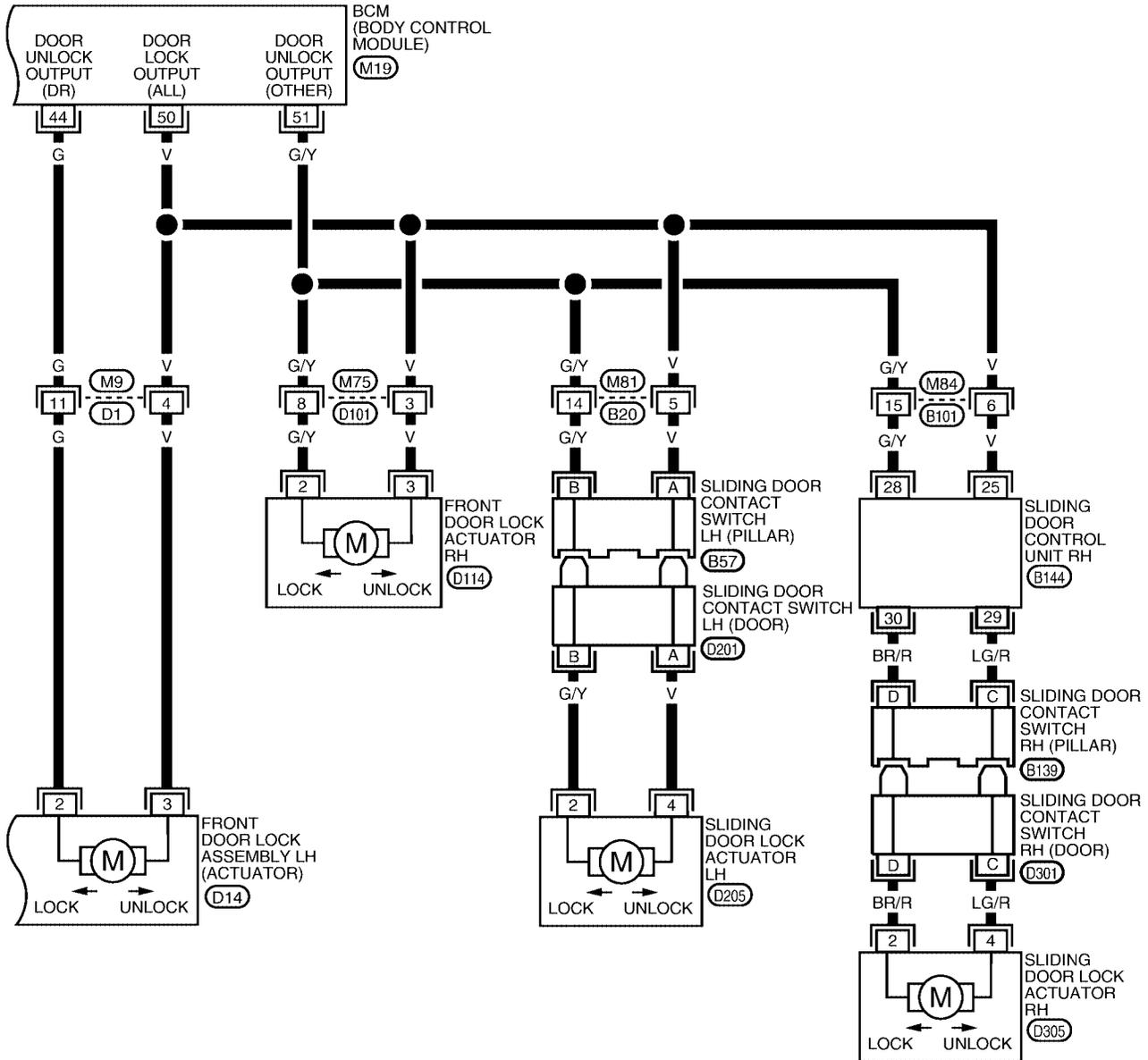


WIWA0489E

POWER DOOR LOCK SYSTEM

FIG. 8

BL-D/LOCK-08



WIWA0490E

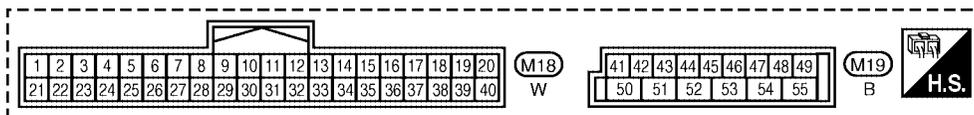
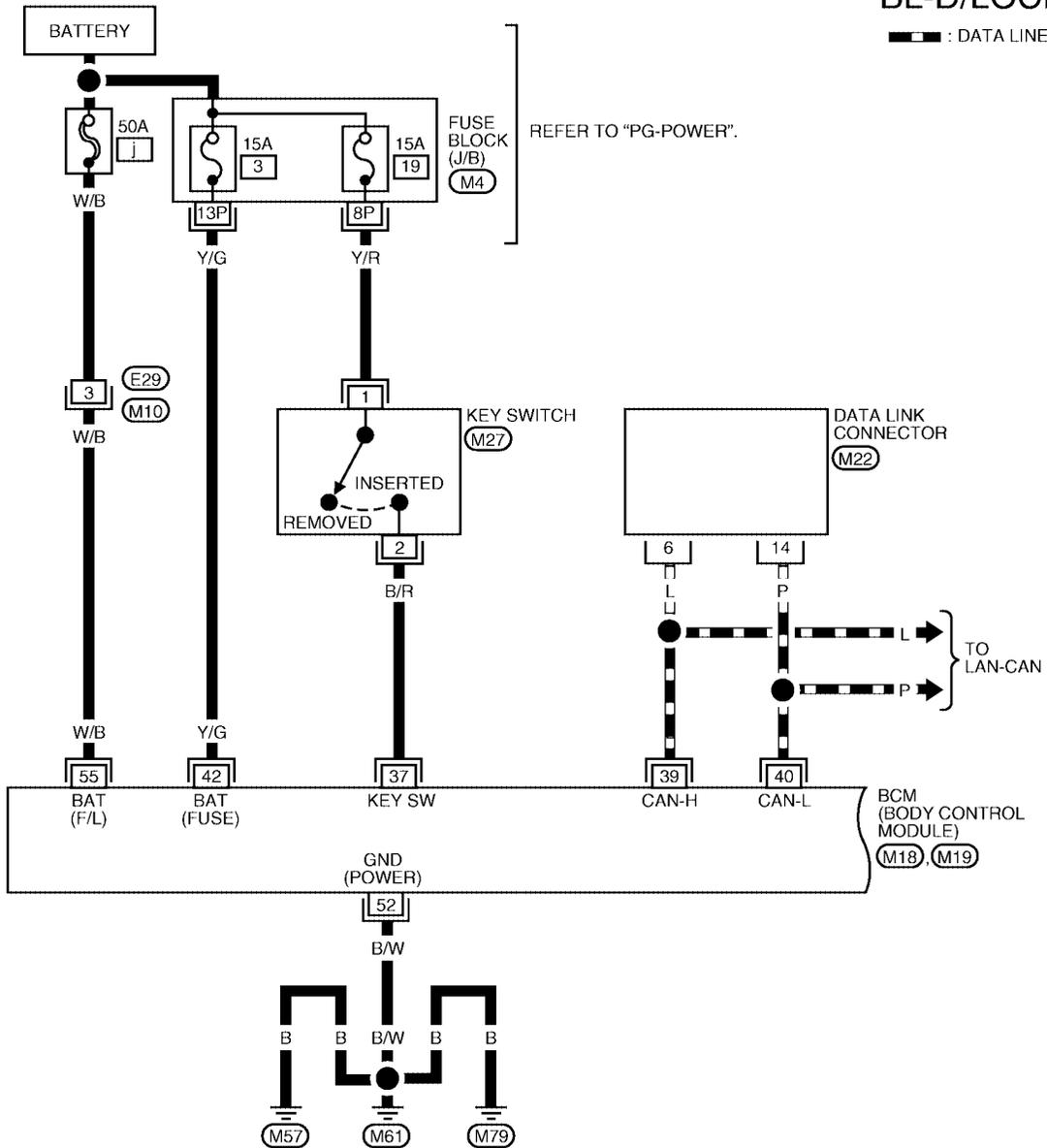
POWER DOOR LOCK SYSTEM

WITH RIGHT AND LEFT HAND AUTO SLIDE DOOR CLOSURE AND AUTOMATIC BACK DOOR SYSTEM

FIG. 9

BL-D/LOCK-09

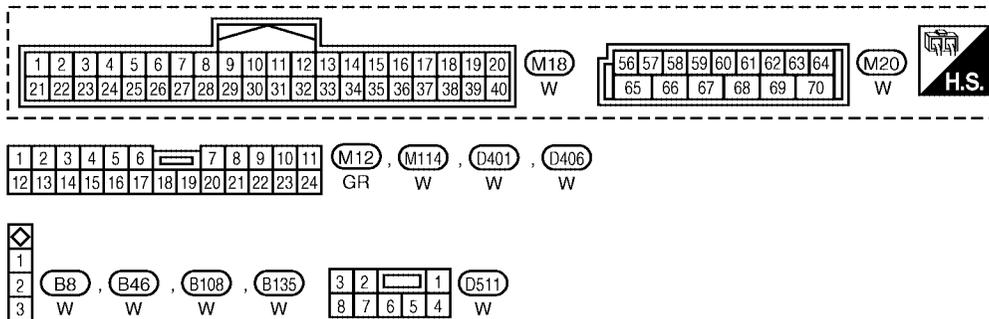
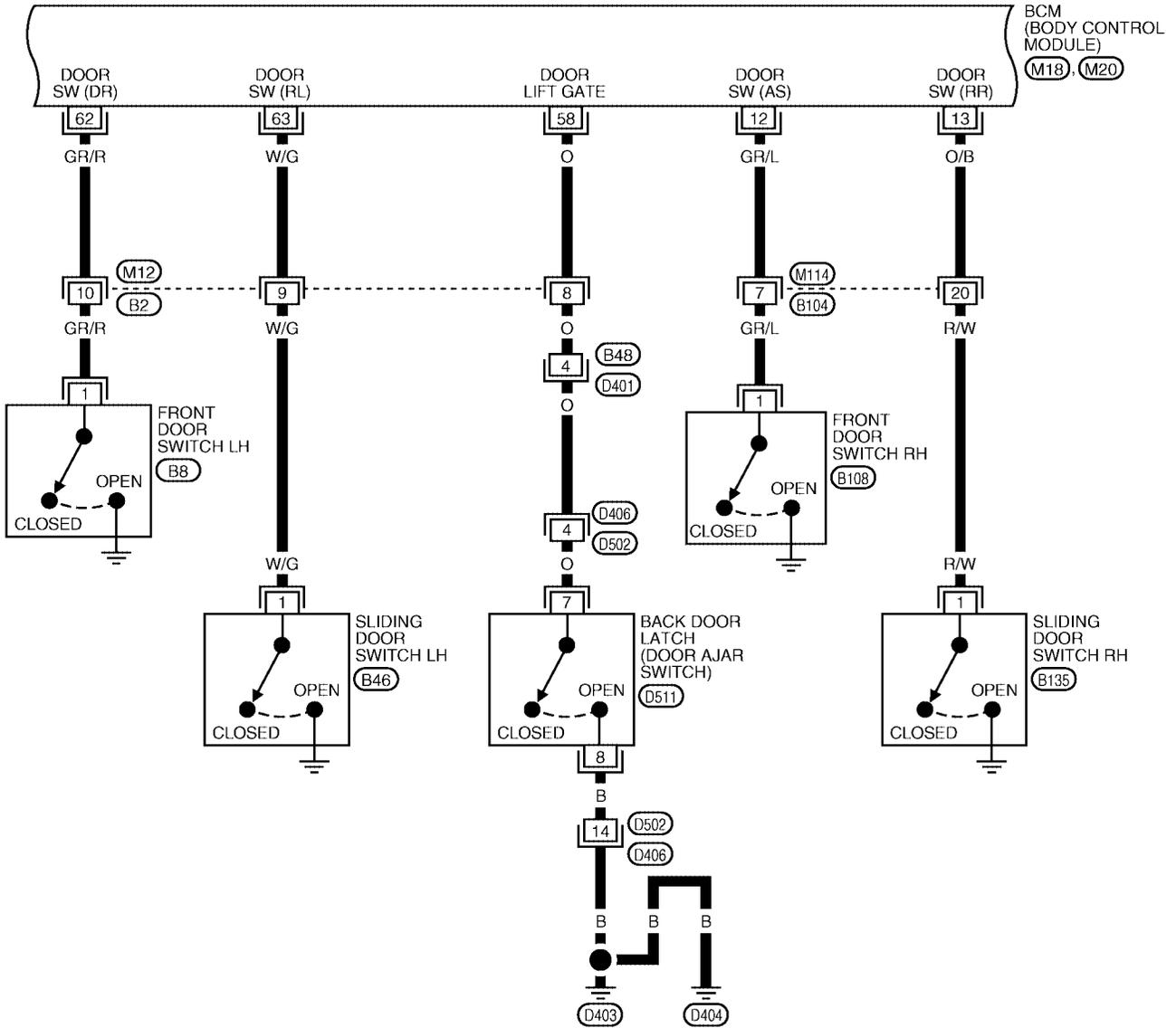
— : DATA LINE



POWER DOOR LOCK SYSTEM

FIG. 10

BL-D/LOCK-10

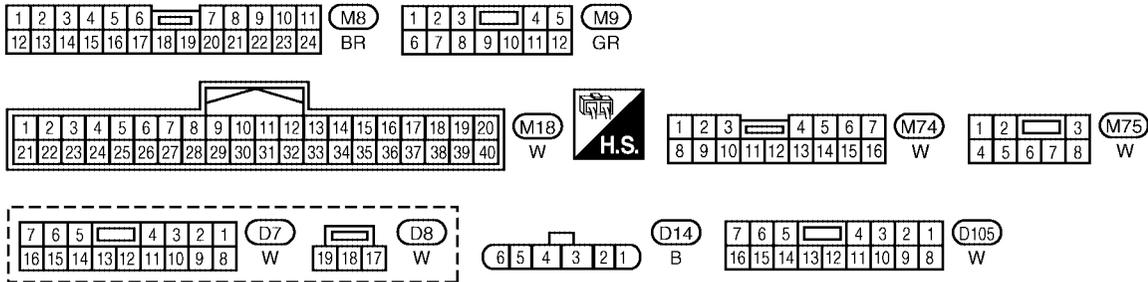
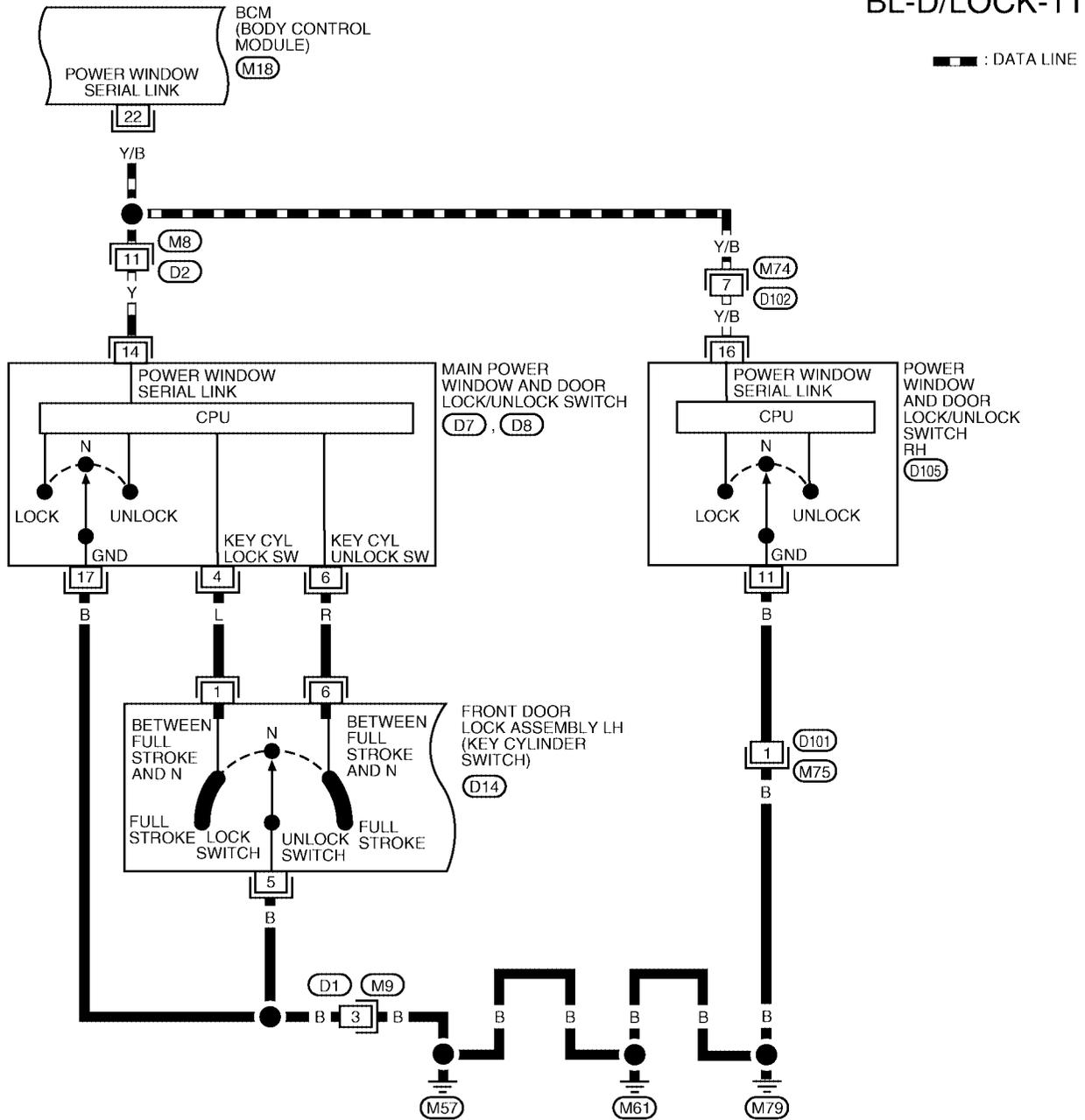


WIWA0492E

POWER DOOR LOCK SYSTEM

FIG. 11

BL-D/LOCK-11

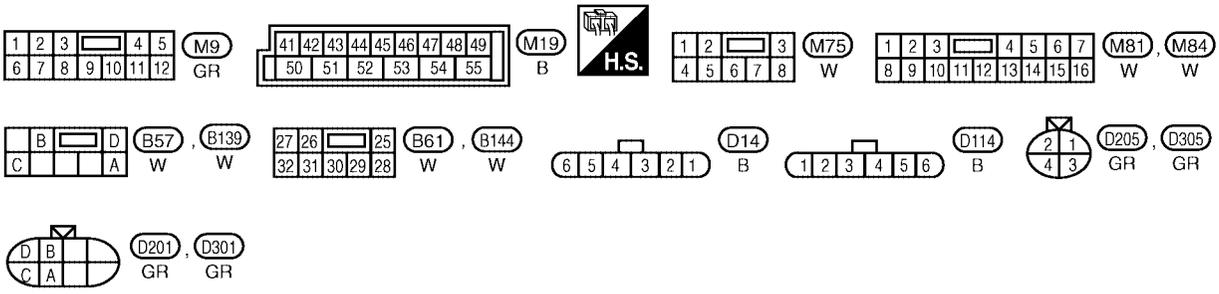
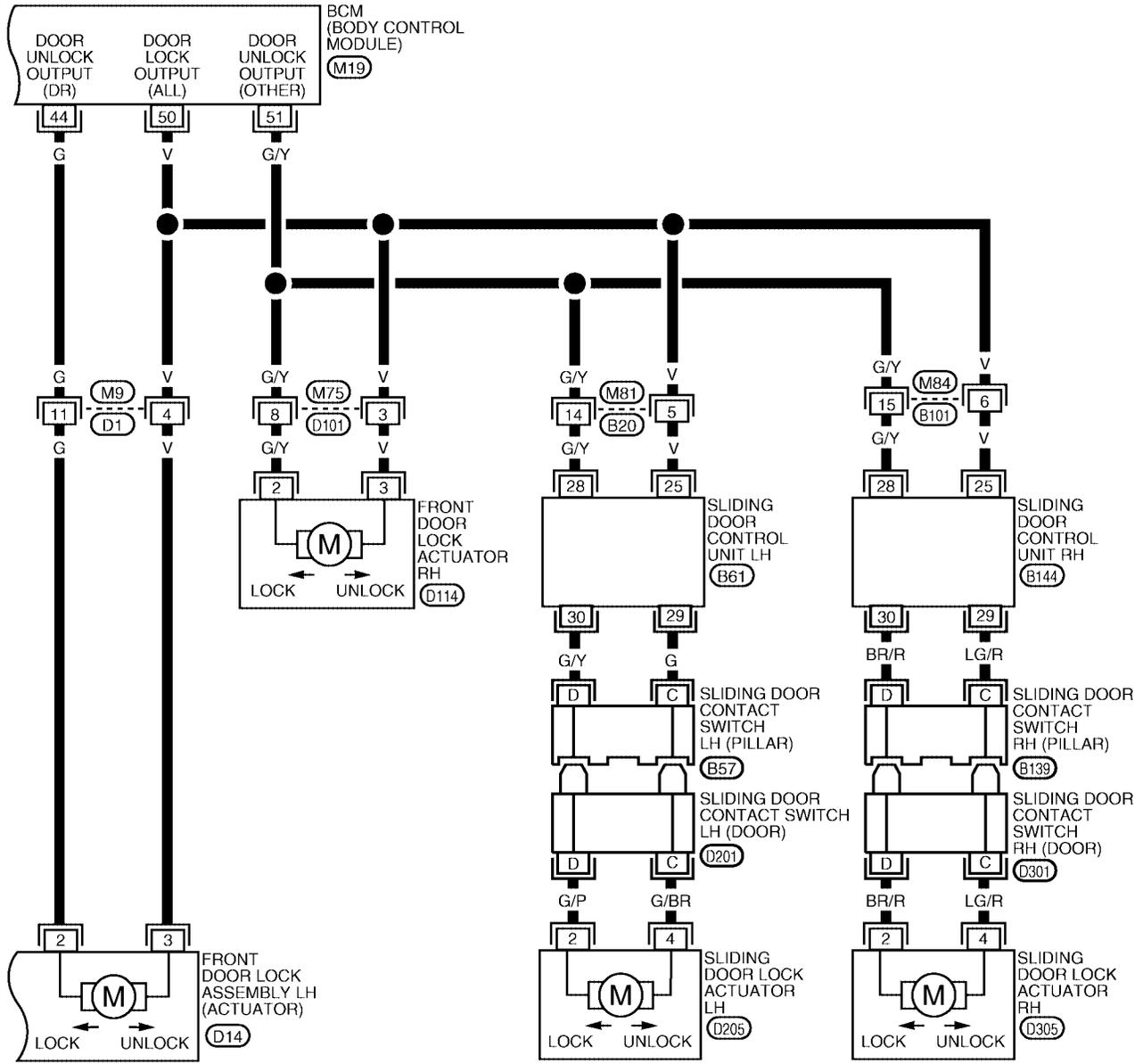


WIWA0493E

POWER DOOR LOCK SYSTEM

FIG. 12

BL-D/LOCK-12

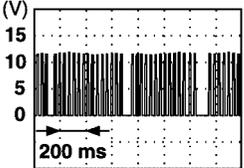


WIWA0494E

POWER DOOR LOCK SYSTEM

Terminals and Reference Value for BCM

EIS001PU

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
12	GR/L	Front door switch RH	Door open (ON) → Door close (OFF)	0 → Battery voltage
13	O/B	Sliding door switch RH	Door open (ON) → Door close (OFF)	0 → Battery voltage
22	Y/B	Power window serial link	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	—	—
42	Y/G	Battery power supply	—	Battery voltage
44	G	Front door lock assembly LH (actuator) (unlock)	Driver door lock knob (locked → unlocked)	0 → Battery voltage
50	V	All door lock actuator (lock)	Driver door lock knob (neutral → lock)	0 → Battery voltage
51	G/Y	Front door lock actuator RH, sliding door lock actuators LH/ RH and back door lock actuator (unlock)	Door lock and unlock switch (locked → unlocked)	0 → Battery voltage
52	B/W	Ground	—	—
55	W/B	Battery power supply	—	Battery voltage
58	O	Back door switch (without automatic back door system) or back door latch actuator (with automatic back door system)	Door open (ON) → Door close (OFF)	0 → Battery voltage
62	GR	Front door switch LH	Door open (ON) → Door close (OFF)	0 → Battery voltage
63	R/W	Sliding door switch LH	Door open (ON) → Door close (OFF)	0 → Battery voltage

Work Flow

EIS001PV

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [BL-19, "System Description"](#) .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [BL-39, "Trouble Diagnoses Symptom Chart"](#) .
4. Does power door lock system operate normally? OK: GO TO 5, NG: GO TO 3.
5. Inspection End.

POWER DOOR LOCK SYSTEM

EIS001PW

CONSULT-II Function (BCM)

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

BCM diagnostic test item	Diagnostic mode	Content
Inspection by part	WORK SUPPORT	Changes setting of each function.
	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 results 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.

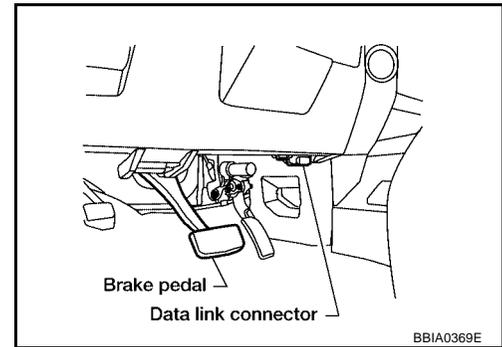
CONSULT-II INSPECTION PROCEDURE

"DOOR LOCK"

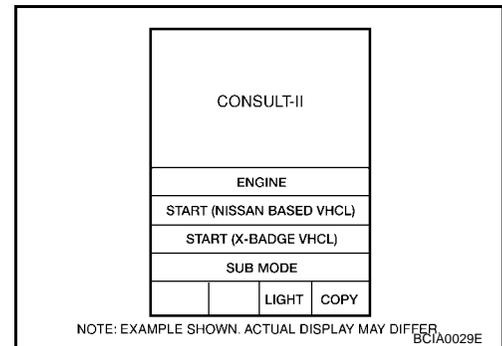
CAUTION:

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

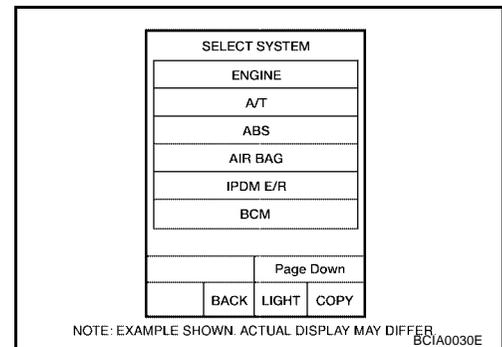
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



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

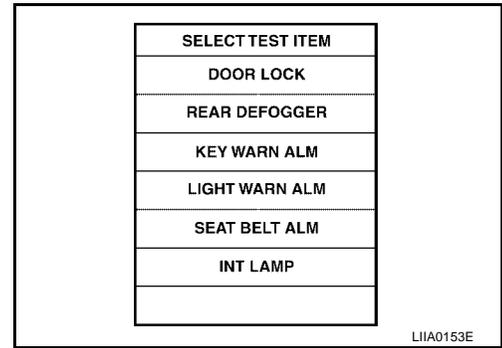


5. Touch "BCM".
If "BCM" is not indicated, refer to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).

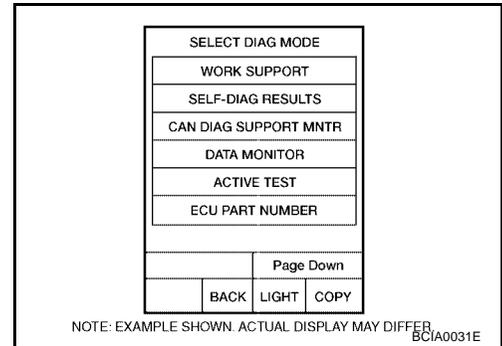


POWER DOOR LOCK SYSTEM

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 sliding door switch RH.
DOOR SW-RL	"ON/OFF" Indicates [ON/OFF] condition of sliding door switch LH.
BACK DOOR SW	"ON/OFF" Indicates [ON/OFF] condition of back door switch.

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.
DR UNLOCK	This test is able to check front door lock assembly LH (actuator) 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 (actuator)] unlock operation. These actuators unlock when "ON" on CONSULT-II screen is touched.

Trouble Diagnoses Symptom Chart

EIS001PX

Symptom	Repair order	Refer to page
Key reminder door system does not operate properly.	1. Door switch check	BL-41
	2. Key switch (Insert) check	BL-45
	3. Replace BCM.	BCS-19

POWER DOOR LOCK SYSTEM

Symptom	Repair order	Refer to page
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-46
Front door lock assembly LH (actuator) does not operate.	1. Front door lock assembly LH (actuator) check	BL-48
Specific door lock actuator does not operate.	1. Door lock actuator check (Front RH, Rear LH/RH)	BL-50
Power door lock does not operate with front door lock assembly LH (key cylinder switch) operation.	1. Front door lock assembly LH (key cylinder switch) check	BL-52
	2. Replace BCM.	BCS-19
Power door lock does not operate.	1. BCM power supply and ground circuit check	BL-40
	2. Door lock/unlock switch check	BL-46

BCM Power Supply and Ground Circuit Check

EIS001PY

1. CHECK FUSE AND FUSIBLE LINK

Check the following BCM fuse and fusible link.

Component Parts	Terminal No. (SIGNAL)	Ampere	No.	Location
BCM	42 (BAT power supply)	15A	3	Fuse block (J/B)
BCM	55 (BAT power supply)	50A	j	Fuse and fusible link box

NOTE:

Refer to [BL-18, "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

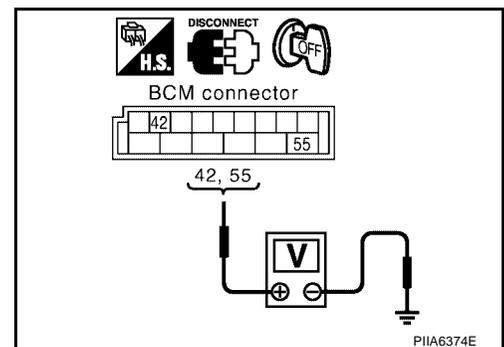
- Turn ignition switch OFF.
- Disconnect BCM.
- Check voltage between BCM connector M19 terminals 42, 55 and ground.

Connector	Terminals (Wire color)		Voltage (V) (Approx.)
	(+)	(-)	
M19	42 (Y/G)	Ground	Battery voltage
	55 (W/B)		

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



POWER DOOR LOCK SYSTEM

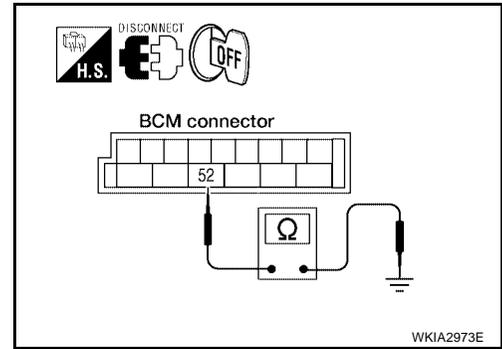
3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M19 terminal 52 and ground.

Connector	Terminals (Wire color)		Continuity
	(+)	(-)	
M19	52 (B/W)	Ground	Yes

OK or NG

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



Door Switch Check (Without Automatic Back Door System)

EIS001PZ

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

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

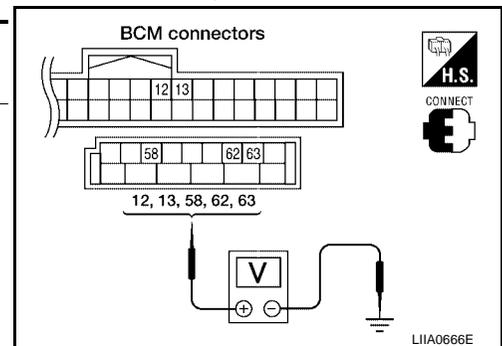
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIA0665E

Without CONSULT-II

Check voltage between BCM connector M18 or M20 terminals 12, 13, 58, 62, 63 and ground.

Connector	Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M20	Back door switch	58 (O)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Front door switch LH	62 (GR)			
	Sliding door switch LH	63 (R/W)			
M18	Front door switch RH	12 (GR/L)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Sliding door switch RH	13 (O/B)			



OK or NG

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

POWER DOOR LOCK SYSTEM

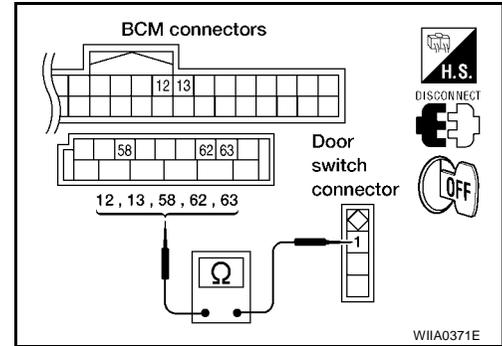
2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) or D512 (Back) terminal 1 and BCM connector M18, M20 terminals 12, 13, 58, 62 and 63.

- 1 (GR/R) - 62 (GR) : Continuity should exist.
- 1 (GR/L) - 12 (GR/L) : Continuity should exist.
- 1 (W/G) - 63 (R/W) : Continuity should exist.
- 1 (R/W) - 13 (O/B) : Continuity should exist.
- 1 (O) - 58 (O) : Continuity should exist.

4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) or D512 (Back) terminal 1 and ground.

- 1 (GR/R, GR/L, W/G, R/W or O) - Ground : Continuity should not exist.



OK or NG

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

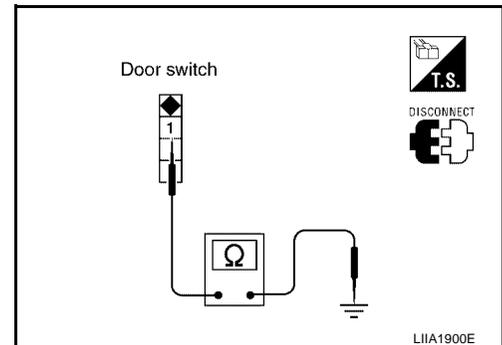
3. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
		Closed	No

OK or NG

- OK >> Check door switch case ground condition (front and sliding door) or ground circuit (back door).
- NG >> Replace door switch.



POWER DOOR LOCK SYSTEM

EIS001XL

Door Switch Check (With Automatic Back Door System)

1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

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

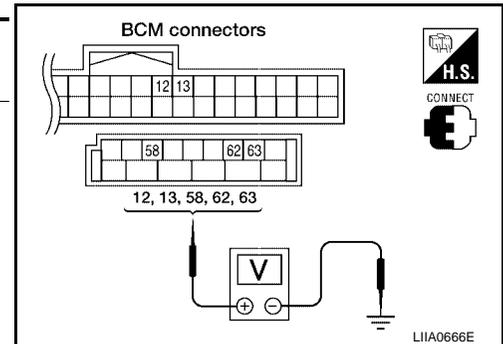
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIA0665E

 Without CONSULT-II

Check voltage between BCM connector M18 or M20 terminals 12, 13, 58, 62, 63 and ground.

Connector	Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M20	Back door latch	58 (O)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Front door switch LH	62 (GR/R)			
	Sliding door switch LH	63 (W/G)			
M18	Front door switch RH	12 (GR/L)			
	Sliding door switch RH	13 (O/B)			



OK or NG

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

POWER DOOR LOCK SYSTEM

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), B46 (Sliding LH), B135 (Sliding RH) terminal 1 or back door latch (door ajar switch) D511 terminal 7 and BCM connector M18, M20 terminals 12, 13, 58, 62 and 63

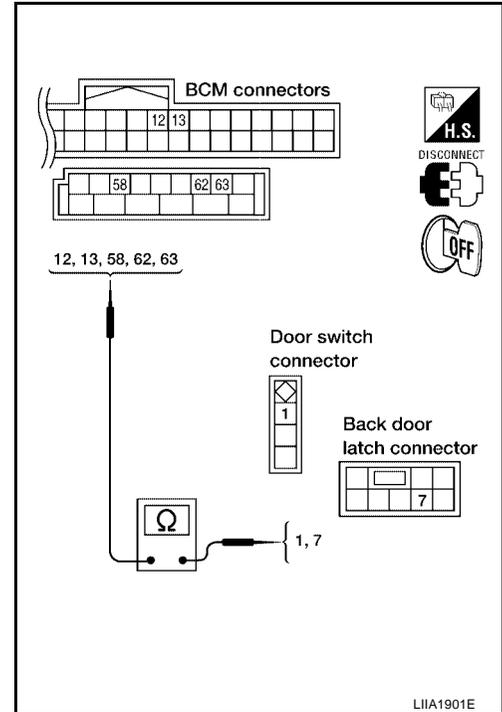
- 1 (GR/R) - 62 (GR/R) : Continuity should exist.**
- 1 (GR/L) - 12 (GR/L) : Continuity should exist.**
- 1 (W/G) - 63 (W/G) : Continuity should exist.**
- 1 (R/W) - 13 (O/B) : Continuity should exist.**
- 7 (O) - 58 (O) : Continuity should exist.**

4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) terminal 1 or D511 (Back door) terminal 7 and ground.

- 1 (GR/R, GR/L, W/G or R/ W) - Ground : Continuity should not exist.**
- 7 (O) - Ground : Continuity should not exist.**

OK or NG

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



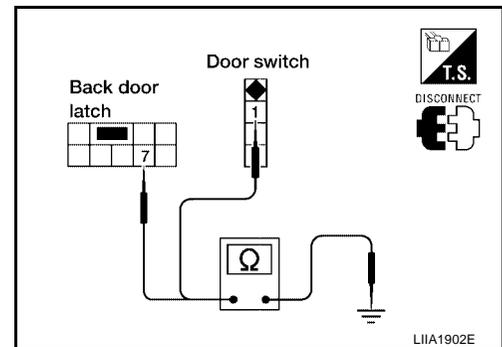
3. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
		Closed	No
Back door latch	7 – Ground	Open	Yes
		Closed	No

OK or NG

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



POWER DOOR LOCK SYSTEM

EIS00100

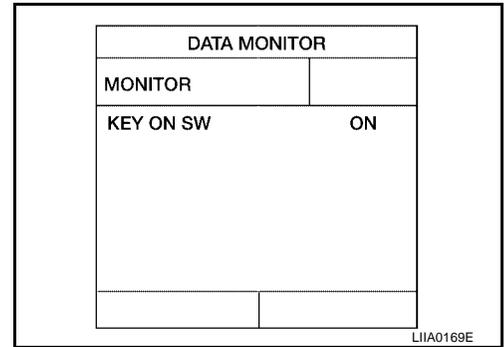
Key Switch (Insert) Check

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-39, "DATA MONITOR"](#).

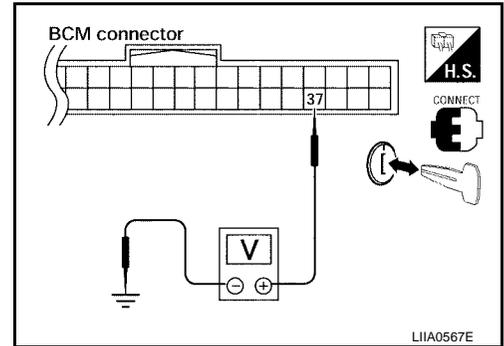
- When key is inserted to ignition key cylinder:
KEY ON SW : ON
- When key is removed from ignition key cylinder:
KEY ON SW : OFF



 Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	37 (B/R)	Ground	Key is inserted.	Battery voltage
			Key is removed.	0



OK or NG

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

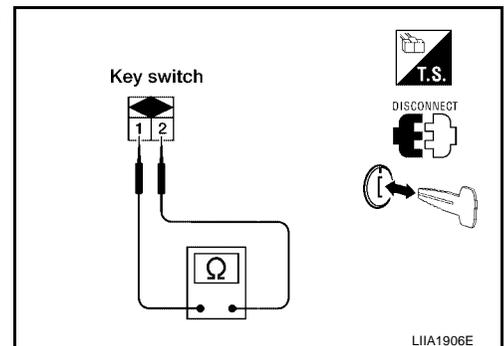
2. CHECK KEY SWITCH (INSERT)

- Turn ignition switch OFF.
- Disconnect key switch.
- Check continuity between key switch terminals 1, 2.

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

OK or NG

- OK >> Repair or replace harness.
- NG >> Replace key switch. Refer to [PS-9, "STEERING COLUMN"](#).



POWER DOOR LOCK SYSTEM

EIS001Q1

Door Lock/Unlock Switch Check

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-39, "DATA MONITOR"](#).

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

CDL LOCK SW : ON

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

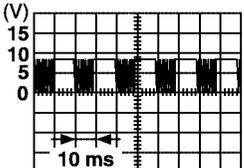
CDL UNLOCK SW : ON

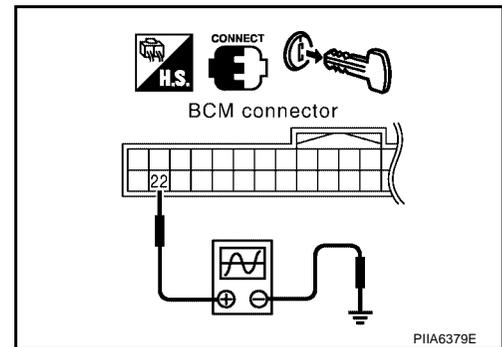
DATA MONITOR	
MONITOR	
CDL LOCK SW	OFF
CDL UNLOCK SW	OFF

PIIA6538E

 Without CONSULT-II

- Remove key from ignition key cylinder.
- Check the signal between BCM connector M18 terminal 22 and ground with oscilloscope when door lock/unlock switch is turned to LOCK or UNLOCK.
- 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	Terminal (Wire color)		Voltage (V) (Approx.)
	(+)	(-)	
M18	22 (Y/B)	Ground	 <p>PIIA1297E</p>



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-68, "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-19, "Removal and Installation of BCM"](#).

ACTIVE TEST	
POWER WINDOW DOWN	OFF
ON	

PIIA3080E

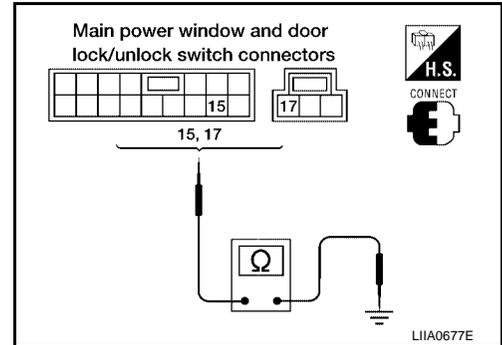
POWER DOOR LOCK SYSTEM

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 (without automatic back door system) or D8 terminal 17 (with automatic back door system) and ground.

15 (B) - Ground : Continuity should exist.

17 (B) - Ground : Continuity should exist.



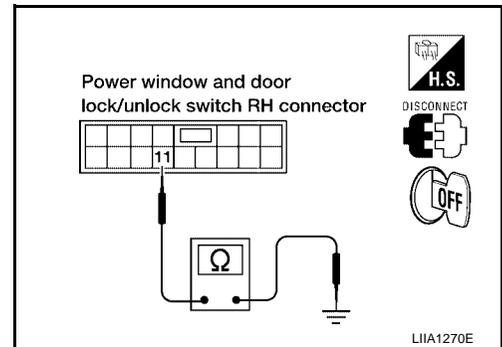
4. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

11 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.

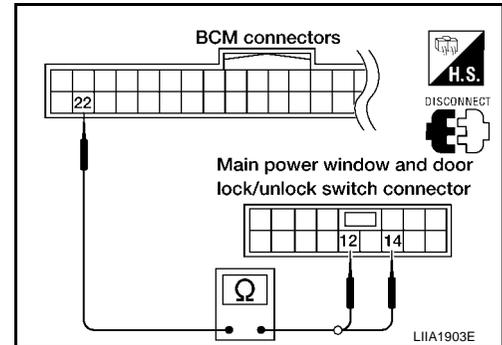


POWER DOOR LOCK SYSTEM

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 (without automatic back door system) or terminal 14 (with automatic back door system).

22 (Y/B) - 12 (Y) : Continuity should exist.
22 (Y/B) - 14 (Y) : Continuity should exist.

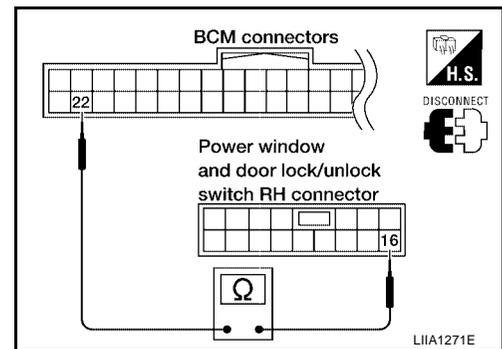


3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

22 (Y/B) - 16 (Y/B) : 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. Refer to [EI-30, "Removal and Installation"](#).
- NG >> Repair or replace harness.



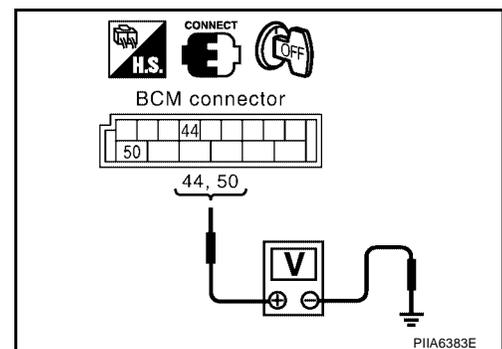
Front Door Lock Assembly LH (Actuator) Check

EIS001Q2

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

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M19 terminals 44, 50 and ground.

Con- nec- tor	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M19	44 (G)	Ground	Driver door lock/unlock switch is turned to UNLOCK	0 → Battery voltage
	50 (V)		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-19, "Removal and Installation of BCM"](#).

POWER DOOR LOCK SYSTEM

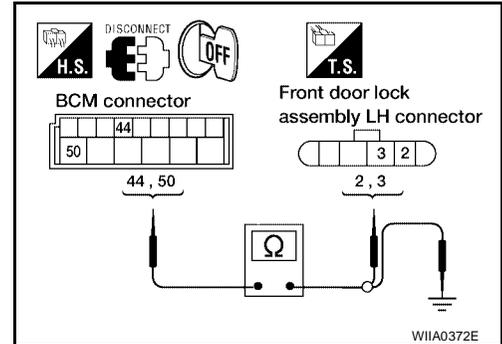
2. CHECK FRONT DOOR LOCK ASSEMBLY LH (ACTUATOR) HARNESS

1. Disconnect BCM and front door lock assembly LH (actuator).
2. Check continuity between BCM connector M19 terminals 44, 50 and front door lock assembly LH (actuator) connector D14 terminals 2, 3.

Connector	Terminals (Wire color)	Connector	Terminals (wire color)	Continuity
M19	44 (G)	D14	2 (G)	Yes
	50 (V)		3 (V)	Yes

3. Check continuity between BCM connector M19 terminals 44, 50 and body ground.

Connector	Terminals (Wire color)	Continuity
M19	44 (G)	No
	50 (V)	No



OK or NG

- OK >> Replace front door lock assembly LH (actuator). Refer to [BL-194, "Removal and Installation"](#).
- NG >> Repair or replace harness.

POWER DOOR LOCK SYSTEM

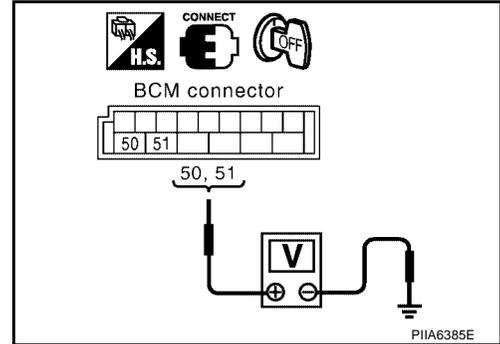
EIS001Q3

Front Door Lock Actuator RH Check

1. CHECK DOOR LOCK ACTUATOR SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M19 terminals 50, 51 and ground.

Con- nec- tor	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M19	50 (V)	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	51 (G/Y)		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage



OK or NG

OK >> GO TO 2.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).

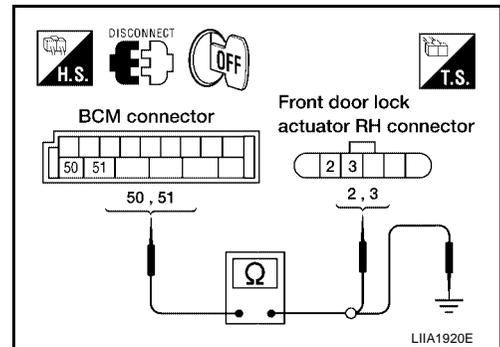
2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and front door lock actuator RH.
2. Check continuity between BCM connector M19 terminals 50, 51 and front door lock actuator RH connector D114 terminals 2, 3.

Terminal		Continuity
50 (V)	3 (V)	Yes
51 (G/Y)	2 (G/Y)	Yes

3. Check continuity between BCM connector M19 terminals 50, 51 and body ground.

Terminals (Wire color)		Continuity
50 (V)	Ground	No
51 (G/Y)		No



OK or NG

OK >> Replace front door lock actuator RH. Refer to [BL-194, "Removal and Installation"](#).

NG >> Repair or replace harness.

POWER DOOR LOCK SYSTEM

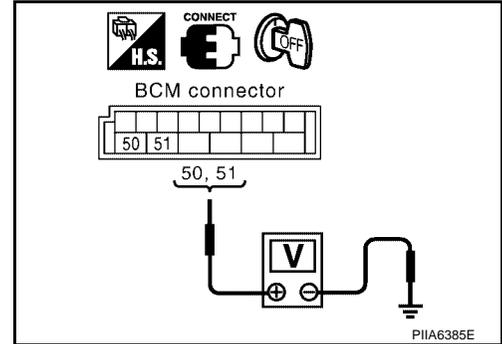
EIS0020I

Door Lock Actuator Check (Sliding Door)

1. CHECK DOOR LOCK ACTUATOR SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M19 terminals 50, 51 and ground.

Con- nec- tor	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M19	50 (V)	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	51 (G/Y)		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage



OK or NG

OK >> GO TO 2.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).

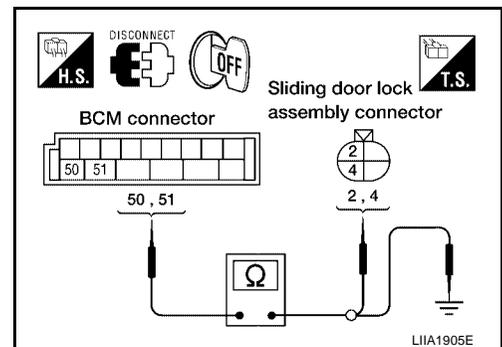
2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and each door lock actuator.
2. Check continuity between BCM connector M19 terminals 50, 51 and sliding door lock actuator connector terminals 2, 4.

Terminal	Terminal	Continuity
50 (V)	4 (V)	Yes
51 (G/Y)	2 (G/Y)	Yes

3. Check continuity between BCM connector M19 terminals 50, 51 and body ground.

Terminals (Wire color)	Continuity
50 (V)	No
51 (G/Y)	No



OK or NG

OK >> Replace sliding door lock actuator. Refer to [BL-197, "SLIDE DOOR LOCK"](#).

NG >> Repair or replace harness.

POWER DOOR LOCK SYSTEM

EIS001Q4

Front Door Lock Assembly LH (Key Cylinder Switch) Check

1. CHECK DOOR KEY CYLINDER SWITCH LH

Ⓟ With CONSULT-II

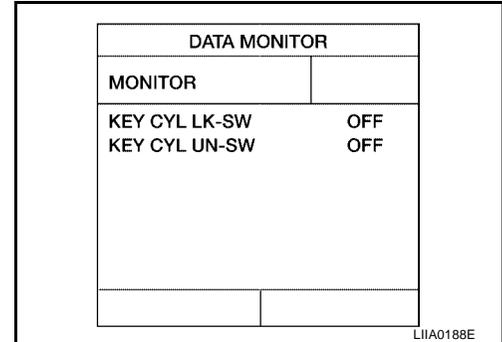
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode in CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When key is inserted into front key cylinder and turned to LOCK:

KEY CYL LK-SW : ON

- When key is inserted into front key cylinder and turned to UNLOCK:

KEY CYL UN-SW : ON

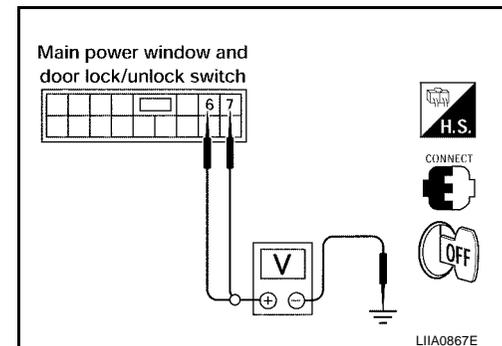


ⓧ Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 6, 7 (without automatic sliding door system) or terminals 4, 6 (with automatic sliding door system) and ground.

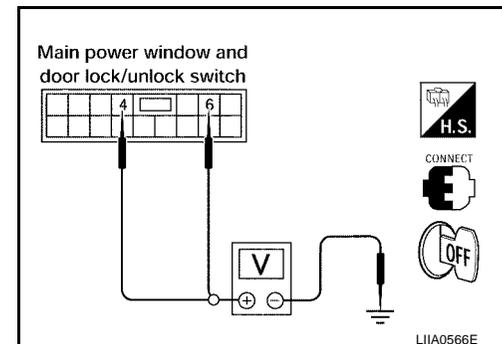
Without Automatic Sliding Door System

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	7 (R)	Ground	Neutral/Lock	5
			Unlock	0
	6 (L)		Neutral/Unlock	5
			Lock	0



With Automatic Sliding Door System

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	4 (L)	Ground	Neutral/Unlock	5
			Lock	0
	6 (R)		Neutral/Lock	5
			Unlock	0



OK or NG

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

POWER DOOR LOCK SYSTEM

2. CHECK DOOR KEY CYLINDER SWITCH LH

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) terminals 1, 5 and 6.

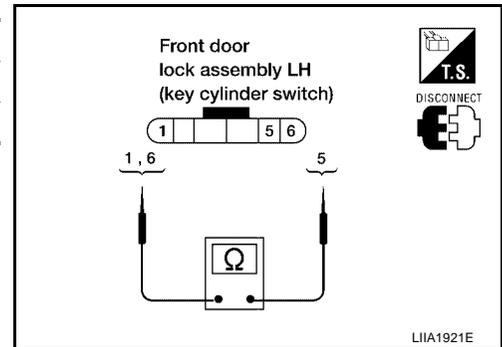
Terminals	Condition	Continuity
1 – 5	Key is turned to LOCK.	Yes
6 – 5	Key is turned to UNLOCK.	Yes

OK or NG

OK >> Check the following.

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

NG >> Replace front door lock assembly LH. Refer to [BL-194, "FRONT DOOR LOCK"](#) .



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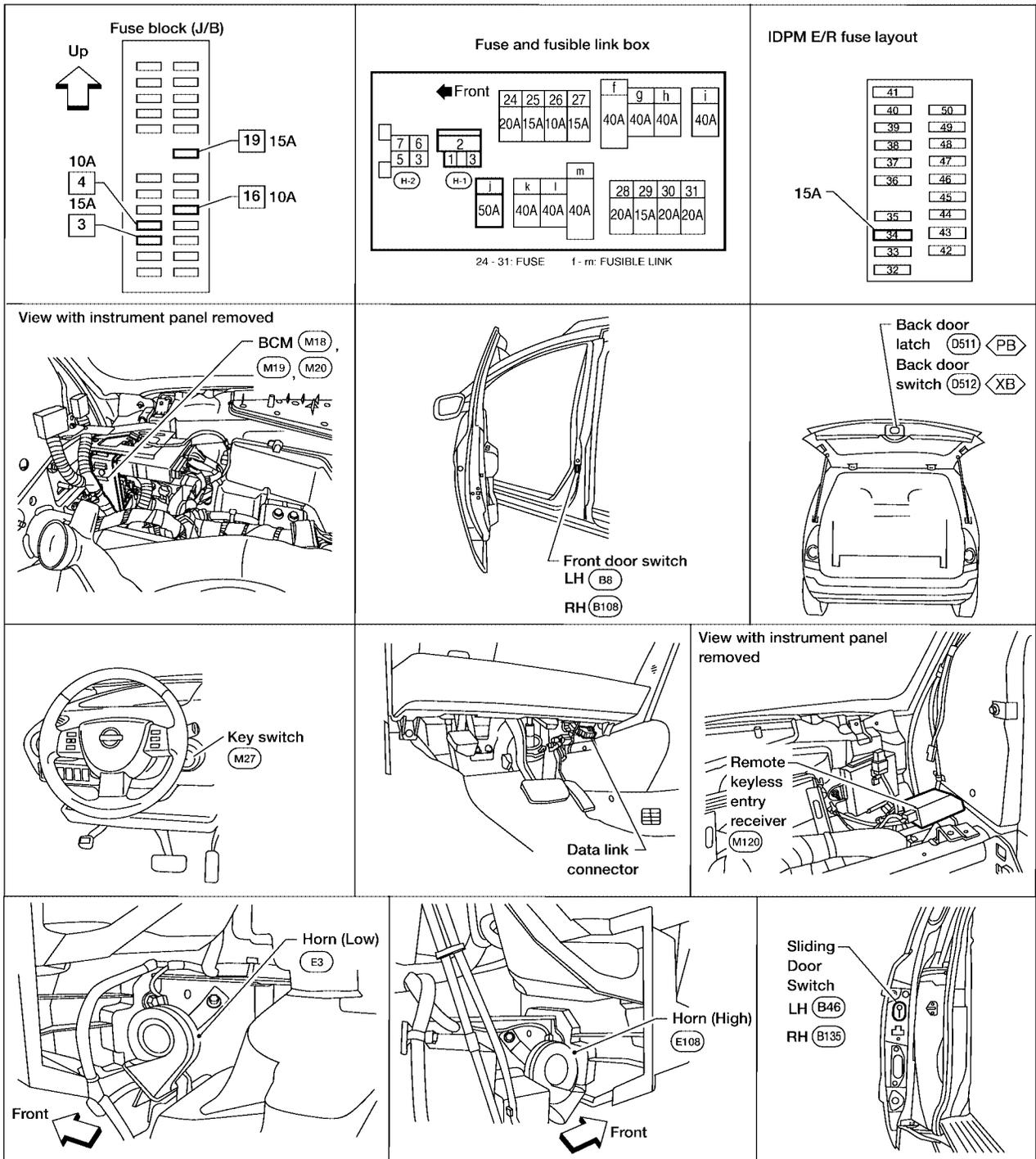
REMOTE KEYLESS ENTRY SYSTEM

PF:28596

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REMOTE KEYLESS ENTRY SYSTEM

Component Parts and Harness Connector Location



PB : WITH POWER BACK DOOR
XB : WITHOUT POWER BACK DOOR

LIA1904E

REMOTE KEYLESS ENTRY SYSTEM

EIS001Q6

System Description

INPUTS

Power is supplied at all times

- to BCM terminal 55
- through 50A fusible link (letter j , located in the fuse and fusible link box).
- to BCM terminal 42
- through 15A fuse [No. 3, located in the fuse block (J/B)].

When the ignition switch is ON, power is supplied

- to BCM terminal 37
- through key switch terminals 1 and 2
- through 15A fuse [No. 19, located in the fuse block (J/B)].

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

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

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

- to BCM terminal 38
- through 10A fuse [No. 16, located in the fuse block (J/B)].

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

- to BCM terminal 62
- through front door switch LH terminal 1
- to 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 1
- to front door switch RH case ground.

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

- to BCM terminal 63
- through sliding door switch LH terminal 1
- to sliding door switch LH case ground.

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

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

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

- to BCM terminal 58
- through back door switch terminal 1 (without back door closure system) or,
- through back door latch terminal 7 (with back door closure system)
- through back door switch terminal 3 (without back door closure system).
- through back door latch terminal 8 (with back door closure system).
- to body grounds D403 and D404.

Keyfob signal is supplied to BCM from the remote keyless entry receiver.

The remote keyless entry system controls operation of the

- power door lock
- sliding door opener (with auto slide door system)
- back door opener (with back door closure system)
- interior lamp and step lamps
- panic alarm
- hazard and horn reminder
- keyless power window down (open)

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REMOTE KEYLESS ENTRY SYSTEM

- auto door lock operation

OPERATION 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 is ON) 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.

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 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 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.

Remote control entry operation conditions

Keyfob operation	Operation condition
Door lock operation (locking)	<ul style="list-style-type: none">● 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.

Remote Control Auto Sliding Door Function (Vehicles With Auto Slide Door System)

Switching from all closed to all open

- 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 sliding door open signal to the sliding door control unit.
- When the sliding door control unit receives the sliding door open signal, if the remote control auto sliding door operation enable conditions are met, the warning chime is sounded and the sliding door unlock signal is sent to the sliding door latch control unit.
- When the sliding door latch control unit receives the sliding door unlock signal, it operates the release actuator and unlocks the door lock.
- The sliding door control unit operates the magnetic clutch and the sliding door motor to slide the sliding door in the open direction (At this time, speed control, input reverse, and overload reverse control are executed.)

REMOTE KEYLESS ENTRY SYSTEM

- When the sliding door is opened to the fully open position, the full-open lock engages, the full-open position is detected with the rotation sensor, the sliding door motor is stopped and the magnetic clutch is controlled ON → half clutch → OFF.
- This is held by locking the sliding door at the full open position.

Full open → full closed operation

- When a button of 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 sliding door close request signal to the sliding door control unit.
- When the sliding door control unit receives the sliding door close request signal, if the remote control auto sliding door operation enable conditions are met, the warning chime is sounded and the sliding door full open unlock signal is sent to the sliding door latch control unit and the full open lock is unlocked.
- The sliding door control unit operates the magnetic clutch and the sliding door motor to slide the sliding door in the close direction. (At this time, the sliding door control unit executes speed control, input reverse, and overload reverse control.)
- When the sliding door comes to the half-latch state, the sliding door latch control unit detects the half-latch state through half-latch switch operation. The sliding door latch control unit uses communication to send the half-latch status to the sliding door control unit.
- When the sliding door control unit receives the signal, it switches OFF the sliding door motor and controls the magnetic clutch ON → half clutch.
- When the sliding door auto closure operates and the full latch is detected, the magnetic clutch is controlled half clutch → OFF and when the sliding door auto closure operation ends, the door is fully closed.

Operation condition

Keyfob operation	Operation condition
Sliding door open operation	With key removed (key switch: OFF)
Sliding door close operation	With key removed (key switch: OFF)

For the auto sliding door system operation enable conditions, refer to [BL-112, "System Description"](#).

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 sends 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

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

Remote Control Entry Operation

Operation is possible when any of the following operating conditions are met.

- 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 from remote keyless entry receiver terminal 2 to BCM terminal 20 and compared with the registered ID number.
- If the ID number matches, the BCM sends the lock/unlock signal to the door lock actuator LH.

When the door lock signal is received,

REMOTE KEYLESS ENTRY SYSTEM

- The BCM supplies voltage from terminal 50 to front door lock assembly LH (actuator) terminal 3 and the front door LH lock is locked

When the door unlock signal is received,

- The BCM supplies voltage from terminal 44 to front door lock assembly LH (actuator) terminal 2 and the front door LH is unlocked.

The front door lock assembly LH (actuator) operation detects the lock/unlock operation of the driver door lock with the status detection switch built into the front door lock assembly (actuator).

When the BCM receives the door lock signal,

- The BCM supplies voltage from terminal 50 to all door lock actuator terminals 3 (front RH), 4 [sliding RH and LH, back (without back door closure system)] and locks the doors.

When the BCM receives the door unlock signal,

- The BCM supplies voltage from terminal 51 to all door lock actuator terminals 2 and unlocks the doors.

When the sliding door control unit receives the door lock signal (same operation for both left and right sliding),

- It supplies voltage from sliding door control unit terminal 25 to sliding door lock actuator terminal 4 and locks the sliding doors.

When the sliding door control unit receives the door unlock signal (same operation for both left and right sliding),

- It supplies voltage from sliding door control unit terminal 28 to sliding door lock actuator terminal 2 and unlocks the sliding doors.

When the back door control unit receives the door lock signal,

- It stops the supply of voltage to the back door closure motor and stops the back door open operation.

When the back door control unit receives the door unlock signal,

- The supply of voltage to the back door closure motor goes on standby and operation of the back door opener switch enables operation.

Remote Control Auto Sliding Door Operation

For explanation of remote control auto sliding door operation, refer to [BL-112, "System Description"](#).

Active Check Function

When a door is locked or unlocked by keyfob operation, the turn signal lamps are flashed and the horn sounds to verify operation.

- 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 from the remote keyless entry receiver terminal 2 to BCM terminal 20 and compared with the registered ID number.
- If the ID number matches, the BCM sends the turn signal flash signal to the IPDM E/R.
- The IPDM E/R supplies voltage, turning on each turn signal lamp.

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).

Operating function of hazard and horn reminder

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

How to change hazard and horn reminder mode

Ⓟ With CONSULT-II

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

ⓧ Without CONSULT-II

Refer to Owner's Manual for instructions.

REMOTE KEYLESS ENTRY SYSTEM

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);
- interior lamp switch is in DOOR position.

Remote keyless entry system turns on interior lamp and ignition illumination (for 30 seconds) with input of UNLOCK signal from keyfob.

For detailed description, refer to [LT-133, "ROOM LAMP TIMER OPERATION"](#) .

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from 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 3 seconds, 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.

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REMOTE KEYLESS ENTRY SYSTEM

CAN Communication System Description

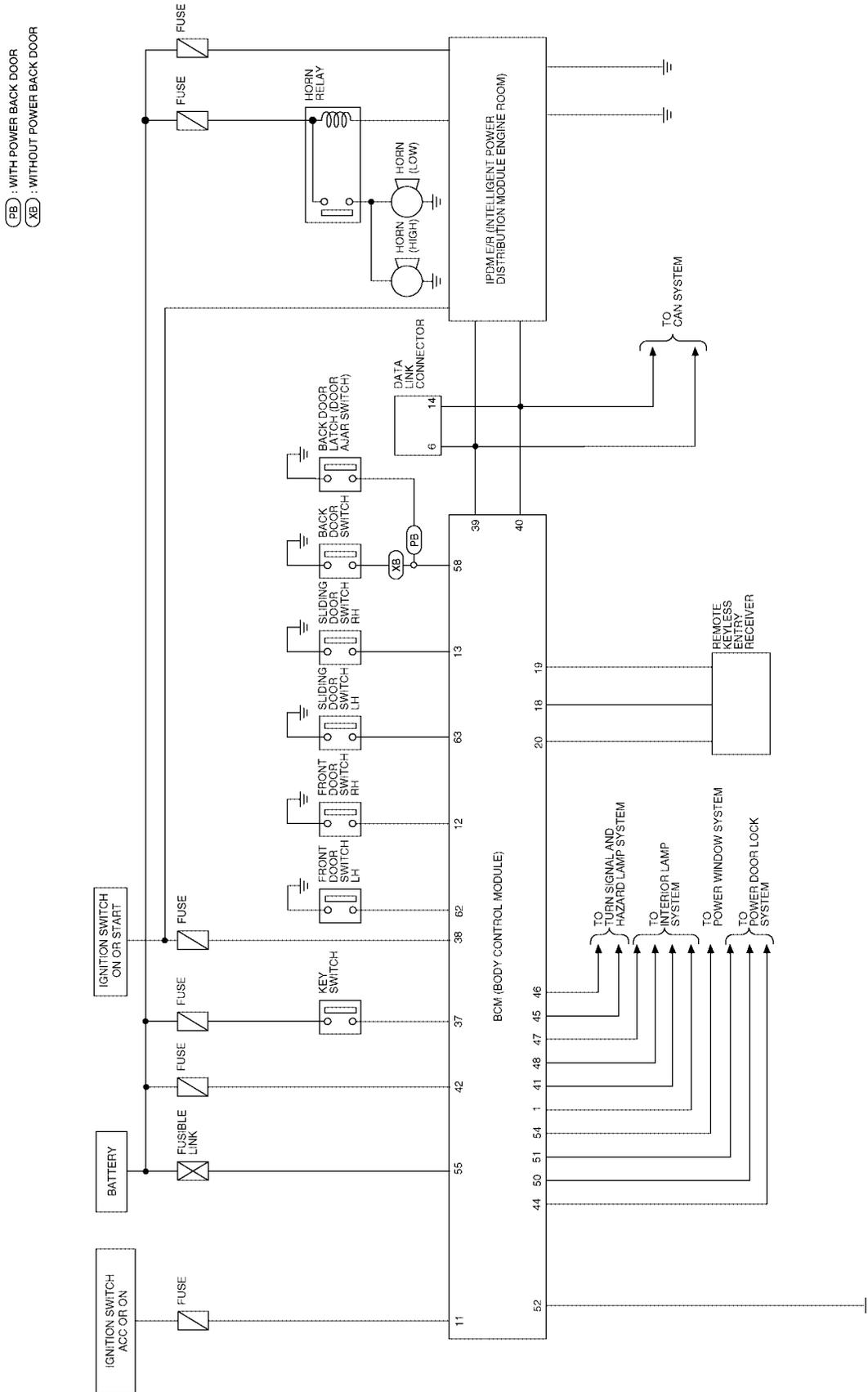
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Refer to [LAN-5, "CAN COMMUNICATION"](#) .

REMOTE KEYLESS ENTRY SYSTEM

EIS001Q8

Schematic



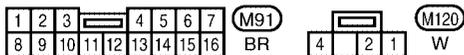
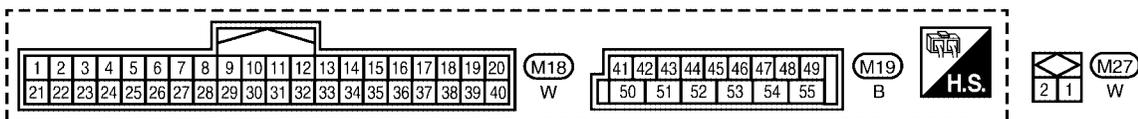
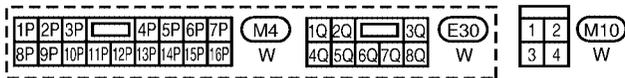
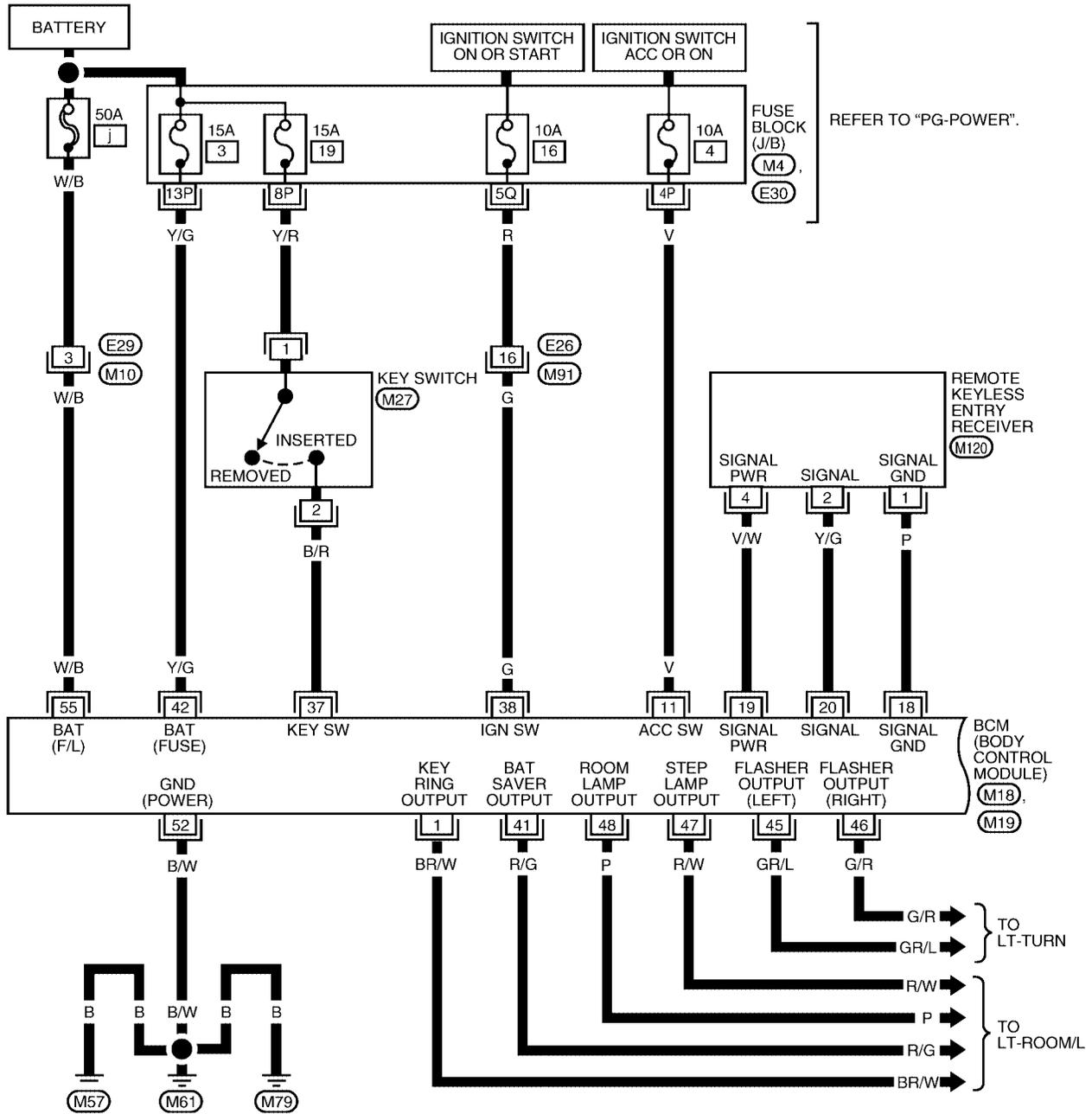
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REMOTE KEYLESS ENTRY SYSTEM

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Wiring Diagram — KEYLES —
FIG. 1

BL-KEYLES-01



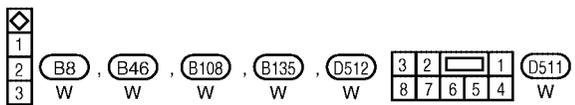
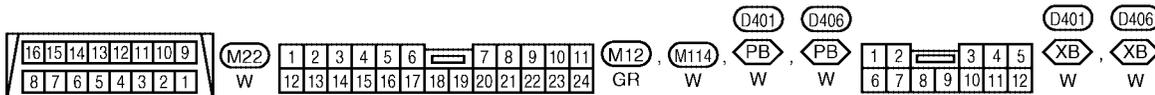
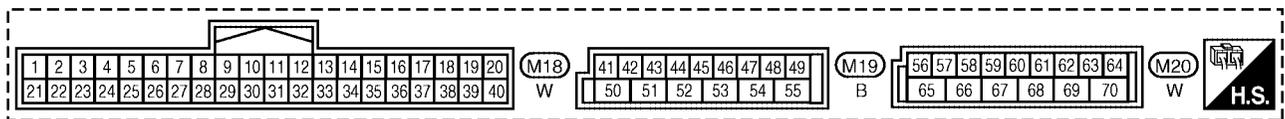
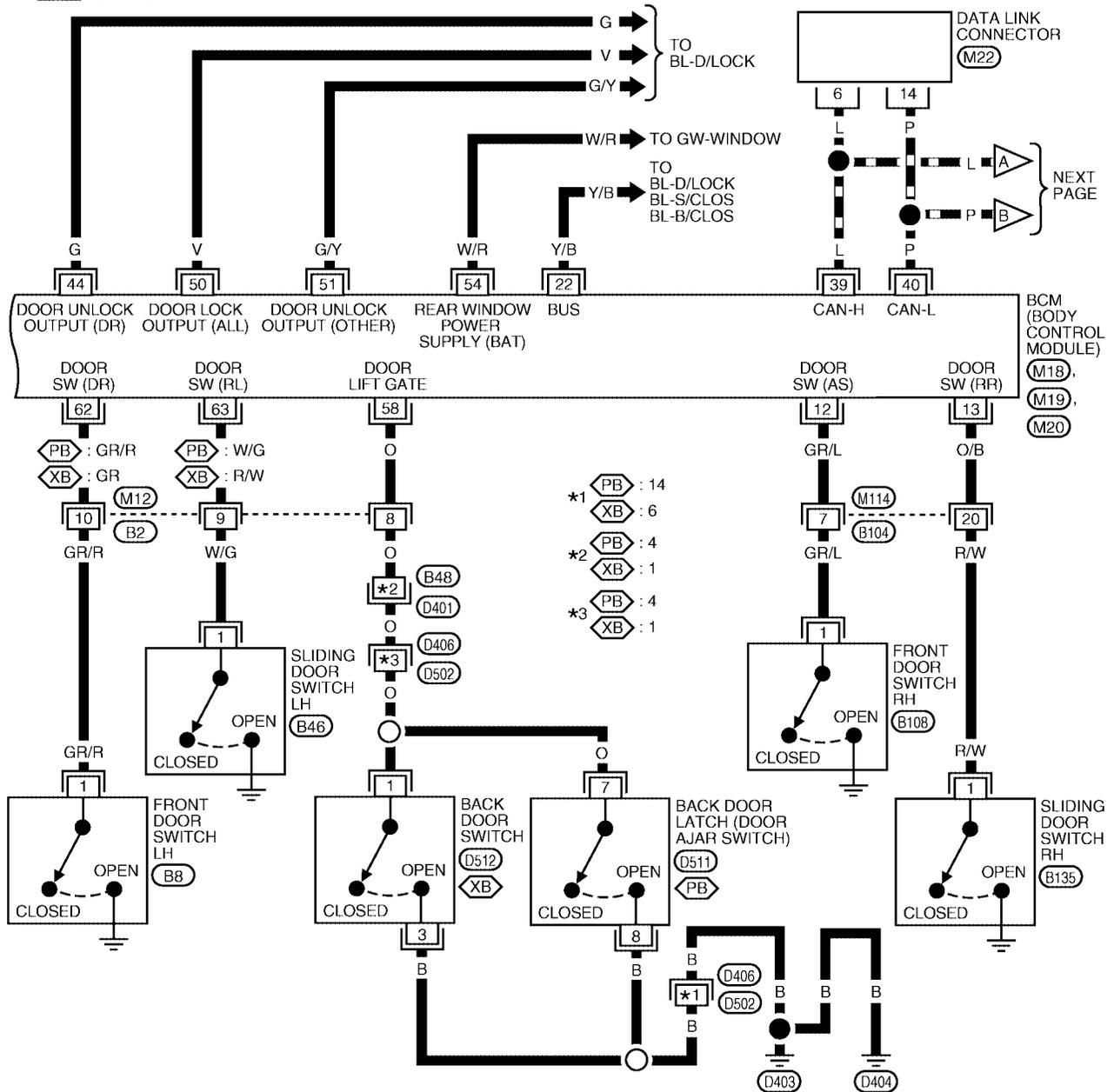
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REMOTE KEYLESS ENTRY SYSTEM

FIG. 2

BL-KEYLES-02

- : WITH POWER BACK DOOR
- : WITHOUT POWER BACK DOOR
- : DATA LINE

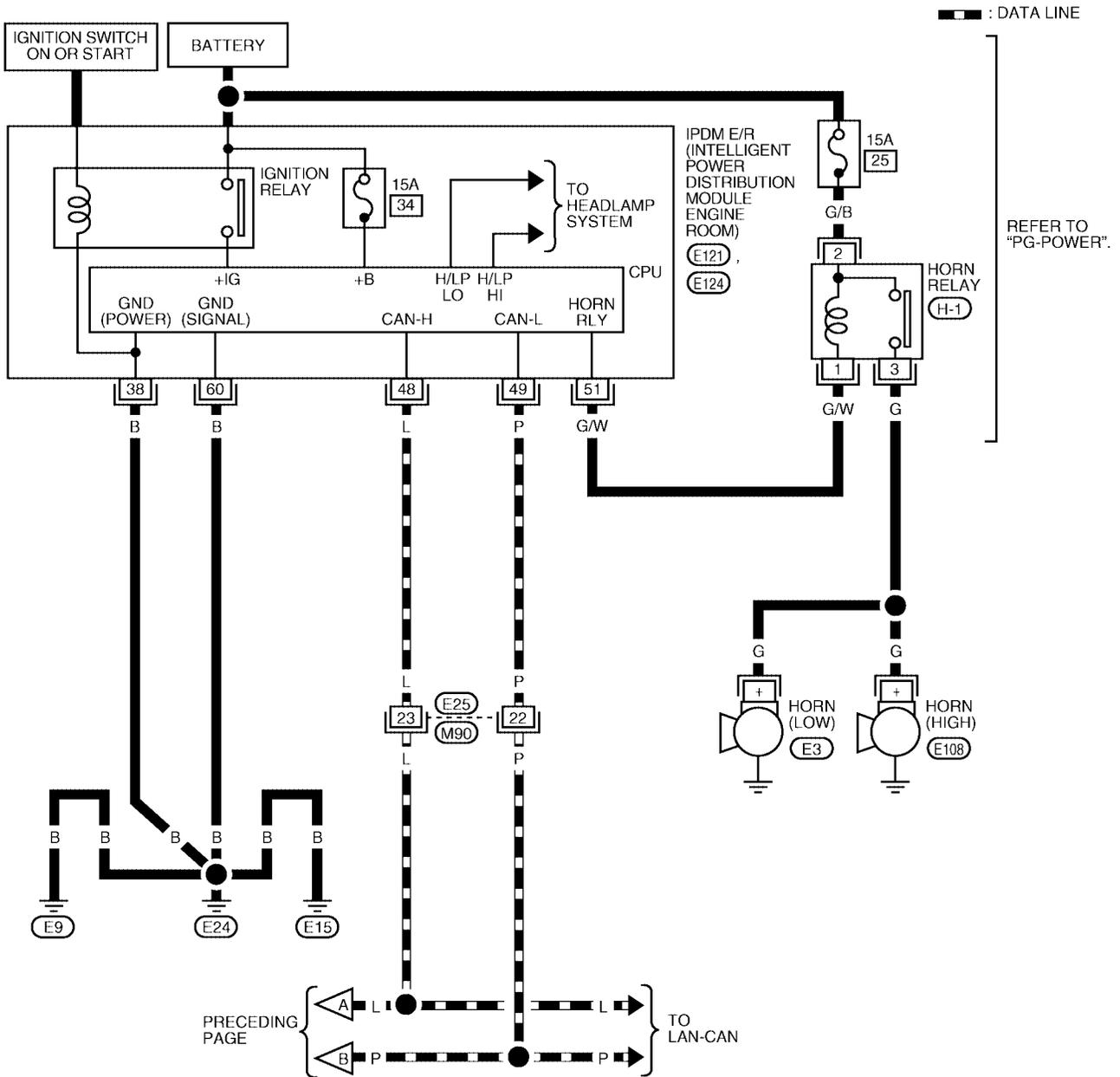


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REMOTE KEYLESS ENTRY SYSTEM

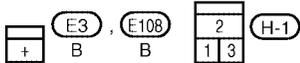
FIG. 3

BL-KEYLES-03



1	2	3	4	5	6	7	8	9	10	11	(M90)		
12	13	14	15	16	17	18	19	20	21	22	23	24	W

45	46	47	48	49	50	51	52	(E121)	33	34	35	36	37	(E124)		
53	54	55	56	57	58	59	60	W	38	39	40	41	42	43	44	W

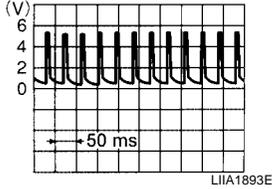
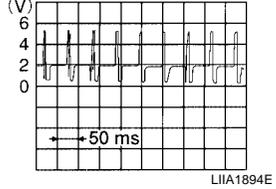
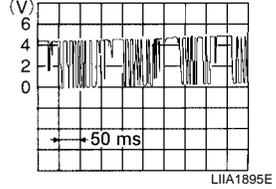
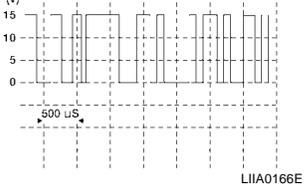


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REMOTE KEYLESS ENTRY SYSTEM

Terminals and Reference Value for BCM

EIS001QA

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
1	BR/W	Ignition key illumination	Key ring illumination ON	0
			Key ring illumination OFF	Battery voltage
11	V	Ignition switch (ACC or ON)	Ignition switch (ACC or ON position)	Battery voltage
12	GY/L	Front door switch RH	Door close (OFF) → Open (ON)	Battery voltage → 0
13	O/B	Sliding door switch RH	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)	—	
20	Y/G	Remote keyless entry receiver signal (Signal)	Stand-by (keyfob buttons released)	
			When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	
22	Y/B	Power window serial link	—	
37	B/R	Key switch	Key inserted in IGN key cylinder → Key removed from IGN key cylinder	Battery voltage → 0
38	G	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
39	L	CAN-H	—	—
40	P	CAN-L	—	—
41	R/G	Battery saver (Interior lamp)	Battery saver does operated → Does not operated (ON → OFF)	Battery voltage → 0
42	Y/G	Battery power supply	—	Battery voltage
44	G	Driver door lock actuator	Door lock/unlock switch (Neutral → Unlock)	0 → Battery voltage
45	GR/L	Turn signal LH	When doors are locked or unlocked using keyfob (OFF → ON) *2	0 → Battery voltage

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REMOTE KEYLESS ENTRY SYSTEM

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
46	G/R	Turn signal RH	When doors are locked or unlocked using keyfob (OFF → ON) *2	0 → Battery voltage
47	R/W	Step lamp LH and RH	Step lamp ON	0
			Step lamp OFF	Battery voltage
48	P	Room lamp	Room lamp ON *1	Battery voltage
			Room Lamp OFF *1	0
50	V	Door lock actuators	Door lock/unlock switch (Neutral → Lock)	0 → Battery voltage
51	G/Y	Passenger and rear doors lock actuator	Door lock/unlock switch (Neutral → Unlock)	0 → Battery voltage
52	B/W	Ground	—	0
54	W/R	Power window power source	—	Battery voltage
55	W/B	Battery power supply	—	Battery voltage
58	O	Back door switch	Door close (OFF) → Open (ON)	Battery voltage → 0
62	GR/R *3 GR *4	Front door switch LH	Door close (OFF) → Open (ON)	Battery voltage → 0
63	W/G *3 R/W *4	Sliding door switch LH	Door close (OFF) → Open (ON)	Battery voltage → 0

- *1: when room lamp switch is in "DOOR" position.
- *2: when hazard reminder is ON.
- *3 with power back door.
- *4 without power back door.

Terminals and Reference Value for IPDM E/R

EIS001QB

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

*: when horn reminder is ON.

CONSULT-II Function (BCM)

EIS001QC

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

BCM diagnostic test item	Diagnostic mode	Content
Inspection by part	WORK SUPPORT	Changes setting of each function.
	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 results 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.

REMOTE KEYLESS ENTRY SYSTEM

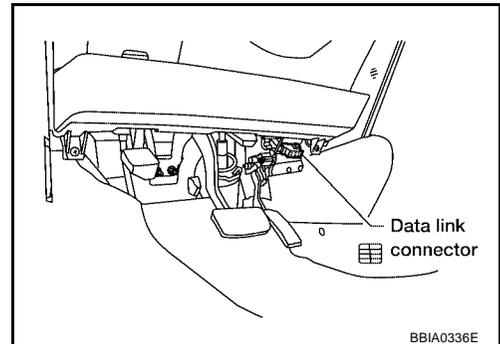
EIS001QD

CONSULT-II Inspection Procedure "MULTI REMOTE ENT"

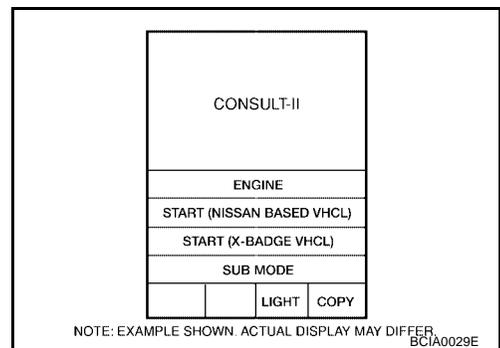
CAUTION:

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

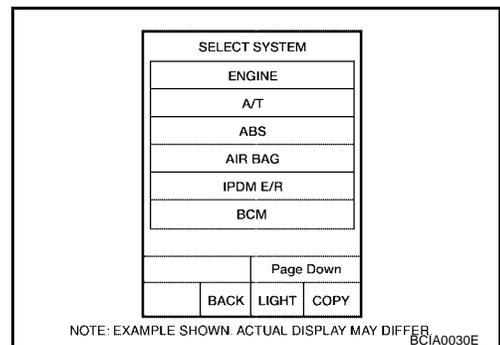
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



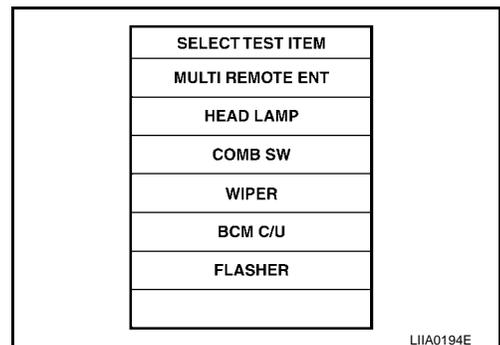
3. Turn ignition switch ON.
4. Touch "START".



5. Touch "BCM".
If "BCM" is not indicated, refer to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).

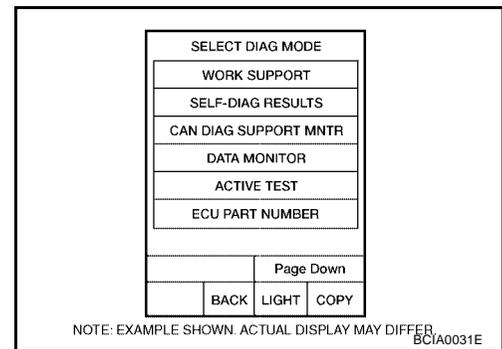


6. Touch "MULTI REMOTE ENT".



REMOTE KEYLESS ENTRY SYSTEM

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



CONSULT-II Application Items "MULTI REMOTE ENT"

EIS001QE

Data Monitor

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

Active Test

Test Item	Description
INT ILLUM	This test is able to check interior lamp illumination operation. The interior lamp illumination is turned on when "ON" on CONSULT-II screen is touched.
IGN ILLUM	This test is able to check ignition illumination operation. The ignition illumination is turned on when "ON" on CONSULT-II screen is touched.
FLASHER RIGHT(CAN)	This test is able to check right hazard reminder operation. The right hazard lamp turns on when "ON" on CONSULT-II screen is touched.
FLASHER LEFT(CAN)	This test is able to check left hazard reminder operation. The left hazard lamp turns on when "ON" on CONSULT-II screen is touched.
HORN	This test is able to check panic alarm and horn reminder operations. The alarm activates for 0.5 seconds after "ON" on CONSULT-II screen is touched.
HEAD LAMP (HI)	This test is able to check headlamps panic alarm operation. The headlamp illuminates for 0.5 seconds after "ON" on CONSULT-II screen is touched.
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.
TRUNK/BACK DOOR	This test is able to check back door actuator operation. The back door is unlocked when "ON" on CONSULT-II screen is touched.

REMOTE KEYLESS ENTRY SYSTEM

Work Support

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether keyfob ID code is registered or not in this mode.
REMO CONT ID REGIST	keyfob ID code can be registered.
REMO CONT ID ERASUR	keyfob ID code can be erased.
MULTI ANSWER BACK SET	Hazard and horn reminder mode can be changed in this mode. The reminder mode will be changed when "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.
TRUNK OPEN SET	Trunk lid opener 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	
	Lock	Unlock	Lock	Unlock	Lock	Unlock	Lock	Unlock	Lock	Unlock	Lock	Unlock
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

Trunk lid open 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

REMOTE KEYLESS ENTRY SYSTEM

EIS0010F

Trouble Diagnosis Procedure

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to [BL-55, "System Description"](#) .
3. Confirm system operation.
 - Check that the power door lock system operates normally. Refer to [BL-18, "POWER DOOR LOCK SYSTEM"](#) .
 - Check that the automatic sliding door system operates normally. Refer to [BL-112, "AUTOMATIC SLIDING DOOR SYSTEM"](#) .
 - Check that the automatic back door system operates normally. Refer to [BL-161, "AUTOMATIC BACK DOOR SYSTEM"](#) .
4. Perform pre-diagnosis inspection. Refer to [BL-70, "Pre-Diagnosis Inspection"](#) .
5. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to [BL-71, "Trouble Diagnoses"](#) .
6. Inspection End.

Pre-Diagnosis Inspection

EIS0010G

BCM POWER SUPPLY AND GROUND CIRCUIT INSPECTION

1. FUSE INSPECTION

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

Unit	Terminal No.	Signal name	No.	Location
BCM	55	Battery power supply	j	Fuse and fusible link box
	42	Battery power supply	3	Fuse block (J/B)
	11	ACC power supply	4	Fuse block (J/B)
	38	IGN power supply	16	Fuse block (J/B)

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. POWER SUPPLY CIRCUIT INSPECTION

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

Unit	Terminal No.	Signal name	Ignition switch	Voltage
BCM	55	Battery power supply	OFF	Battery voltage
	42	Battery power supply	OFF	Battery voltage
	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. GROUND CIRCUIT INSPECTION

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

Unit	Terminal No.	Signal name	Ignition switch	Continuity
BCM	52	Ground	OFF	Yes

OK or NG

OK >> Power supply and ground circuits are normal.

NG >> Repair or replace harness.

REMOTE KEYLESS ENTRY SYSTEM

EIS001QH

Trouble Diagnoses SYMPTOM CHART

NOTE:

- Always check the "Trouble Diagnosis Procedure" before troubleshooting. Refer to [BL-70, "Trouble Diagnosis Procedure"](#) .
- Always check keyfob battery before replacing keyfob. Refer to [BL-78, "Keyfob Battery and Function Check"](#) .
- The panic alarm operation and trunk lid opener operation of remote keyless entry system do not activate with the ignition key inserted in the ignition key cylinder.
- Use Remote Keyless Entry Tester J-43241 (follow instructions on tester) to check operation of 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-78
	2. Check BCM and remote keyless entry receiver.	BL-79
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-78
	2. Key switch (insert) check	BL-73
	3. Door switch check	BL-74, BL-76
	4. ACC power check	BL-80
	5. Replace BCM.	BCS-19
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-18, "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-78
	2. Replace BCM.	BCS-19
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-68
	2. Door switch check	BL-74, BL-76
	3. Replace BCM.	BCS-19
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-68
	2. Check hazard function with hazard switch	—
	3. Replace BCM.	BCS-19

REMOTE KEYLESS ENTRY SYSTEM

Symptom	Diagnoses/service procedure	Reference page
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-68
	2. Check horn function with horn switch	—
	3. IPDM E/R operation check	BL-81
	4. Replace BCM.	BCS-19
Sliding door open/close operation is not carried out with keyfob operation. (The automatic sliding door system is normal.)	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241)	BL-78
	2. Key switch (insert) check	BL-73
	3. Remote keyless entry receiver system check	BL-79
	4. Replace BCM.	BCS-19
Room lamp, ignition key illumination and step lamp operation do not activate properly.	1. Room lamp operation check	BL-82
	2. Ignition key illumination operation check	BL-82
	3. Step lamp operation check	LT-131
	4. Door switch check	BL-74 , BL-76
	5. Replace BCM.	BCS-19
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-78
	2. Key switch (insert) check	BL-73
	3. Replace BCM.	BCS-19
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-69
	2. Replace BCM.	BCS-19
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-69
	2. Check power window function with switch	—
	3. Replace BCM.	BCS-19

REMOTE KEYLESS ENTRY SYSTEM

EIS001QM

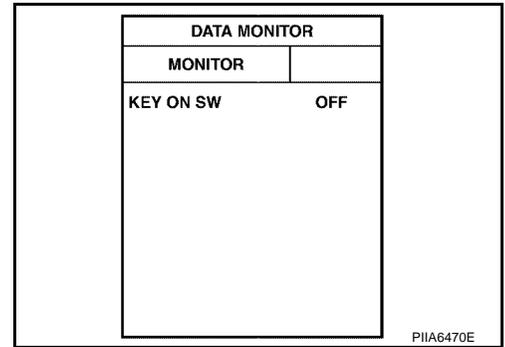
Key Switch Check

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-39, "DATA MONITOR"](#).

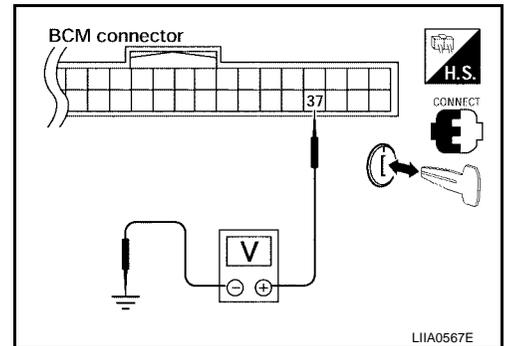
- When key is inserted to ignition key cylinder:
KEY ON SW : ON
- When key is removed from ignition key cylinder:
KEY ON SW : OFF



 Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	37 (B/R)	Ground	Key is inserted.	Battery voltage
			Key is removed.	0



OK or NG

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

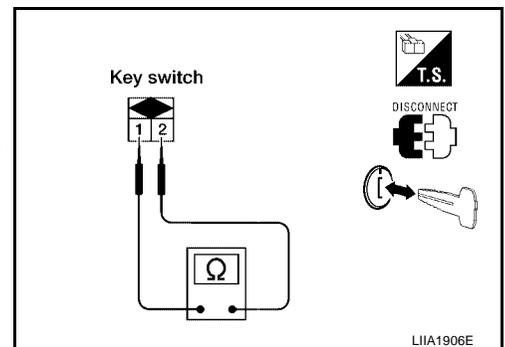
2. CHECK KEY SWITCH (INSERT)

- Turn ignition switch OFF.
- Disconnect key switch.
- Check continuity between key switch terminals 1, 2.

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

OK or NG?

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



REMOTE KEYLESS ENTRY SYSTEM

EIS0020L

Door Switch Check (Without Automatic Back Door System)

1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

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

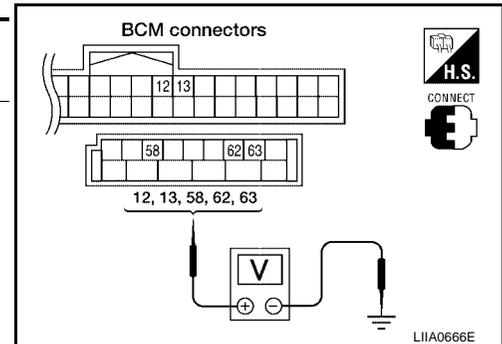
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIA0665E

 Without CONSULT-II

Check voltage between BCM connector M18 or M20 terminals 12, 13, 58, 62, 63 and ground.

Connector	Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M20	Back door switch	58 (O)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Front door switch LH	62 (GR)			
	Sliding door switch LH	63 (R/W)			
M18	Front door switch RH	12 (GR/L)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Sliding door switch RH	13 (O/B)			



OK or NG

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

REMOTE KEYLESS ENTRY SYSTEM

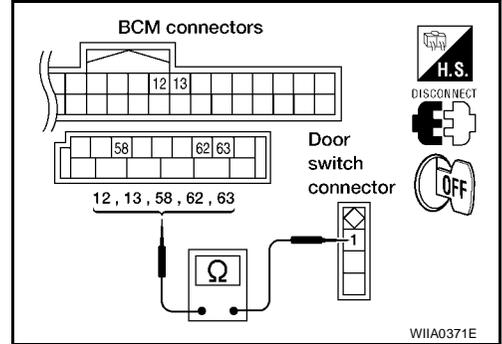
2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) or D512 (Back) terminal 1 and BCM connector M18, M20 terminals 12, 13, 58, 62 and 63

- 1 (GR/R) - 62 (GR) : Continuity should exist.
- 1 (GR/L) - 12 (GR/L) : Continuity should exist.
- 1 (W/G) - 63 (R/W) : Continuity should exist.
- 1 (R/W) - 13 (O/B) : Continuity should exist.
- 1 (O) - 58 (O) : Continuity should exist.

4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) or D512 (Back) terminal 1 and ground.

- 1 (GR/R, GR/L, W/G, R/W or O) - Ground : Continuity should not exist.



OK or NG

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

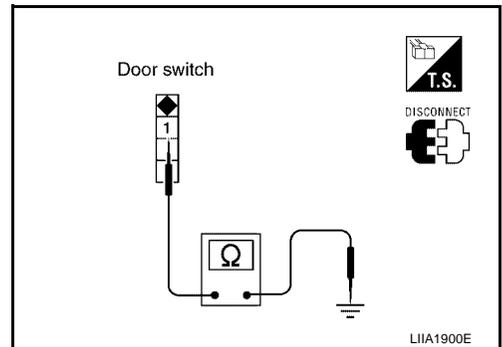
3. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
		Closed	No

OK or NG

- OK >> Check door switch case ground condition (front and sliding door) or ground circuit (back door).
- NG >> Replace door switch, or repair or replace harness.



REMOTE KEYLESS ENTRY SYSTEM

EIS0020M

Door Switch Check (With Automatic Back Door System)

1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

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

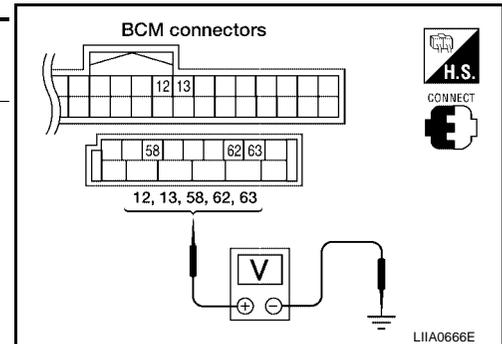
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIIA0665E

 Without CONSULT-II

Check voltage between BCM connector M18 or M20 terminals 12, 13, 58, 62, 63 and ground.

Connector	Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M20	Back door latch (door ajar switch)	58 (O)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Front door switch LH	62 (GR/R)			
	Sliding door switch LH	63 (W/G)			
M18	Front door switch RH	12 (GR/L)			
	Sliding door switch RH	13 (O/B)			



OK or NG

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

REMOTE KEYLESS ENTRY SYSTEM

2. CHECK DOOR SWITCH CIRCUIT

- Turn ignition switch OFF.
- Disconnect door switch and BCM.
- Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) terminal 1 or back door latch (door ajar switch) D511 terminal 7 and BCM connector M18, M20 terminals 12, 13, 58, 62 and 63.

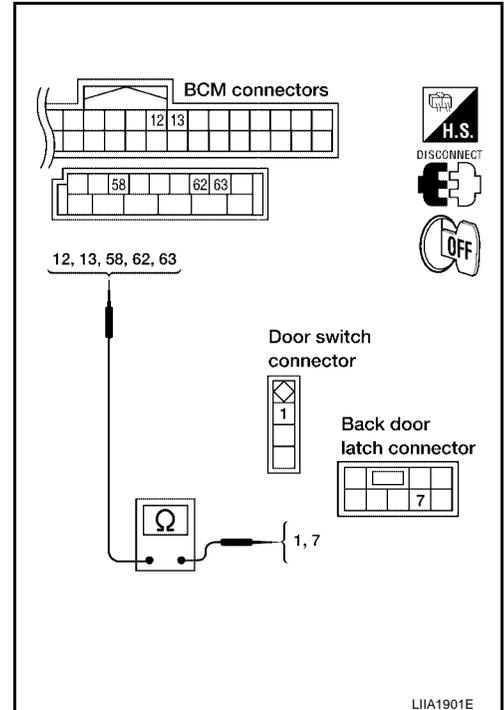
- 1 (GR/R) - 62 (GR/R) : Continuity should exist.**
- 1 (GR/L) - 12 (GR/L) : Continuity should exist.**
- 1 (W/G) - 63 (W/G) : Continuity should exist.**
- 1 (R/W) - 13 (O/B) : Continuity should exist.**
- 7 (O) - 58 (O) : Continuity should exist.**

- Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) terminal 1 or D511 terminal 7 and ground.

- 1 (GR/R, GR/L, W/G or R/ W) - Ground : Continuity should not exist.**
- 7 (O) - Ground : Continuity should not exist.**

OK or NG

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



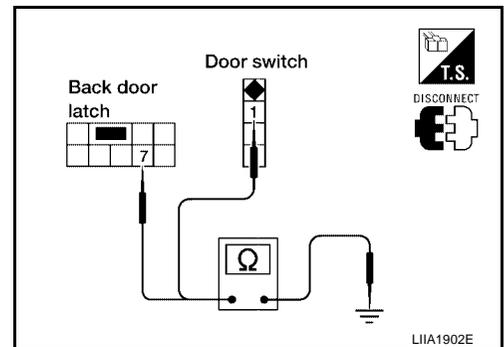
3. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
		Closed	No
Back door latch (door ajar switch)	7 – Ground	Open	Yes
		Closed	No

OK or NG

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



REMOTE KEYLESS ENTRY SYSTEM

EIS001Q1

Keyfob Battery and Function Check

1. CHECK KEYFOB BATTERY

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

Voltage : 2.5V - 3.0V

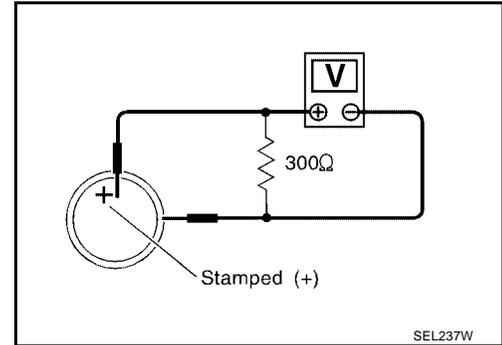
NOTE:

Keyfob does not function if battery is not set correctly.

OK or NG

OK >> GO TO 2.

NG >> Replace keyfob battery. Refer to [BL-78, "Keyfob Battery and Function Check"](#) .



SEL237W

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.	
Pushing PANIC	KEYLESS PANIC	: ON
Pushing LOCK and UNLOCK at the same time	RKE LCK-UNLCK	: ON
Pushing SLID DOOR RH OPEN	KEYLESS PSD *1	: ON
	KEYLESS PSD R *2	: ON
Pushing SLID DOOR LH OPEN	KEYLESS PSD L *2	: ON

DATA MONITOR	
MONITOR	
KEYLESS LOCK	OFF
KEYLESS UNLOCK	OFF
RKE KEEP UNLK	OFF
KEYLESS PANIC	OFF
RKE LCK-UNLCK	OFF
KEYLESS PSD	OFF
KEYLESS PSD R	OFF
KEYLESS PSD L	OFF

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*1: With auto sliding door RH

*2: With auto sliding door RH and LH

ⓧ 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-19, "Removal and Installation of BCM"](#) .

OK >> WITHOUT CONSULT-II: Keyfob is OK. Further inspection is necessary. Refer to [BL-71, "SYMPTOM CHART"](#) .

NG >> WITH CONSULT-II: Further inspection is necessary. Refer to [BL-71, "SYMPTOM CHART"](#) .

NG >> WITHOUT CONSULT-II: Replace keyfob. Refer to [BL-83, "ID Code Entry Procedure"](#) .

REMOTE KEYLESS ENTRY SYSTEM

EIS005W2

Remote Keyless Entry Receiver System Check

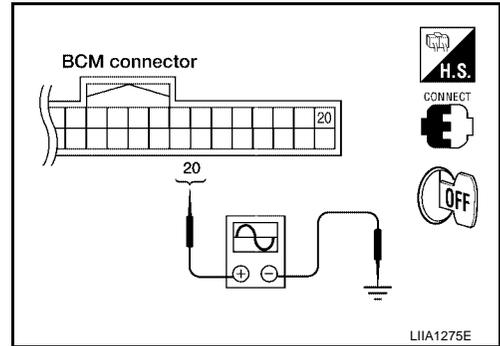
1. REMOTE KEYLESS ENTRY RECEIVER SIGNAL

Check signal voltage waveform between BCM connector M18 terminal 20 (Y/G) and ground using an oscilloscope.

Condition:

Keyfob buttons released : Refer to [BL-65, "Terminals and Reference Value for BCM"](#) .

Keyfob buttons pressed : Refer to [BL-65, "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-19, "Removal and Installation of BCM"](#) .
- NG >> GO TO 2.

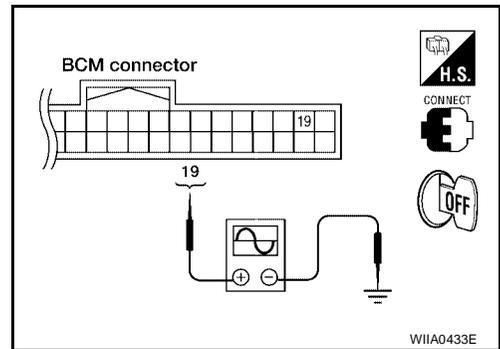
2. REMOTE KEYLESS ENTRY RECEIVER POWER SUPPLY INSPECTION

Check signal voltage waveform between BCM connector M18 terminal 19 (V/W) and ground using an oscilloscope.

19 (V/W) - Ground : Refer to [BL-65, "Terminals and Reference Value for BCM"](#) .

OK or NG

- OK >> GO TO 3.
- NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#) .



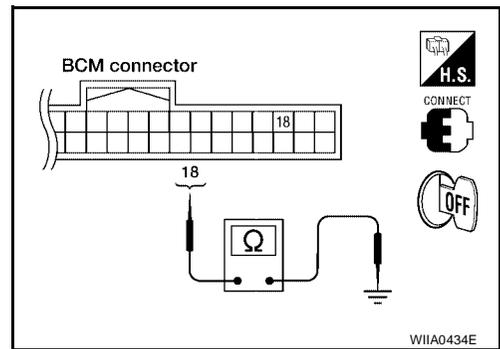
3. REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT INSPECTION (BCM)

Check continuity between BCM connector M18 terminal 18 (P) and ground.

18 (P) - Ground : **Continuity should exist.**

OK or NG

- OK >> GO TO 4.
- NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#) .



REMOTE KEYLESS ENTRY SYSTEM

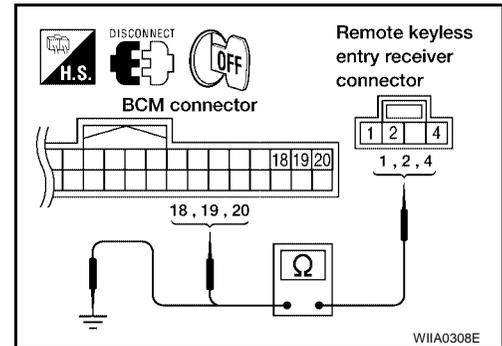
4. HARNESS INSPECTION BETWEEN BCM AND REMOTE KEYLESS ENTRY RECEIVER

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 (P) - 18 (P) : Continuity should exist.
- 2 (Y/G) - 20 (Y/G) : Continuity should exist.
- 4 (V/W) - 19 (V/W) : Continuity should exist.

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

- 1 (P) - Ground : Continuity should not exist.
- 2 (Y/G) - Ground : Continuity should not exist.
- 4 (V/W) - Ground : Continuity should not exist.



OK or NG

OK >> Replace remote keyless entry receiver.

NG >> Repair or replace the harness between the remote keyless entry receiver and BCM.

ACC Power Check

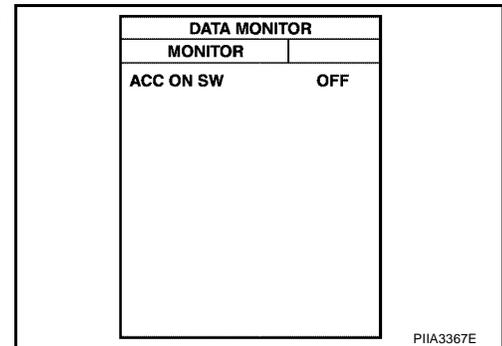
EIS001QJ

1. CHECK ACC POWER

With CONSULT-II

Check key switch "ACC ON SW" in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

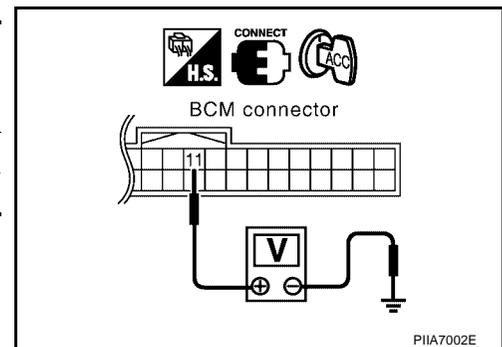
Monitor Item	Condition
ACC ON SW	Ignition switch position is ACC : ON
	Ignition switch position is OFF : OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 11 and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	11 (V)	Ground	ACC or ON	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.

REMOTE KEYLESS ENTRY SYSTEM

EIS0010K

IPDM E/R Operation Check

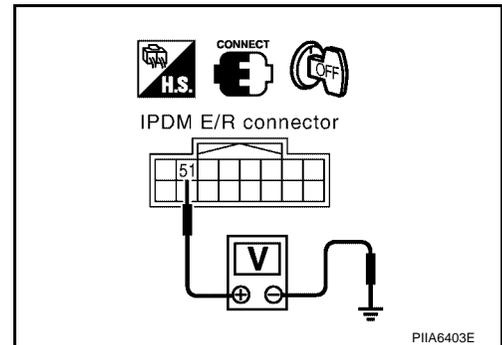
1. CHECK IPDM E/R INPUT VOLTAGE

Check voltage between IPDM E/R connector E121 terminal 51 and ground.

Connector	Terminal (Wire color)		Voltage (V) (Approx.)
	(+)	(-)	
E121	51 (G/W)	Ground	Battery voltage

OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-29, "Removal and Installation of IPDM E/R"](#).
- NG >> GO TO 2.



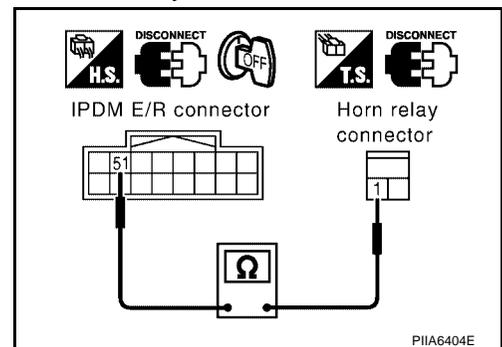
2. CHECK HORN RELAY CIRCUIT

- Turn ignition switch OFF.
- Disconnect IPDM E/R and horn relay.
- Check continuity between IPDM E/R connector E121 terminal 51 and horn relay connector H-1 terminal 1.

51 (G/W) - 1 (G/W) : Continuity should exist.

OK or NG

- OK >> Further inspection is necessary. Refer to [BL-71, "SYMP-TOM CHART"](#).
- NG >> Repair or replace harness.



REMOTE KEYLESS ENTRY SYSTEM

Check Hazard Function

EIS001QO

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-69, "TURN SIGNAL AND HAZARD WARNING LAMPS"](#) .

Check Horn Function

EIS001QP

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-54, "HORN"](#) .

Check Headlamp Function

EIS001QQ

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-6, "HEADLAMP \(FOR USA\)"](#) .

Check Map Lamp and Ignition Key Illumination Function

EIS001QR

1. CHECK MAP LAMP AND IGNITION KEY ILLUMINATION FUNCTION

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

Map lamp and ignition key illumination should illuminate.

OK or NG

OK >> System is OK.

NG >> Check ignition illumination circuit. Refer to [LT-155, "ILLUMINATION"](#) .

REMOTE KEYLESS ENTRY SYSTEM

EIS001QS

ID Code Entry Procedure KEYFOB ID SET UP WITH CONSULT-II

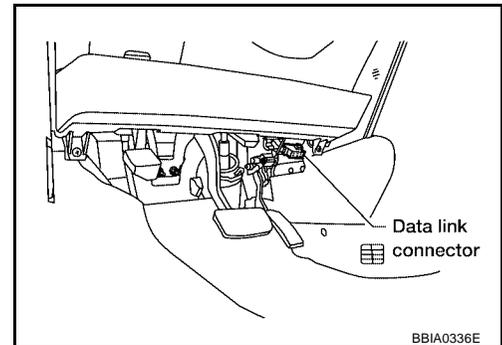
NOTE:

- 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.

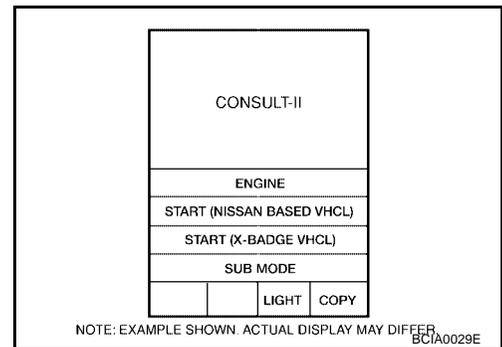
CAUTION:

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

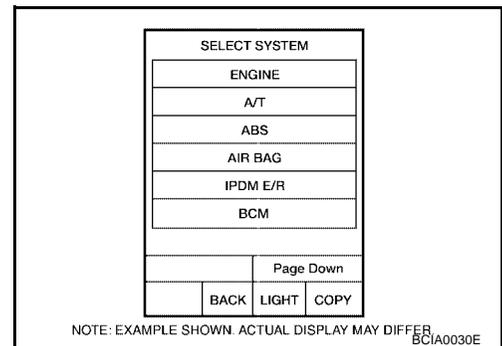
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



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

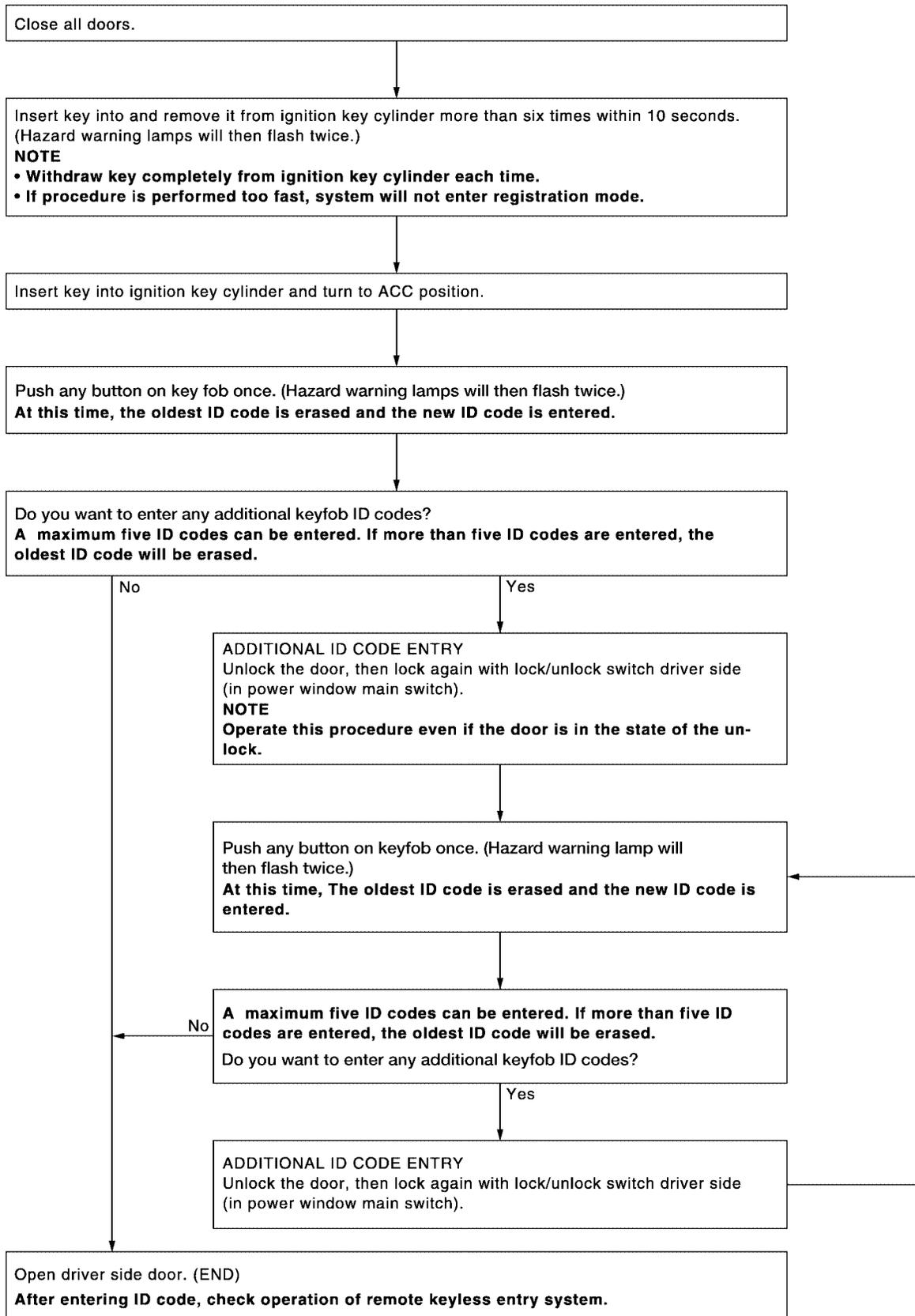


5. Touch "BCM".
If "BCM" is not indicated, refer to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



REMOTE KEYLESS ENTRY SYSTEM

KEYFOB ID SET UP WITHOUT CONSULT-II



A
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M

LIIA1670E

REMOTE KEYLESS ENTRY SYSTEM

NOTE:

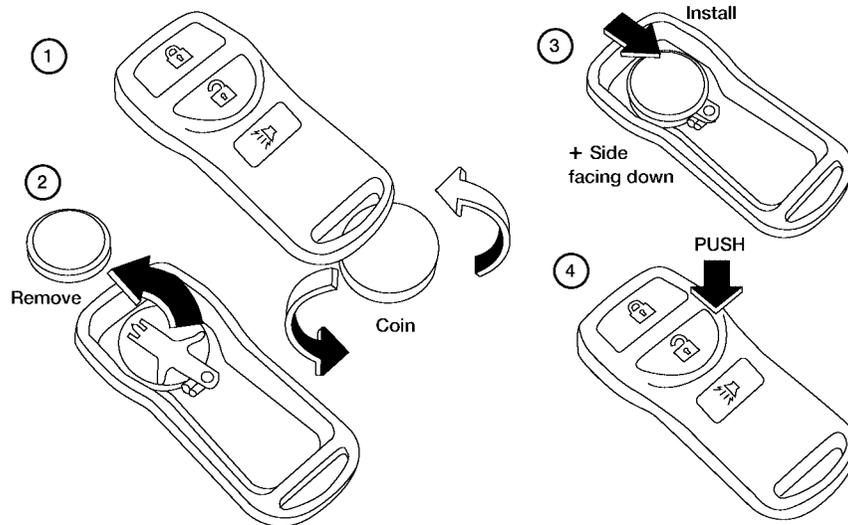
- If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining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

EIS001QT

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.



LIA1514E

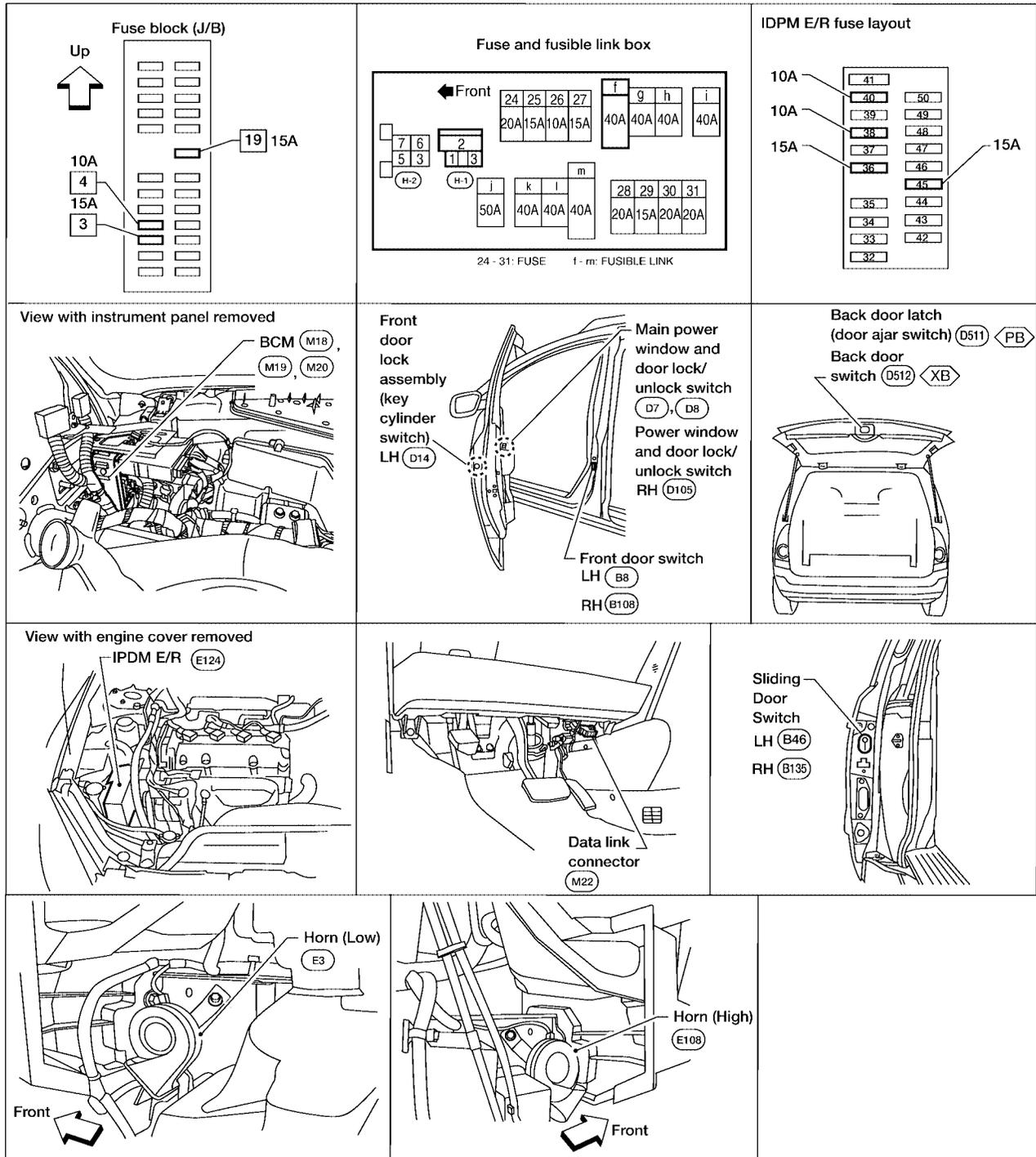
VEHICLE SECURITY (THEFT WARNING) SYSTEM

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Component Parts and Harness Connector Location

PF2:28491

EIS005W7



PB : WITH POWER BACK DOOR
XB : WITHOUT POWER BACK DOOR

LIA1917E

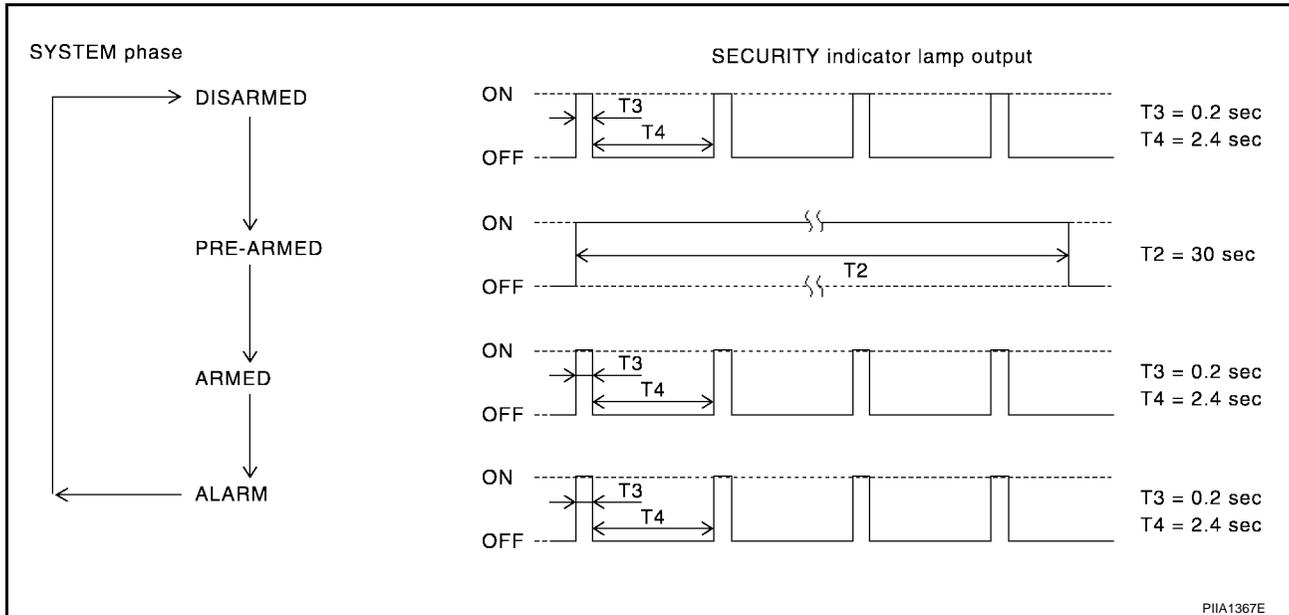
VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005W8

System Description

DESCRIPTION

Operation Flow



PIIA1367E

Setting the vehicle security system

Initial condition

- Ignition switch is OFF.

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 all doors are closed and locked by keyfob. The security indicator lamp illuminates for 30 seconds. then, the system automatically shifts into the "armed" phase.

Canceling the set vehicle security system

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

1. Unlock the front doors with the key or the keyfob.
2. Open the back door with the keyfob. When the back door is closed after opening the back door with the keyfob, the system returns to the armed phase.
3. Open the sliding door(s) with the keyfob. With the sliding door(s) closed after opening the sliding door(s) with the keyfob, the system returns to the armed phase.

Activating the alarm operation of the vehicle security system

Make sure the system is in the armed phase.

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

1. Any door is opened before unlocking door with key or keyfob.
2. Door is unlocked without using key or keyfob.
3. Back door is opened without using keyfob.
4. Sliding door(s) opened without using 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 31

VEHICLE SECURITY (THEFT WARNING) SYSTEM

- through 50A fusible link (letter f , located in the fuse and fusible link box)
- to BCM terminal 55
- through 15A fuse [No. 3, located in the fuse block (J/B)]
- to BCM terminal 42
- through 15A fuse (No. 25, located in the fuse and fusible link box)
- to horn relay terminal 2
- through 15A fuse (No. 34, 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 block (J/B)]
- to BCM terminal 11.

Ground is supplied

- to BCM terminal 52
- through body grounds M57, M61 and M79 and
- to IPDM E/R terminals 38 and 60
- 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.

To activate the vehicle security system, BCM must receive signals indicating the doors are closed and locked. When a door is open, BCM terminal 12, 13, 58, 62 or 63 receives a ground signal from each door switch.

When front door LH is unlocked, BCM terminal 22 receives a signal from terminal 12 (without power back door) or terminal 14 (with power back door) 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.

When the back door is open, BCM terminal 58 receives a ground signal

- from terminal 1 (without power back door) of the back door switch or terminal 7 (with power back door) of the back door latch (door ajar switch)
- through body grounds D403 and D404.

VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

- opening a door
- unlocking door without using the key 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, 62, 63 (door switch), or terminal 58 (back 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 51
- 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, a door must be unlocked with the key or keyfob.

When the key is used to unlock a door, BCM terminal 22 receives signal

- from terminal 12 (without power back door) or terminal 14 (with power back door) 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 key cylinder switch, the vehicle security system is deactivated. (Disarmed phase)

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

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 51
- 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

EIS005W9

Refer to [LAN-5, "CAN COMMUNICATION"](#) .

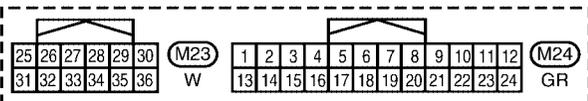
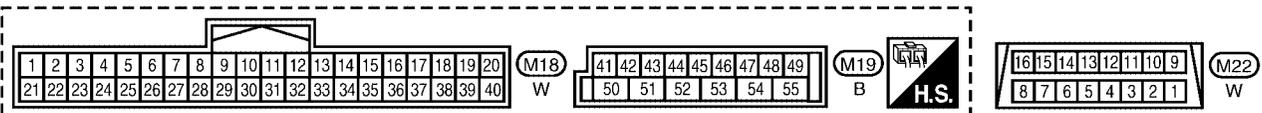
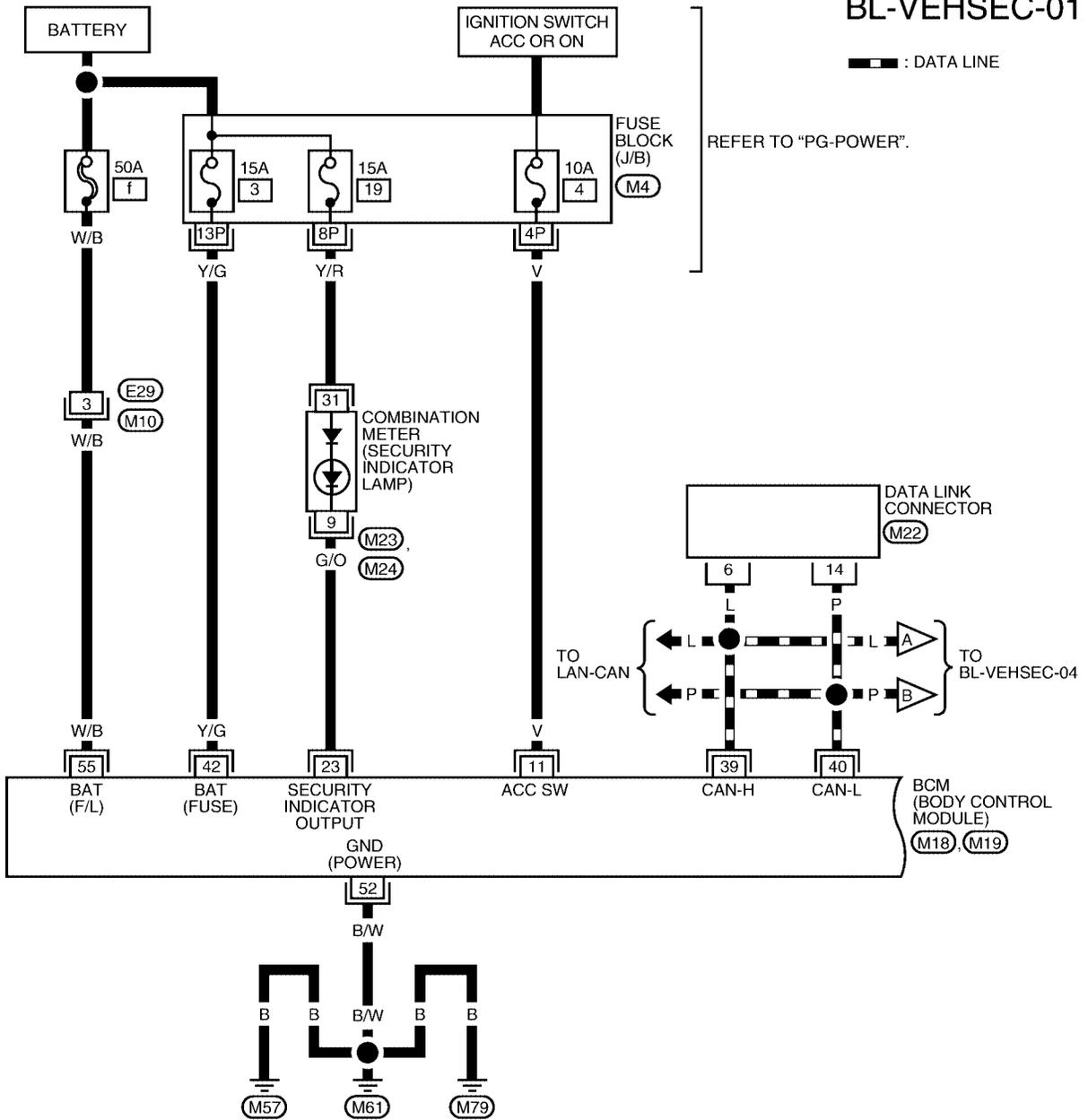
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC —
FIG. 1

EIS005WB

BL-VEHSEC-01

— : DATA LINE



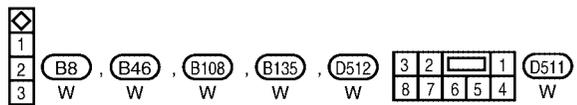
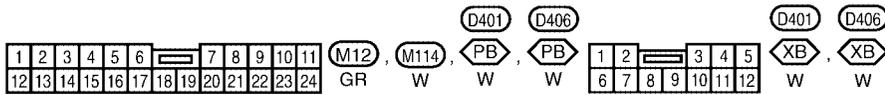
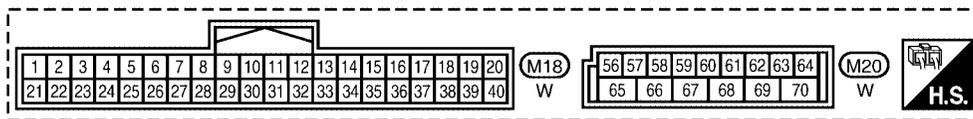
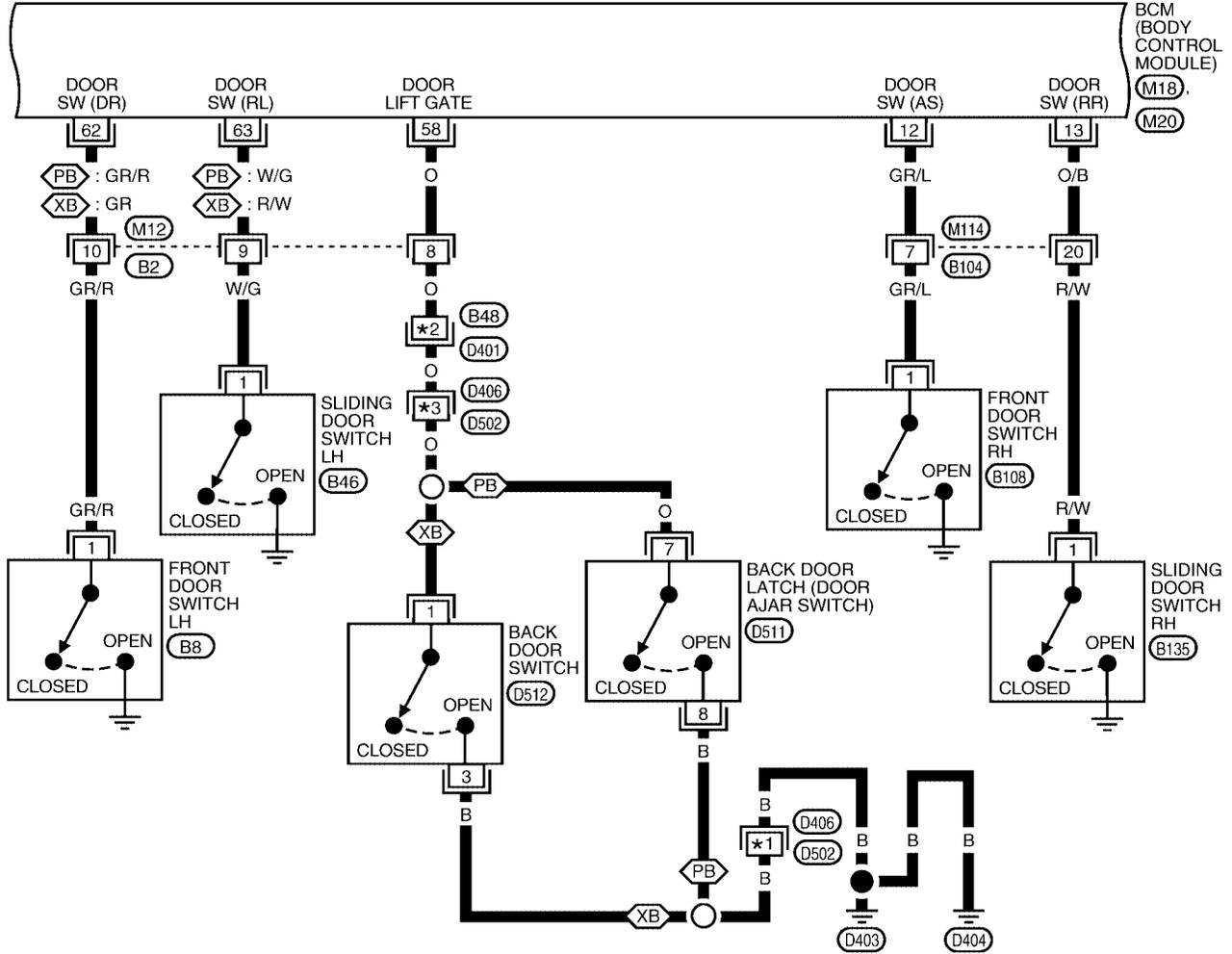
WIWA1439E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 2

BL-VEHSEC-02

- : WITH POWER BACK DOOR
- : WITHOUT POWER BACK DOOR
- : DATA LINE
- *1 : 14
- : 6
- *2 : 4
- : 1
- *3 : 4
- : 1

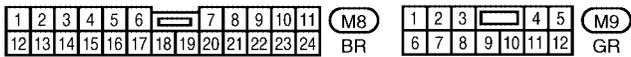
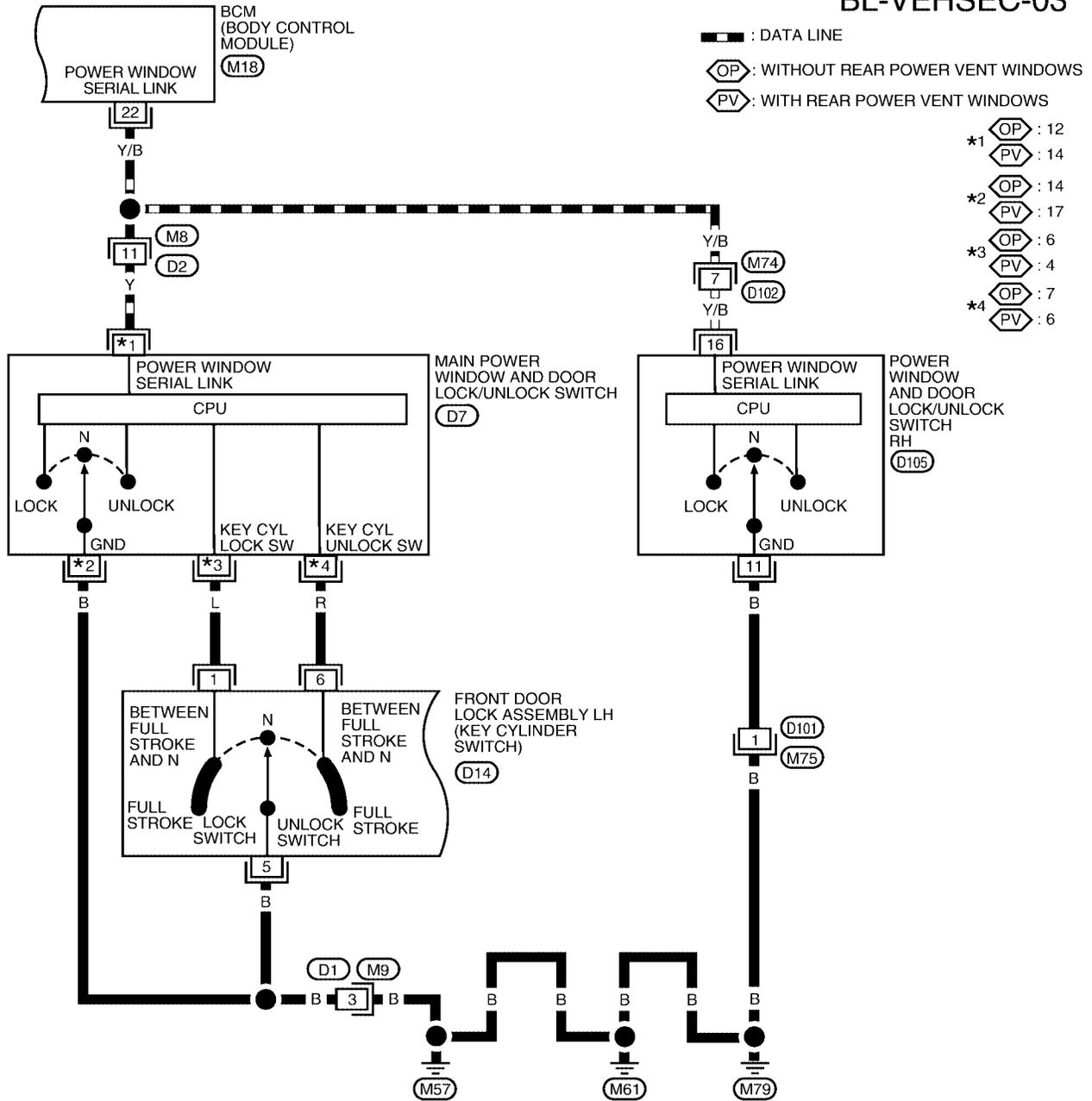


WIWA0681E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 3

BL-VEHSEC-03

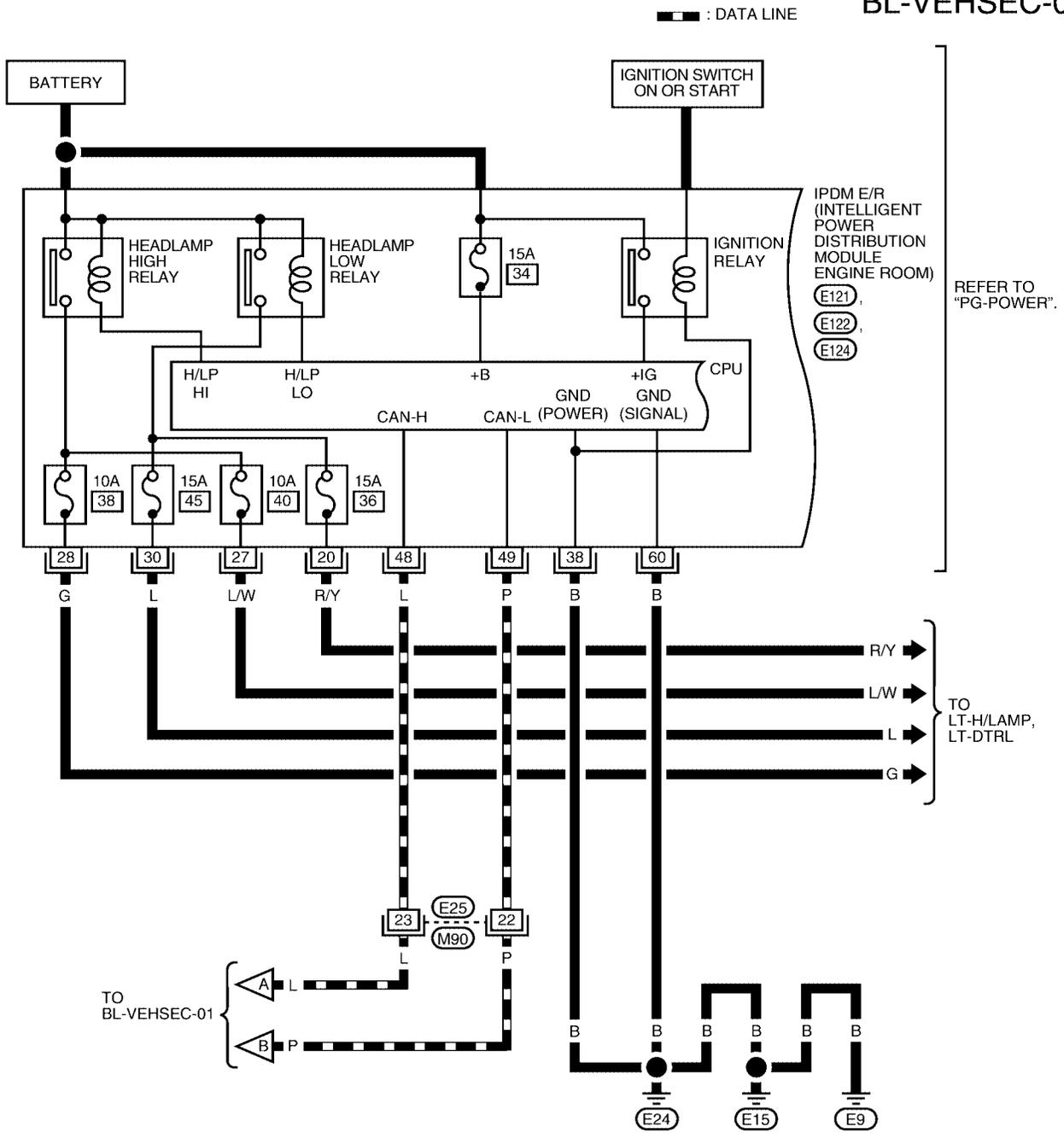


WIWA0682E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 4

BL-VEHSEC-04



1	2	3	4	5	6	7	8	9	10	11	(M90)	
12	13	14	15	16	17	18	19	20	21	22	23	24
											W	

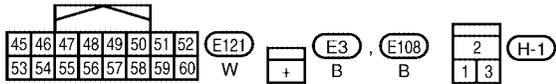
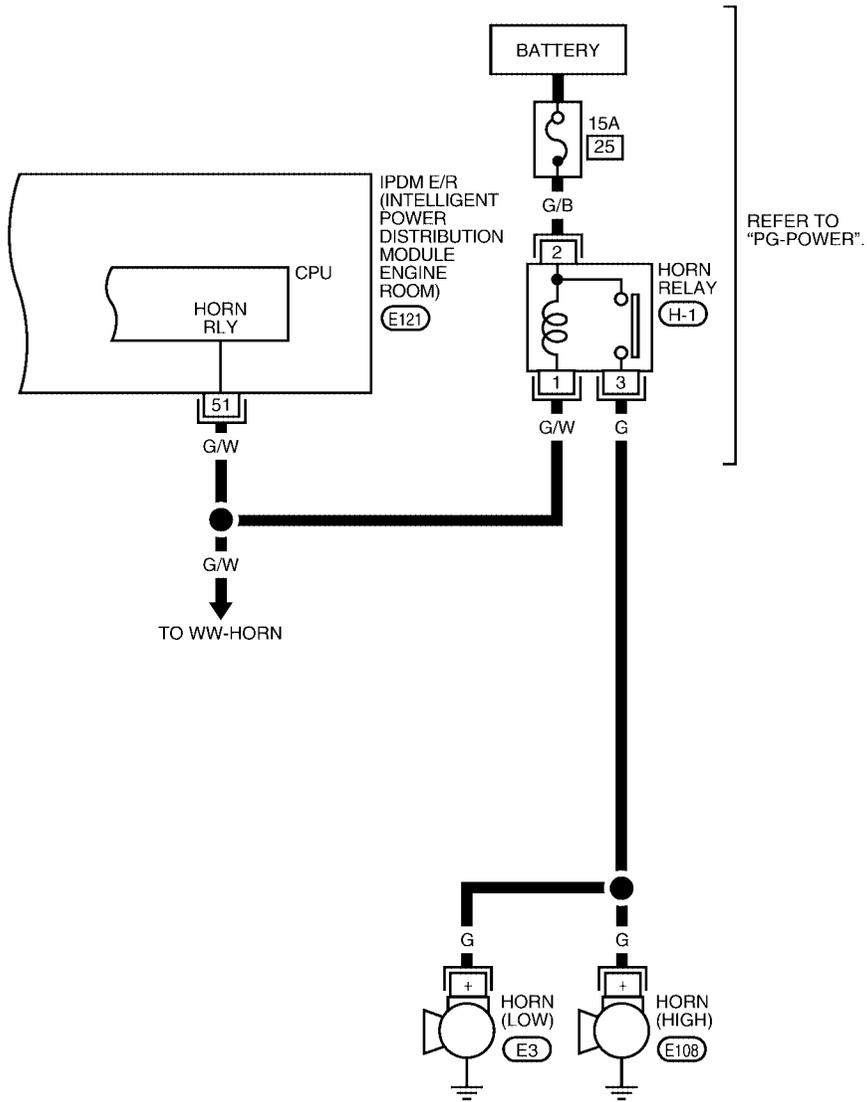
45	46	47	48	49	50	51	52	(E121)	17	18	19	20	21	22	23	(E122)	33	34	35	36	37	(E124)				
53	54	55	56	57	58	59	60	W	24	25	26	27	28	29	30	31	32	GR	38	39	40	41	42	43	44	W

W1WA0683E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 5

BL-VEHSEC-05

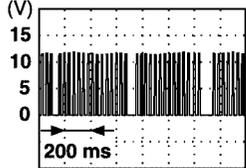


WIWA0684E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Terminals and Reference Value for BCM

EIS005WC

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
11	V	Ignition switch (ACC or ON)	Ignition switch (ACC or ON position)	Battery voltage
12	GR/L	Front door switch RH	Door close (OFF) → Open (ON)	Battery voltage → 0
13	O/B	Sliding door switch RH	Door close (OFF) → Open (ON)	Battery voltage → 0
22	Y/B	Anti-pinch serial link	When ignition switch is ON or power window timer operates	 PIIA2344E
23	G/O	Combination meter (security indicator lamp)	Goes off → Illuminates (Every 3 seconds)	Battery voltage → 0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
42	Y/G	Battery power supply	—	Battery voltage → 0
52	B/W	Ground	—	0
55	W/B	Battery power supply	—	Battery voltage
58	O	Back door switch	Door close (OFF) → Open (ON)	Battery voltage → 0
62	GR/R *1 GR *2	Front door switch LH	Door close (OFF) → Open (ON)	Battery voltage → 0
63	W/G *1 R/W *2	Sliding door switch LH	Door close (OFF) → Open (ON)	Battery voltage → 0

*1: with power back door.

*2: without power back door.

Terminals and Reference Value for IPDM E/R

EIS005WD

Terminal	Wire Color	Item	Condition			Voltage (V) (Approx.)
20	R/Y	Headlamp low (RH)	Ignition SW ON	Lighting switch 2ND position	OFF	0V
					ON	Battery voltage
27	L/W	Headlamp high (RH)	Ignition SW ON	Lighting switch HIGH or PASS position	OFF	0V
					ON	Battery voltage
28	G	Headlamp high (LH)	Ignition SW ON	Lighting switch HIGH or PASS position	OFF	0V
					ON	Battery voltage
30	L	Headlamp low (LH)	Ignition SW ON	Lighting switch 2ND position	OFF	0V
					ON	Battery voltage
38	B	Ground	—			0
48	L	CAN-H	—			—
49	P	CAN-L	—			—

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
51	G/W	Horn relay	When doors locks are operated using key fob (OFF → ON) *1	Battery voltage → 0
60	B	Ground	—	0

*1: when horn reminder is ON.

CONSULT-II Function (BCM)

EIS005WE

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

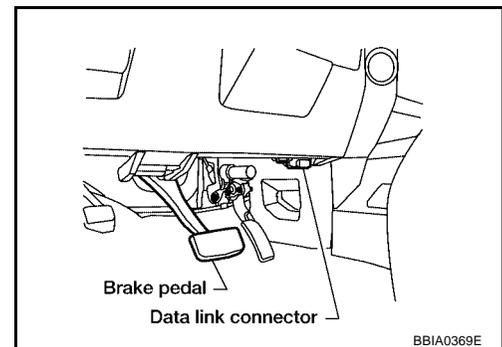
BCM diagnostic test item	Diagnostic mode	Content
Inspection by part	WORK SUPPORT	Changes setting of each function.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The results 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

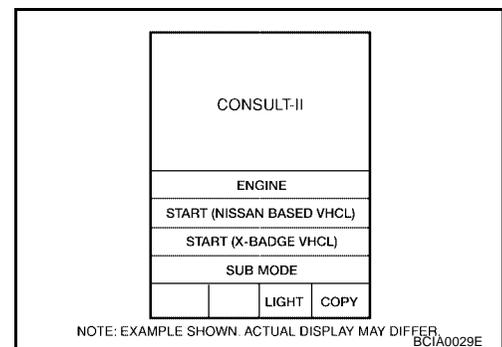
CAUTION:

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

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



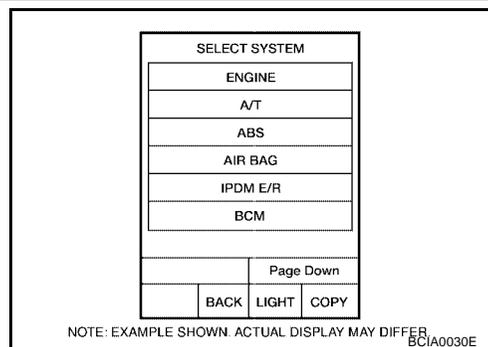
3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".



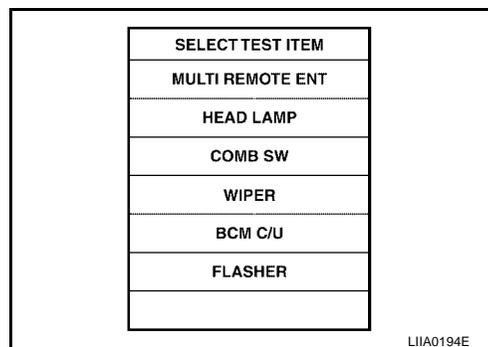
5. Touch "BCM".

VEHICLE SECURITY (THEFT WARNING) SYSTEM

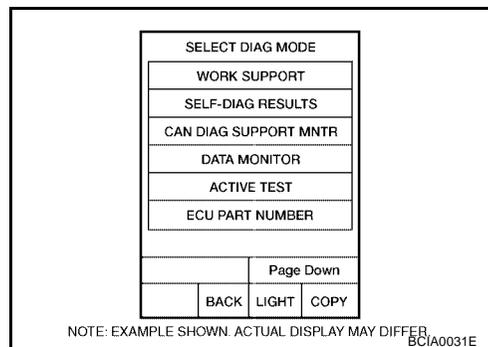
If "BCM" is not indicated, refer to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



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
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
KEYLESS TRUNK	Indicates [ON/OFF] condition of power back door open signal from keyfob.
KEYLESS PSD R	Indicates [ON/OFF] condition of power sliding door LH signal from keyfob.
KEYLESS PSD L	Indicates [ON/OFF] condition of power sliding door RH signal from keyfob.
KEYLESS PBD	Indicates [ON/OFF] condition of power back door close signal from keyfob.
TRNK OPNR SW	Indicates [ON/OFF] condition of power back door switch.
TRNK CYL SW	OFF (not equipped)
TRNK OPN MNTR	Indicates [ON/OFF] condition of power back door position.
HOOD SW	OFF (not equipped)
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Monitored Item	Description
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock 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.

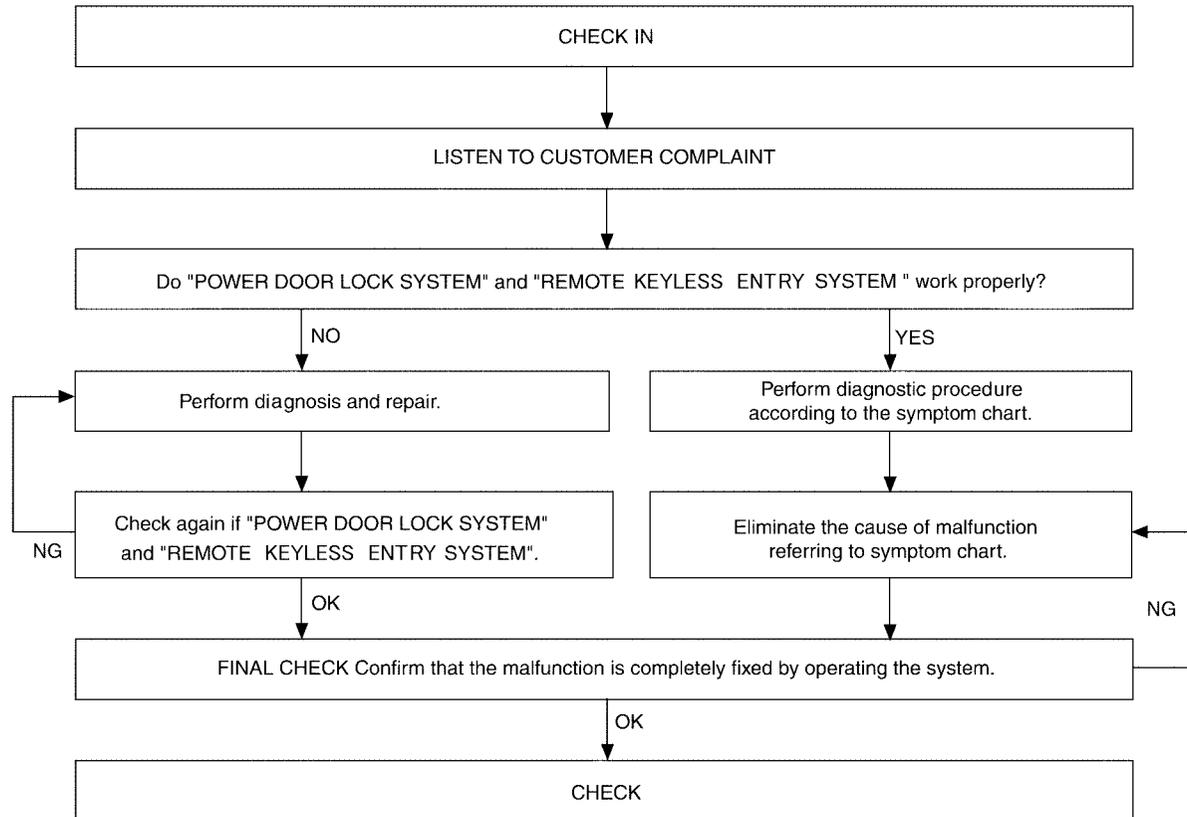
Work Support

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.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnosis WORK FLOW

EIS005WF



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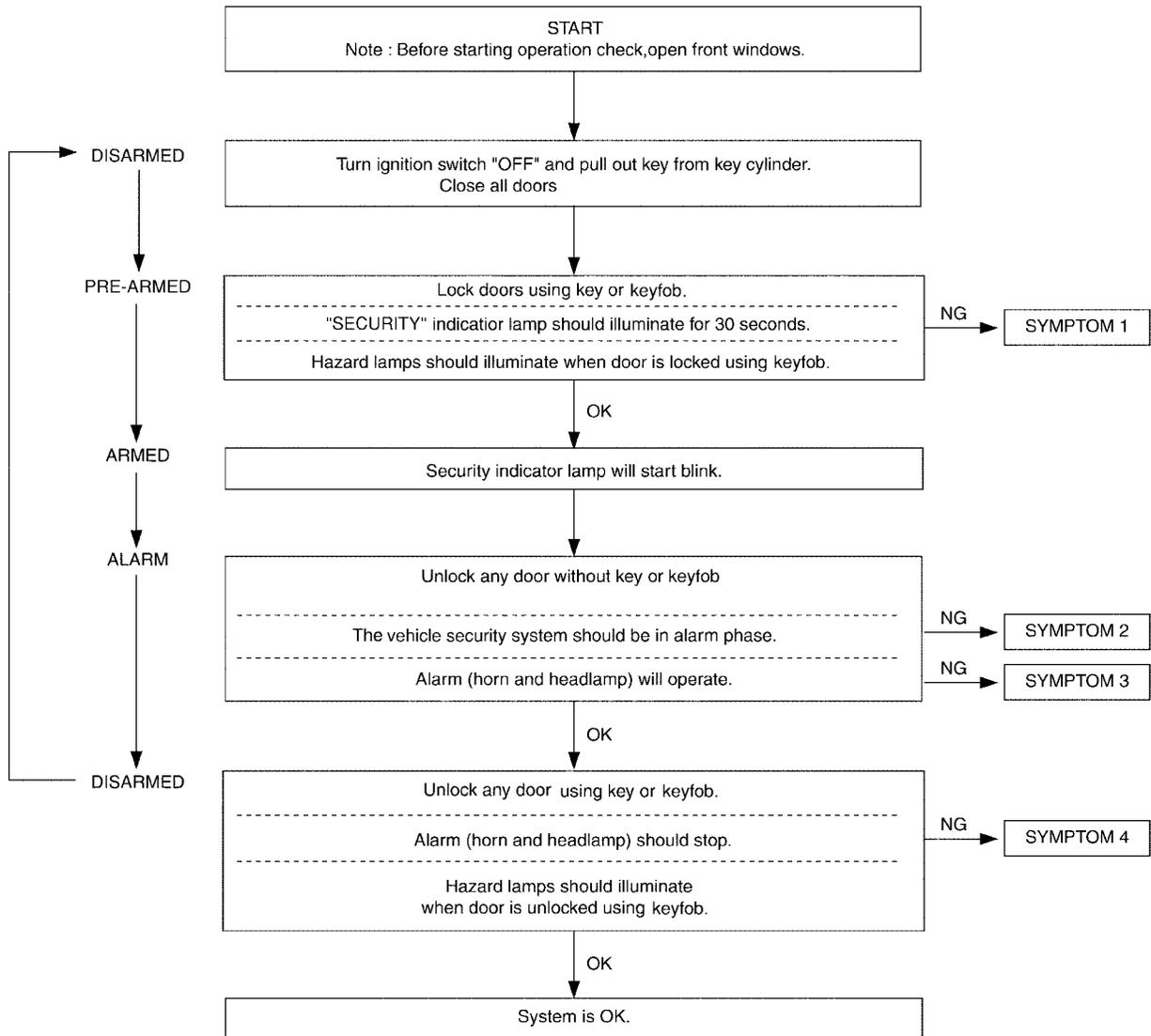
- "POWER DOOR LOCK SYSTEM" Diagnosis refer to [BL-18, "POWER DOOR LOCK SYSTEM"](#) .
- "REMOTE CONTROL SYSTEM" Diagnosis refer to [BL-54, "REMOTE KEYLESS ENTRY SYSTEM"](#) .

VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005WG

Preliminary Check

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



LIA1057E

After performing preliminary check, go to symptom chart.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Symptom Chart

EIS005WH

PROCEDURE		Diagnostic procedure
SYMPTOM		
1	All items	Diagnostic Procedure 1 Refer to BL-104, "Diagnostic Procedure 1" .
		If the above systems are "OK", replace BCM.
	Lock/unlock switch	Diagnostic Procedure 7 Refer to BL-111, "Diagnostic Procedure 6" .
		If the above systems are "OK", check main power window and door lock/unlock switch.
Door outside key	Diagnostic Procedure 3 Refer to BL-110, "Diagnostic Procedure 3" .	
	If the above systems are "OK", check main power window and door lock/unlock switch.	
Security indicator does not turn "ON".		Diagnostic Procedure 2 Refer to BL-108, "Diagnostic Procedure 2" .
		If the above systems are "OK", replace BCM.
2	Any door is opened.	Diagnostic Procedure 1 Refer to BL-104, "Diagnostic Procedure 1" .
		If the above systems are "OK", replace BCM.
3	Horn alarm	Diagnostic Procedure 5 Refer to BL-111, "Diagnostic Procedure 5" .
		If the above systems are "OK", check horn system. Refer to WW-54, "HORN" .
	Headlamp alarm	Diagnostic Procedure 6 Refer to BL-111, "Diagnostic Procedure 5" .
		If the above systems are "OK", replace BCM.
4	Door outside key	Diagnostic Procedure 3 Refer to BL-110, "Diagnostic Procedure 3" .
		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.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005W1

Diagnostic Procedure 1

Door Switch Check (Without Power Back Door)

1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

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

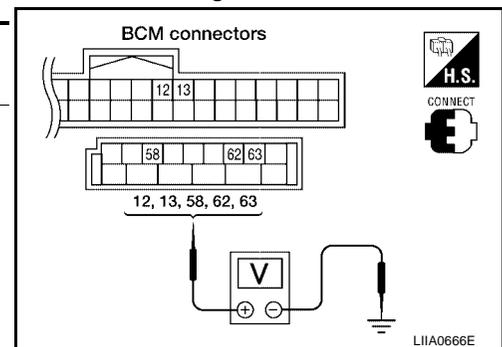
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIA0665E

 Without CONSULT-II

Check voltage between BCM connector M18 or M20 terminals 12, 13, 58, 62, 63 and ground.

Connector	Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M20	Back door switch	58 (O)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Front door switch LH	62 (GR)			
	Sliding door switch LH	63 (R/W)			
M18	Front door switch RH	12 (GR/L)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Sliding door switch RH	13 (O/B)			



OK or NG

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

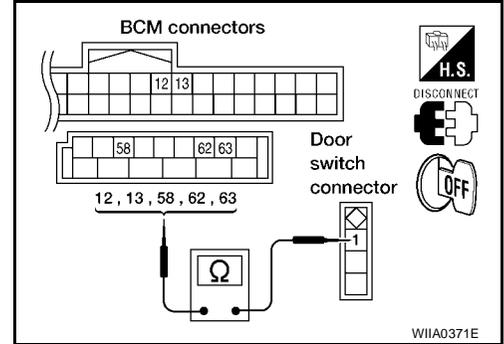
2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) or D512 (Back) terminal 1 and BCM connector M18, M20 terminals 12, 13, 58, 62 and 63.

- 1 (GR/R) - 62 (GR) : Continuity should exist.**
- 1 (GR/L) - 12 (GR/L) : Continuity should exist.**
- 1 (W/G) - 63 (R/W) : Continuity should exist.**
- 1 (R/W) - 13 (O/B) : Continuity should exist.**
- 1 (O) - 58 (O) : Continuity should exist.**

4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) or D512 (Back) terminal 1 and ground.

- 1 (GR/R, GR/L, W/G, R/W or O) - Ground : Continuity should not exist.**



OK or NG

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

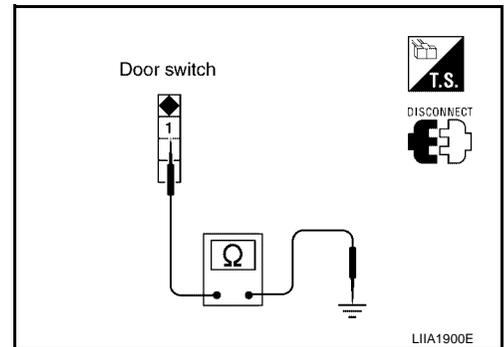
3. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
		Closed	No

OK or NG

- OK >> Check door switch case ground condition (front and sliding door) or ground circuit (back door).
- NG >> Replace door switch.



VEHICLE SECURITY (THEFT WARNING) SYSTEM

Door Switch Check (With Power Back Door)

1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", BACK DOOR SW") in DATA MONITOR mode with CONSULT-II. Refer to [BL-39, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

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

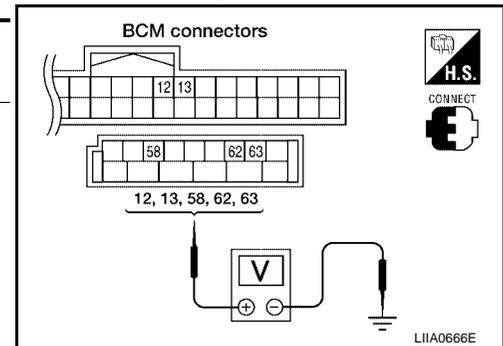
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

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 Without CONSULT-II

Check voltage between BCM connector M18 or M20 terminals 12, 13, 58, 62, 63 and ground.

Connector	Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M20	Back door latch	58 (O)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Front door switch LH	62 (GR/R)			
	Sliding door switch LH	63 (W/G)			
M18	Front door switch RH	12 (GR/L)	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Sliding door switch RH	13 (O/B)			



OK or NG

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

2. CHECK DOOR SWITCH CIRCUIT

- Turn ignition switch OFF.
- Disconnect door switch and BCM.
- Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) terminal 1 or back door latch actuator D511 terminal 7 and BCM connector M18, M20 terminals 12, 13, 58, 62 and 63

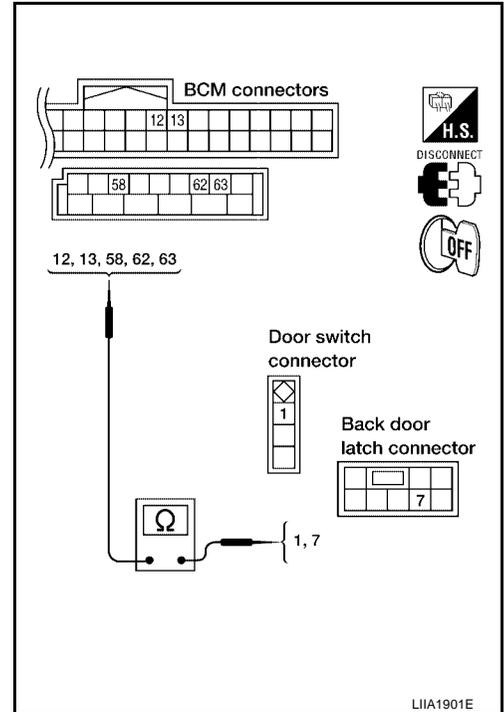
- 1 (GR/R) - 62 (GR/R) : Continuity should exist.**
- 1 (GR/L) - 12 (GR/L) : Continuity should exist.**
- 1 (W/G) - 63 (W/G) : Continuity should exist.**
- 1 (R/W) - 13 (O/B) : Continuity should exist.**
- 7 (O) - 58 (O) : Continuity should exist.**

- Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B46 (Sliding LH), B135 (Sliding RH) terminal 1 or D511 (Back door) terminal 7 and ground.

- 1 (GR/R, GR/L, W/G or R/ W) - Ground : Continuity should not exist.**
- 7 (O) - Ground : Continuity should not exist.**

OK or NG

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



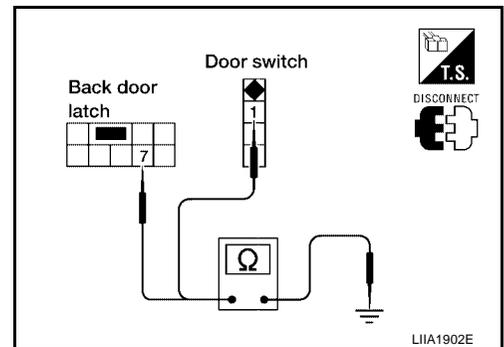
3. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
		Closed	No
Back door latch	7 – Ground	Open	Yes
		Closed	No

OK or NG

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



VEHICLE SECURITY (THEFT WARNING) SYSTEM

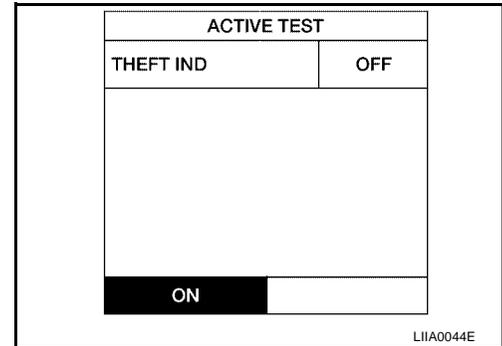
EIS005WJ

Diagnostic Procedure 2

SECURITY INDICATOR LAMP CHECK

1. SECURITY INDICATOR LAMP ACTIVE TEST

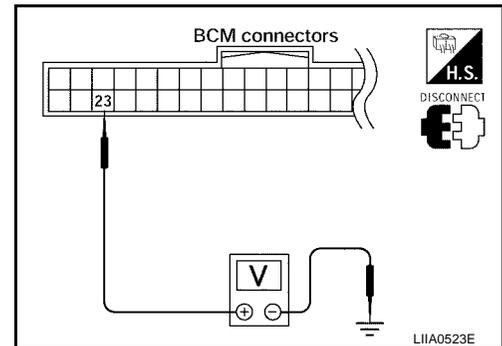
④ With CONSULT-II
Check "THEFT IND" in "ACTIVE TEST" mode with CONSULT-II.



⊗ Without CONSULT-II

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

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	23 (G/O)	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 [DI-5, "COMBINATION METERS"](#).

OK or NG

- OK >> GO TO 3.
- NG >> Replace combination meter (security indicator lamp). Refer to [DI-21, "Removal and Installation of Combination Meter"](#).

VEHICLE SECURITY (THEFT WARNING) SYSTEM

3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.
3. Check continuity between BCM connector M18 terminal 23 and combination meter (security indicator lamp) connector M24 terminal 9.

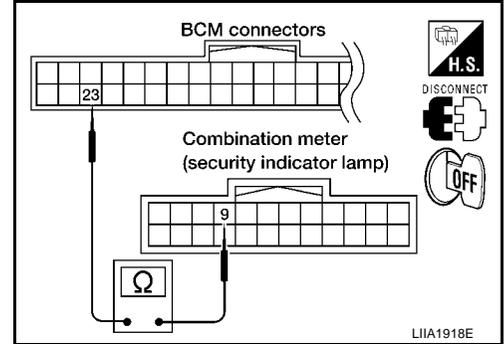
23 (G/O) - 9 (G/O) : Continuity should exist.

OK or NG

OK >> Check the following.

- 10A fuse [No. 19, located in fuse block (J/B)]
- Harness for open or short between security indicator lamp and fuse

NG >> Repair or replace harness.



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VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005WK

Diagnostic Procedure 3

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

Ⓟ 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-39, "DATA MONITOR"](#).

- When key inserted in front door LH 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

DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

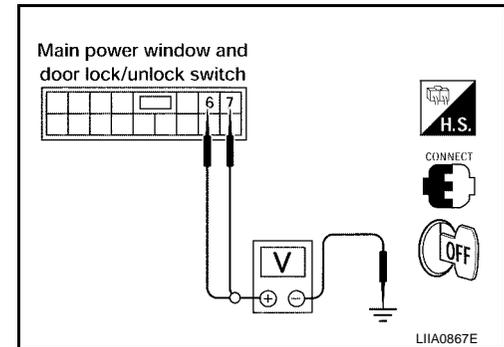
LIIA0188E

ⓧ Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 6, 7 (without power vent windows) or terminals 4, 6 (with power vent windows) and ground.

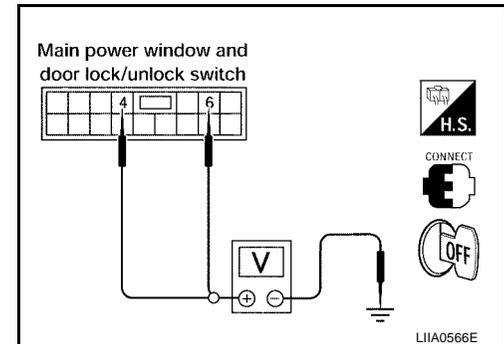
Without Power Vent Windows

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	7 (R)	Ground	Neutral/Unlock	5
			Unlock	0
	6 (L)		Neutral/Lock	5
			Lock	0



With Power Vent Windows

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	4 (L)	Ground	Neutral/Unlock	5
			Lock	0
	6 (R)		Neutral/Lock	5
			Unlock	0



OK or NG

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

2. CHECK DOOR KEY CYLINDER SWITCH LH

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 terminals 1, 5 and 6.

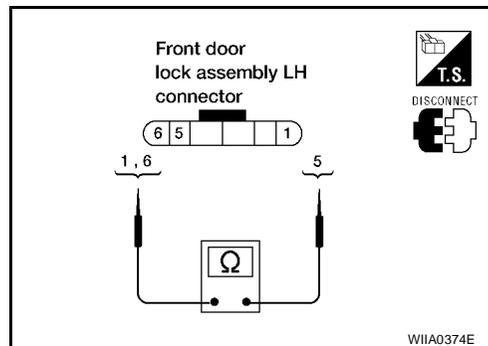
Terminals	Condition	Continuity
1 – 5	Key is turned to LOCK.	Yes
6 – 5	Key is turned to UNLOCK.	Yes

OK or NG

OK >> Check the following.

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

NG >> Replace front door lock assembly LH. Refer to [BL-194, "FRONT DOOR LOCK"](#) .



Diagnostic Procedure 4

EIS005WL

VEHICLE SECURITY HORN ALARM CHECK

1. CHECK HORN OPERATION

Check if horn sounds with horn switch.

Does horn operate?

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

No >> Check horn circuit. Refer to [WW-54, "HORN"](#) .

Diagnostic Procedure 5

EIS005WM

VEHICLE SECURITY HEADLAMP ALARM CHECK

1. CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION

Check if headlamps operate with lighting switch.

Do headlamps come on when turning switch ON?

Yes >> Headlamp alarm is OK.

No >> Check headlamp system. Refer to [LT-6, "HEADLAMP \(FOR USA\)"](#) , [LT-30, "HEADLAMP \(FOR CANADA\) - DAYTIME LIGHT SYSTEM -"](#) .

Diagnostic Procedure 6

EIS005WN

DOOR LOCK/UNLOCK SWITCH CHECK

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

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

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

Yes >> Door lock/unlock switch is OK.

No >> Refer to [BL-46, "Door Lock/Unlock Switch Check"](#) .

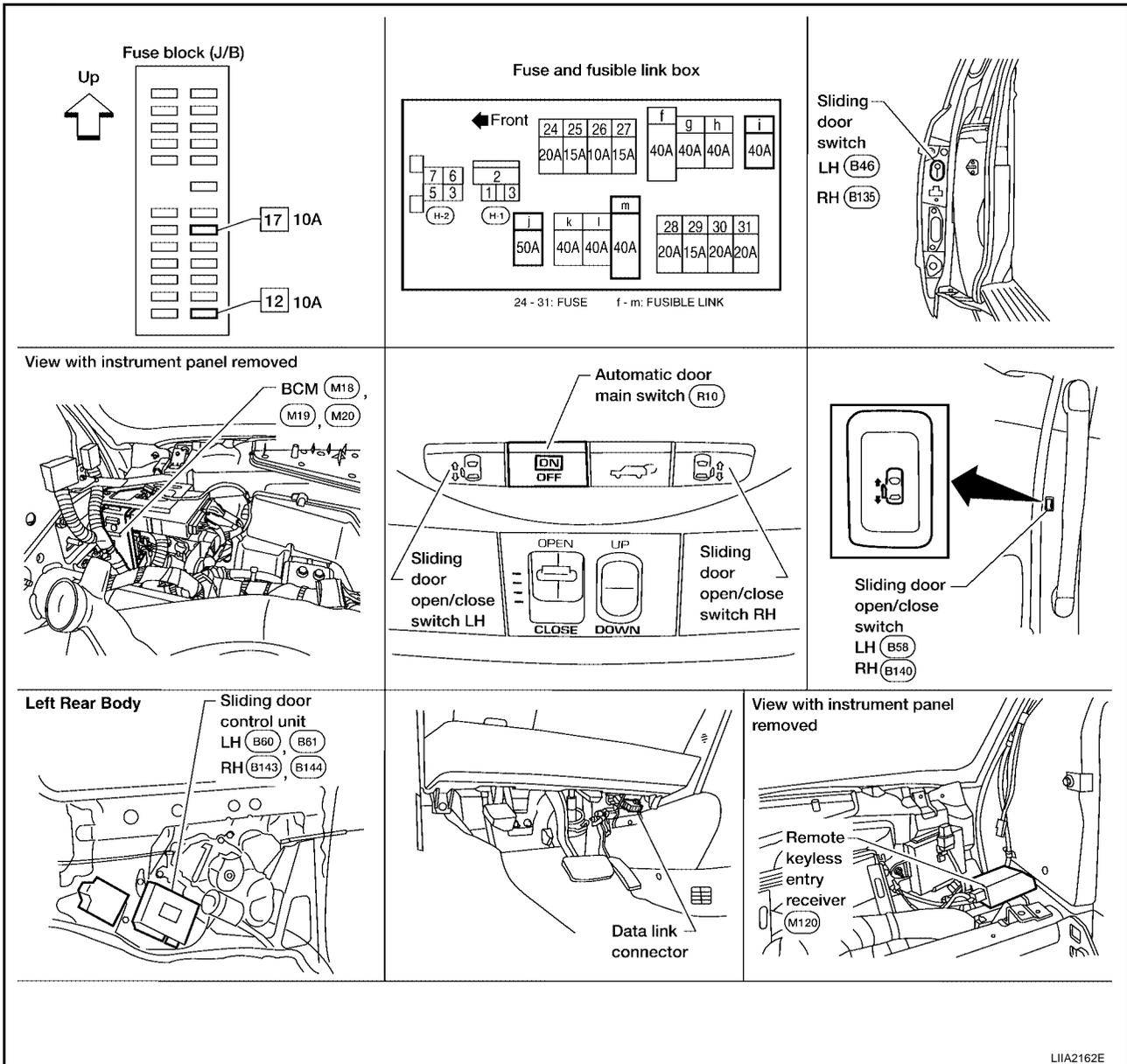
AUTOMATIC SLIDING DOOR SYSTEM

PF:28572

AUTOMATIC SLIDING DOOR SYSTEM

Component Parts and Harness Connector Location

EIS001X6



LIA2162E

System Description

EIS001X7

- It is possible to automatically open/close the sliding doors with automatic main door switch, remote keyless entry controller, or sliding door open/close switch.
- It is possible to switch the sliding doors between auto and manual operation by switching the automatic main door switch ON/OFF.

OPERATION DESCRIPTION

Automatic Door Main Switch Operation (Fully Closed → Fully Open Operation)

- When the automatic door main switch is pressed, sliding door control unit terminal 15 receives the signal.
- The sliding door control unit checks the automatic transaxle selector lever (A/T device) position through terminal 18, vehicle speed through terminal 7 and battery voltage.
- For automatic sliding door LH, fuel lid door status is checked through sliding door control unit terminal 13.
- Door lock status is checked through terminal 3. If the door is locked, the sliding door control unit will unlock the door through terminal 30.
- When the sliding door control unit receives the signal, if the auto sliding door operating enable conditions are met, it sends the unlock signal to the sliding door latch control unit.

AUTOMATIC SLIDING DOOR SYSTEM

- When the sliding door latch control unit receives the signal, it supplies voltage from terminal 10 to operate the release actuator and unlatches the door lock. A
- The sliding door control unit supplies power from terminal 33 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.) B
- When the sliding door is opened to the full-open position, the full-open position is detected by the encoder, and the sliding door control unit switches the sliding door motor OFF and controls the magnetic clutch ON → half clutch → OFF. C
- The sliding door is mechanically held in the fully open position by the checker.

Remote Keyless Entry Switch Operation (Fully Closed → Fully Open Operation)

- When the remote keyless entry switch is pressed for at least 0.5 seconds, sliding door control unit terminal 7 receives the signal. D
- The sliding door control unit checks the automatic transaxle selector lever (A/T device) position through terminal 18, vehicle speed through terminal 7 and battery voltage. E
- For automatic sliding door LH, fuel lid door status is checked through sliding door control unit terminal 13.
- Door lock status is checked through terminal 3, if the door is locked, the sliding door control unit will unlock the door through terminal 30. F
- When the sliding door control unit receives the signal, if the auto sliding door operating enable conditions are met, it sends the unlock signal to the sliding door latch control unit.
- When the sliding door latch control unit receives the signal, it supplies voltage from terminal 10 to operate the release actuator and unlatches the door lock. G
- The sliding door control unit supplies power from terminal 33 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.) H
- When the sliding door is opened to the full-open position, the full-open position is detected by the encoder, and the sliding door control unit switches the sliding door motor OFF and controls the magnetic clutch ON → half clutch → OFF. BL
- The sliding door is mechanically held in the fully open position by the checker.

Sliding Door Open/Close Switch Operation (Fully Closed → Fully Open Operation)

- When the sliding door open/close switch is pressed, sliding door control unit terminal 2 receives the signal. J
- The sliding door control unit checks the automatic transaxle selector lever (A/T device) position through terminal 18, vehicle speed through terminal 7 and battery voltage. K
- For automatic sliding door LH, fuel lid door status is checked through sliding door control unit terminal 13.
- When the sliding door control unit receives the signal, if the auto sliding door operating enable conditions are met, including automatic door main switch in the ON position, doors in the unlock position and the child lock switch in the OFF position, it sends the unlock signal to the sliding door latch control unit. L
- When the sliding door latch control unit receives the signal, it supplies voltage from terminal 10 to operate the release actuator and unlatches the door lock. M
- The sliding door control unit supplies power from terminal 33 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the sliding door is opened to the full-open position, the full-open position is detected by the encoder, and the sliding door control unit switches the sliding door motor OFF and controls the magnetic clutch ON → half clutch → OFF.
- The sliding door is mechanically held in the fully open position by the checker.

Automatic Door Main Switch Operation (Fully Open → Fully Closed Operation)

- When the automatic door main switch is pressed, the sliding door control unit terminal 15 receives the signal.
- When the sliding door control unit receives the signal, if the auto sliding door operating enable conditions are met, it operates the sliding door motor.

AUTOMATIC SLIDING DOOR SYSTEM

- The sliding door control unit supplies power from terminal 36 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the close direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the sliding door reaches the half-latch state, the half-latch switch closes and the sliding door control unit detects the signal through terminal 5.
- When the sliding door control unit receives the signal, it switches OFF the sliding door motor and sends the latch command through terminal 26 to the sliding door latch control unit terminal 6.
- When the sliding door auto closure operates the cinch latch motor and the full-latch switch detects this, sliding door latch control unit terminal 7 receives the signal and reverses the latch motor to the neutral position.
- The sliding door auto closure operation ends when the door is fully closed. The sliding door remains unlocked.

Remote Keyless Entry Operation (Fully Open → Fully Closed Operation)

- When the remote keyless entry switch is pressed for at least 0.5 seconds, the sliding door control unit terminal 7 receives the signal.
- When the sliding door control unit receives the signal, if the auto sliding door operating enable conditions are met, it operates the sliding door motor.
- The sliding door control unit supplies power from terminal 36 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the close direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the sliding door reaches the half-latch state, the half-latch switch closes and the sliding door control unit detects the signal through terminal 5.
- When the sliding door control unit receives the signal, it switches OFF the sliding door motor and sends the latch command through terminal 26 to the sliding door latch control unit terminal 6.
- When the sliding door auto closure operates the cinch latch motor and the full-latch switch detects this, sliding door latch control unit terminal 7 receives the signal and reverses the latch motor to the neutral position.
- The sliding door auto closure operation ends when the door is fully closed. The sliding door remains unlocked.

Power Assist Function

- When the sliding door is pushed or pulled from any position, operations switch to the auto open/close function.
- The automatic door main switch must be in the ON position.

Sliding Door Power Assist Operation (Fully Closed → Fully Open Operation)

- For automatic sliding door LH, fuel lid door status is checked through sliding door control unit terminal 13.
- The sliding door control unit checks the automatic transaxle selector lever (A/T device) position through terminal 18, vehicle speed through terminal 7 and battery voltage.
- When the sliding door control unit detects motion through terminals 4 and 17, if the auto sliding door operating enable conditions are met, it applies power to terminals 33 and 34 to operate the door in the open direction.
- The sliding door control unit supplies power from terminal 33 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the sliding door is opened to the full-open position, the full-open position is detected by the encoder, and the sliding door control unit switches the sliding door motor OFF and controls the magnetic clutch ON → half clutch → OFF.
- The sliding door is mechanically held in the fully open position by the checker.

Sliding Door Power Assist Operation (Fully Open → Fully Closed Operation)

- When the handle is pulled or the door is moved in the closed direction, sliding door control unit initiates the power assist close operation.
- The sliding door control unit supplies power from terminal 36 and supplies power from terminal 34 to the magnetic clutch to operate the sliding door motor and slide the sliding door in the close direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)

AUTOMATIC SLIDING DOOR SYSTEM

- When the sliding door reaches the half-latch state, the half-latch switch closes and the sliding door control unit detects the signal through terminal 5. A
- When the sliding door control unit receives the signal, it switches OFF the sliding door motor and sends the latch command through terminal 26 to the sliding door latch control unit terminal 6. B
- When the sliding door auto closure operates the cinch latch motor and the full-latch switch detects this, sliding door latch control unit terminal 7 receives the signal and reverses the latch motor to the neutral position. C
- The sliding door auto closure operation ends when the door is fully closed. The sliding door remains unlocked. D

Anti-Pinch Function

- During auto open/close operation, if pinching of an object is detected, the sliding door reverses direction to prevent pinching by moving to the full open or close position. E

Intermittent Clutch Control Function

- During automatic operation, if the door is stopped midway, for example due to the automatic door main switch being switched to OFF or a system error, the clutch is intermittently turned ON → OFF to prevent sudden opening or closing. Intermittent clutch control ends after 6 seconds or when no door motion is detected. If the vehicle is on level ground, intermittent clutch control is executed for 1/2 second. F

Precautions

- Check and inspect operation of the remote control auto sliding door system on level ground. G

Auto Sliding Door Operation Enable Conditions

Operation	Automatic door main switch or remote keyless entry		Sliding door open/close switch		Power assist	
	Fully closed → open	Fully open → closed	Fully closed → open	Fully open → closed	Fully closed → open	Fully open → closed
Main switch	—		ON			
Vehicle stop condition	Automatic transmission selector lever in P position and vehicle speed signal is less than 2 km/h	—	Automatic transmission selector lever in P position and vehicle speed signal is less than 2 km/h	—	Automatic transmission selector lever in P position and vehicle speed signal is less than 2 km/h	—
Door lock knob state	—				Unlock (if door is fully closed)	—
Battery voltage	Approx. 11V or more				About 9V min. (operates with warning chime for low voltage of 9 - 11V)	

AUTOMATIC SLIDING DOOR SYSTEM

Control When Handle Open/Closed When Operating Enable Conditions Not Yet Met

Items	Operation condition	Not met case	Control
Main switch	ON	OFF	Manual mode (Power operation is available with automatic door main switch and remote key-less entry)
A/T selector lever P position	P position	Other	Power close operation
Voltage drop	9V or more	9 - 6V	Stopped while constrained (clutch is engaged and warning chime sounds)
		6 - 0V	Manual mode

Control When Operating Enable Conditions No Longer Met

Description	Operation	Condition
Main switch turned OFF during power open or close	Warning chime active and clutch intermittent mode → Shift to manual mode (Recovery to power mode when main switch turned ON or door fully closed)	→ Shift to manual mode
A/T selector lever P position	Warning chime active continuously (0.66 second dings) and one-way operation continues if closing Warning chime active continuously (0.33 second beep followed by 0.33 second pause) and one-way operation continues if opening. Warning chime remains on after completing open function.	Stop continued
Voltage drop 11 - 9V	One-way operation continued (equivalent to the case of starting voltage ← 11V for handle operation with warning chime active)	Normal operation
Voltage drop 9 - micro reset V	Motor stopped (clutch ON) → stop continued while still constrained → (Switching the main switch OFF shifts operation to intermittent mode.)	→ Shift to manual mode unless voltages returns to >9 V within 5 seconds
Voltage drop below micro reset V (Clutch hold not possible voltage)	<ul style="list-style-type: none"> ● Stop continued while still constrained (Clutch ON circuit) Clutch is released when micro reset occurs ● The clutch force is weak, so there is slipping on hills, etc. 	→ Shift to manual mode

Warning Chime Active Conditions

The warning chime uses two types of audio warnings, a friendly chime and a warning chime. The friendly chime consists of dings lasting 0.66 seconds each immediately followed by the next ding. The warning chime consists of beeps lasting 0.33 seconds with a pause of 0.33 seconds between each beep.

Operation status	Operation or conditions	Warning chime pattern
When reverse operation starts	When reverse operation detected	Friendly chime 1.33 seconds, 2 dings
During power close	When vehicle not in P position	Friendly chime Continuous
During power open or close	Obstacle is detected	Warning chime 2 seconds, 3 beeps
During power open	When vehicle not in P position or vehicle is moving at greater than 2 km/h	Warning chime Continuous until vehicle is shifted to P position

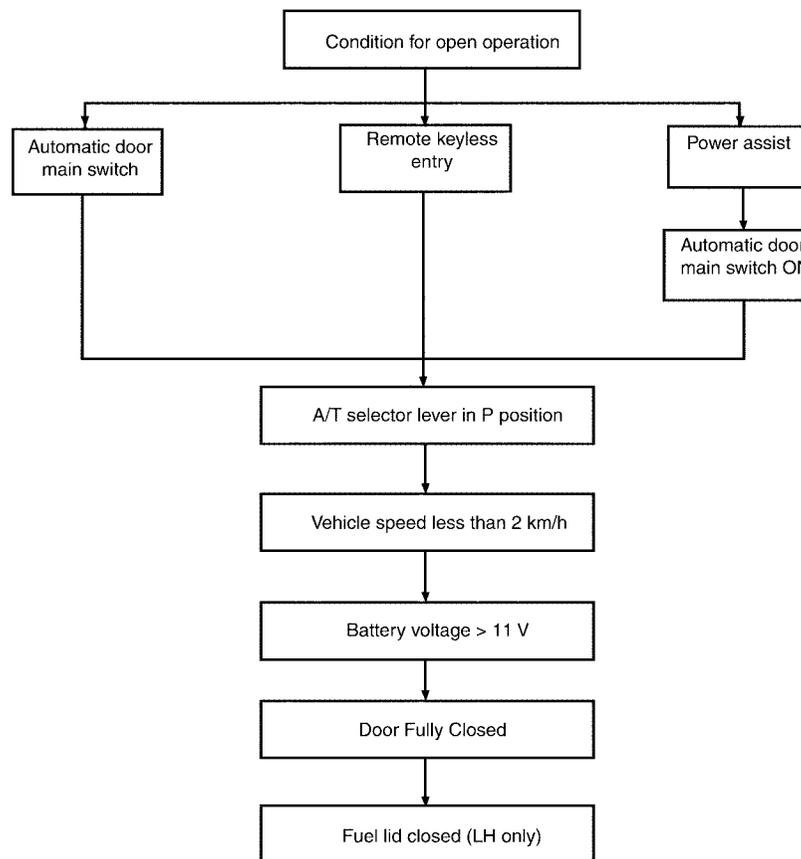
AUTOMATIC SLIDING DOOR SYSTEM

Reverse Conditions

Type	Control
Automatic door main switch, remote keyless entry or sliding door open/close switch operation	Both open/close directions
Detection method	Operation speed and motor current change direction
Non-reversed area	<ul style="list-style-type: none"> ● Between full open and approx. 45 mm (near full-open lock) ● Closure operation area
Number of times reverse allowed	A maximum of one obstacle is allowed during an open or close operation. If a second obstacle is detected, the door will enter manual mode.

Operation Chart

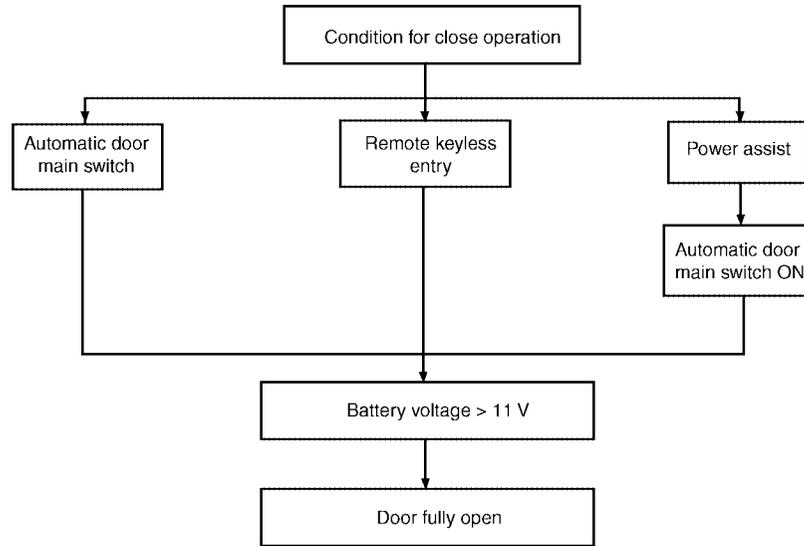
- Open operation from fully closed



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AUTOMATIC SLIDING DOOR SYSTEM

- Close operation from fully open



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AUTOMATIC SLIDING DOOR SYSTEM

Initialization Mode

Initialization mode is used to set the default values of door full open and closed positions and normal motor current.

It is necessary to complete initialization and reset the default settings under any of the following circumstances:

- Sliding door control unit is replaced.
- Sliding door motor is replaced.
- Sliding door is adjusted.
- Sliding door panel is replaced or repaired.
- Body panel near sliding door is replaced or repaired.
- Any sliding door roller is replaced or adjusted.
- Any sliding door striker is replaced or adjusted.
- Any sliding door dovetail is replaced or adjusted.
- Sliding door lock assembly is replaced.
- Rear rail is replaced.
- Sliding door weatherstrip is replaced.
- Sliding door contact switch is replaced or adjusted.
- When the battery is first connected, the sliding door control unit is automatically set to the initialization mode.

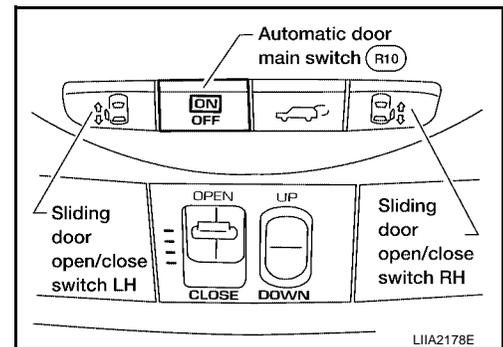
The sliding door control unit may be manually set to initialization mode by performing the following procedure.

SLIDING DOOR INITIALIZATION PROCEDURE

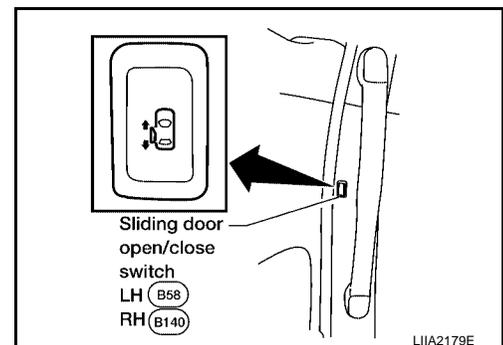
NOTE:

While in initialization mode, only the overhead sliding door open/close switches are enabled. Remote keyless entry, door pillar switch and power assist functions are disabled. Each of the power sliding doors must be initialized individually. The following procedure can be repeated for each power sliding door needing initialization.

1. Open the sliding door being initialized.
2. Turn ignition switch ON.
3. Turn the Automatic Door Main Switch OFF.



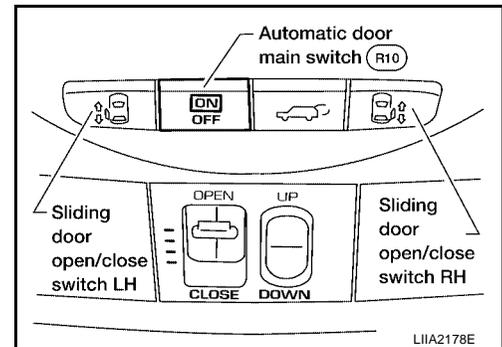
4. Within 3 seconds after step 3, press the door pillar Sliding Door Open/Close Switch of the door being initialized 10 times within 10 seconds.



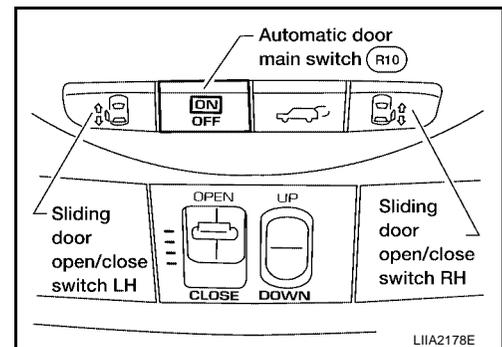
5. Within 3 seconds after step 4, turn ignition switch OFF and then ON.
 - You should hear three sliding door warning chimes.

AUTOMATIC SLIDING DOOR SYSTEM

- The three chimes indicate the sliding door control unit has entered initialization mode.
 - Normal door functions are disabled during initialization.
6. Turn the Automatic Door Main Switch ON.



7. Press and HOLD the overhead Sliding Door Open/Close Switch of the door being initialized until the door completely closes and stops, then release the switch.



8. Press and HOLD the same overhead Sliding Door Open/Close Switch of the door being initialized again until the door completely opens and stops, then release the switch.
9. Press and HOLD the same overhead Sliding Door Open/Close Switch of the door being initialized again until the door completely closes and stops, then release the switch.
10. Turn ignition switch OFF.

The power sliding door initialization process is complete. The above procedure may be repeated for the other power sliding door (if equipped).

SLIDING DOOR LATCH AUTO CLOSURE FUNCTION DESCRIPTION

- If the sliding door is ajar (with lock and striker engaged), the motor automatically retracts the door to fully close it.
- During auto-close operation, if the exterior/interior handle is operated, the retraction mechanism is mechanically cancelled, and the door can open/close.

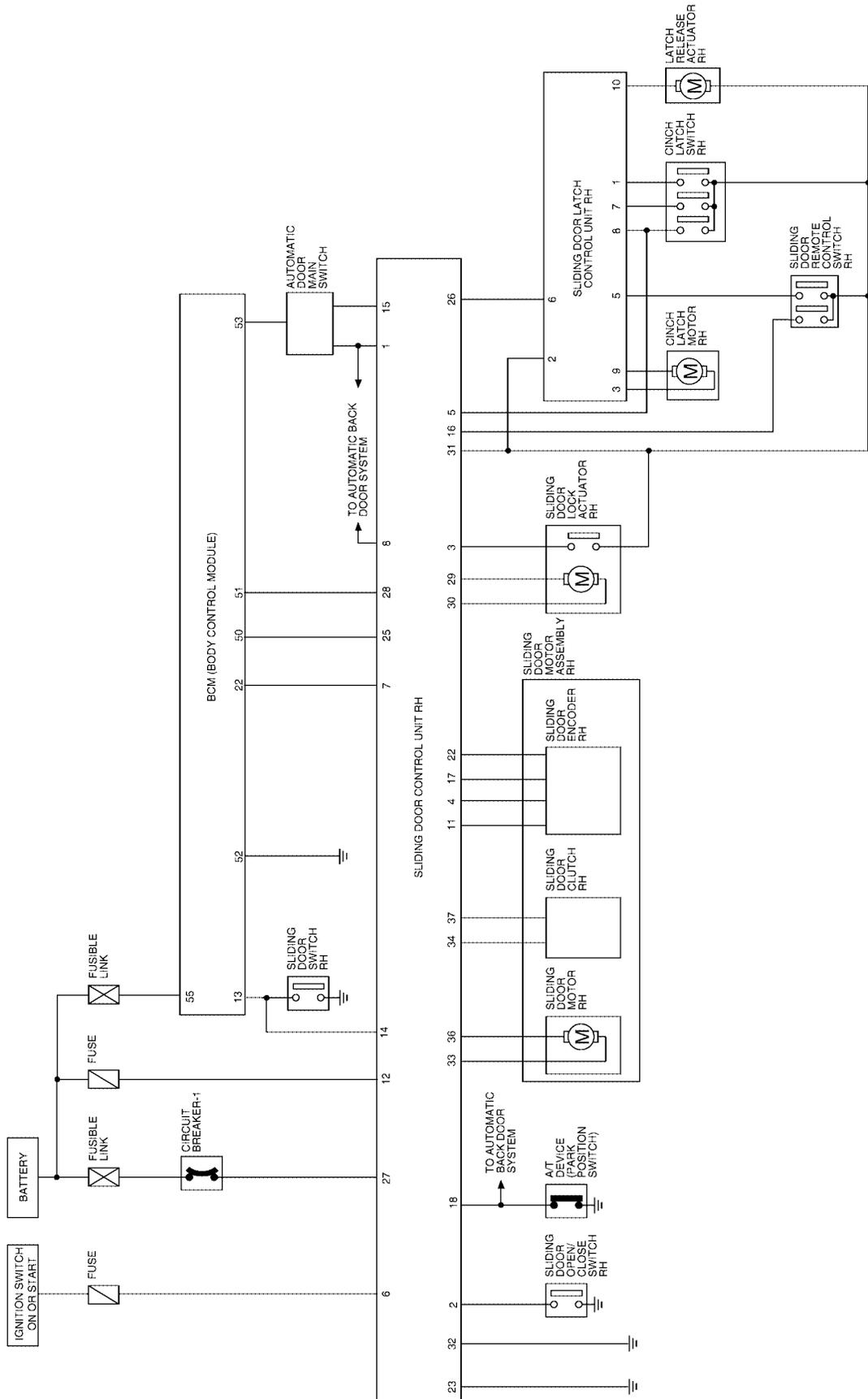
SLIDING DOOR LATCH AUTO CLOSURE OPERATION DESCRIPTION

- If the sliding door is ajar, sliding door latch control unit terminal 8 receives the signal, supplies power from terminal 3 to cinch latch motor terminals 1, grounds sliding door latch control unit terminal 9 from terminal 2, and rotates the cinch latch motor in the close direction.
- When the motor rotates, the cable is retracted and the close lever rotated.
- Pressed by the rotated close lever, the latch rotates and pulls in the door until it is fully latched.
- When the sliding door is fully latched, sliding door latch control unit terminal 7 receives the signal, supplies power from terminal 9 to cinch latch motor terminal 2, grounds sliding door control unit terminals 3 from terminal 1, and rotates the closure motor in the open direction.
- Then, when the neutral switch is pressed and the signal is received by sliding door latch control unit terminal 1, it stops the cinch latch motor and stops with the door fully closed.

AUTOMATIC SLIDING DOOR SYSTEM

Schematic WITH RIGHT HAND SLIDE DOOR AUTO CLOSURE SYSTEM

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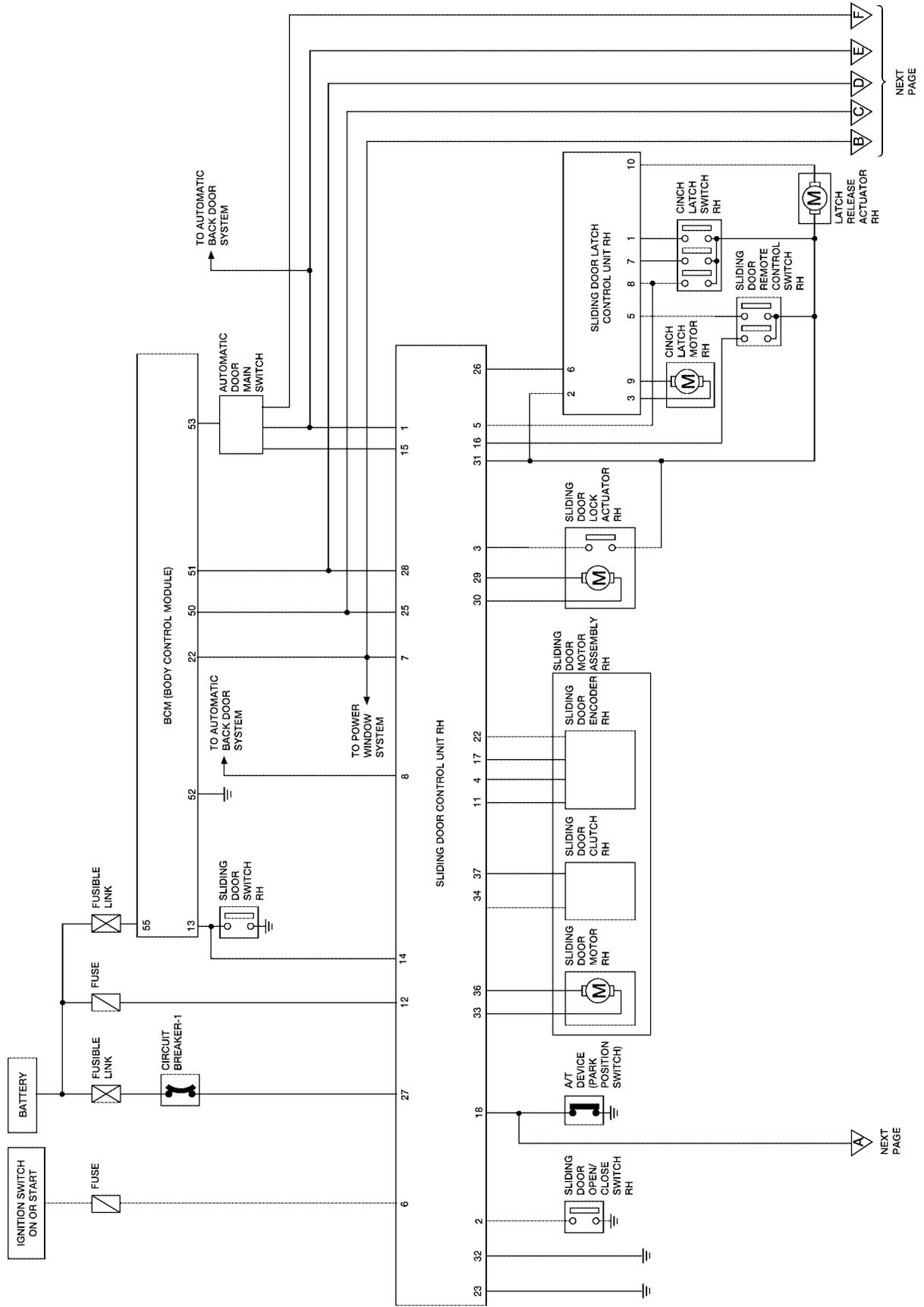
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AUTOMATIC SLIDING DOOR SYSTEM

WITH RIGHT AND LEFT HAND SLIDE DOOR AUTO CLOSURE SYSTEM

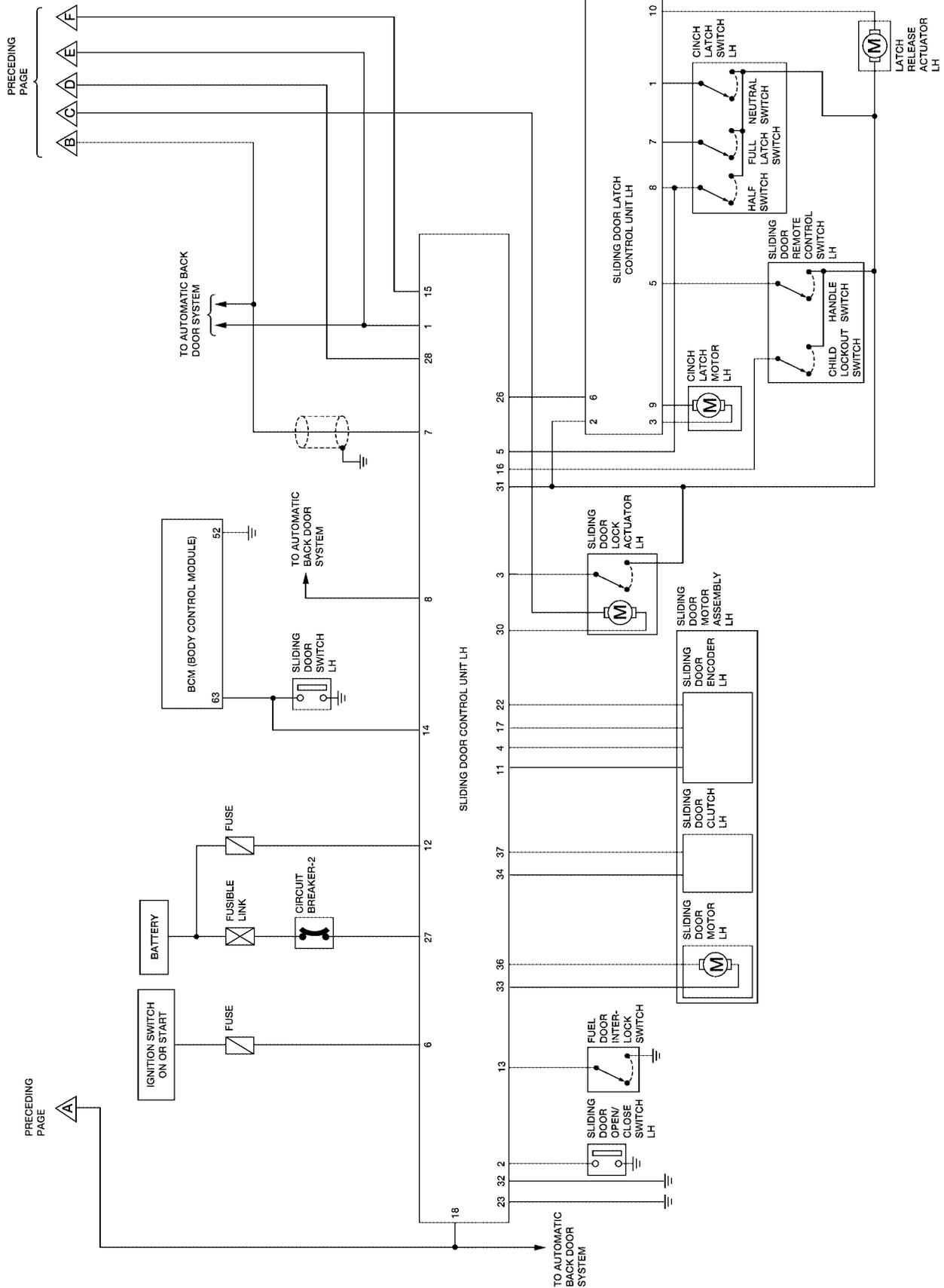


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AUTOMATIC SLIDING DOOR SYSTEM



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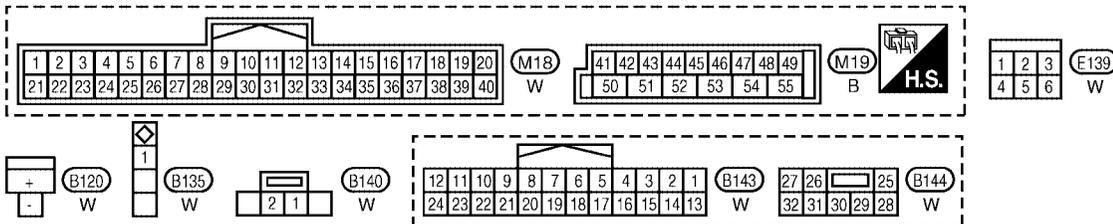
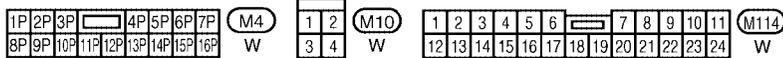
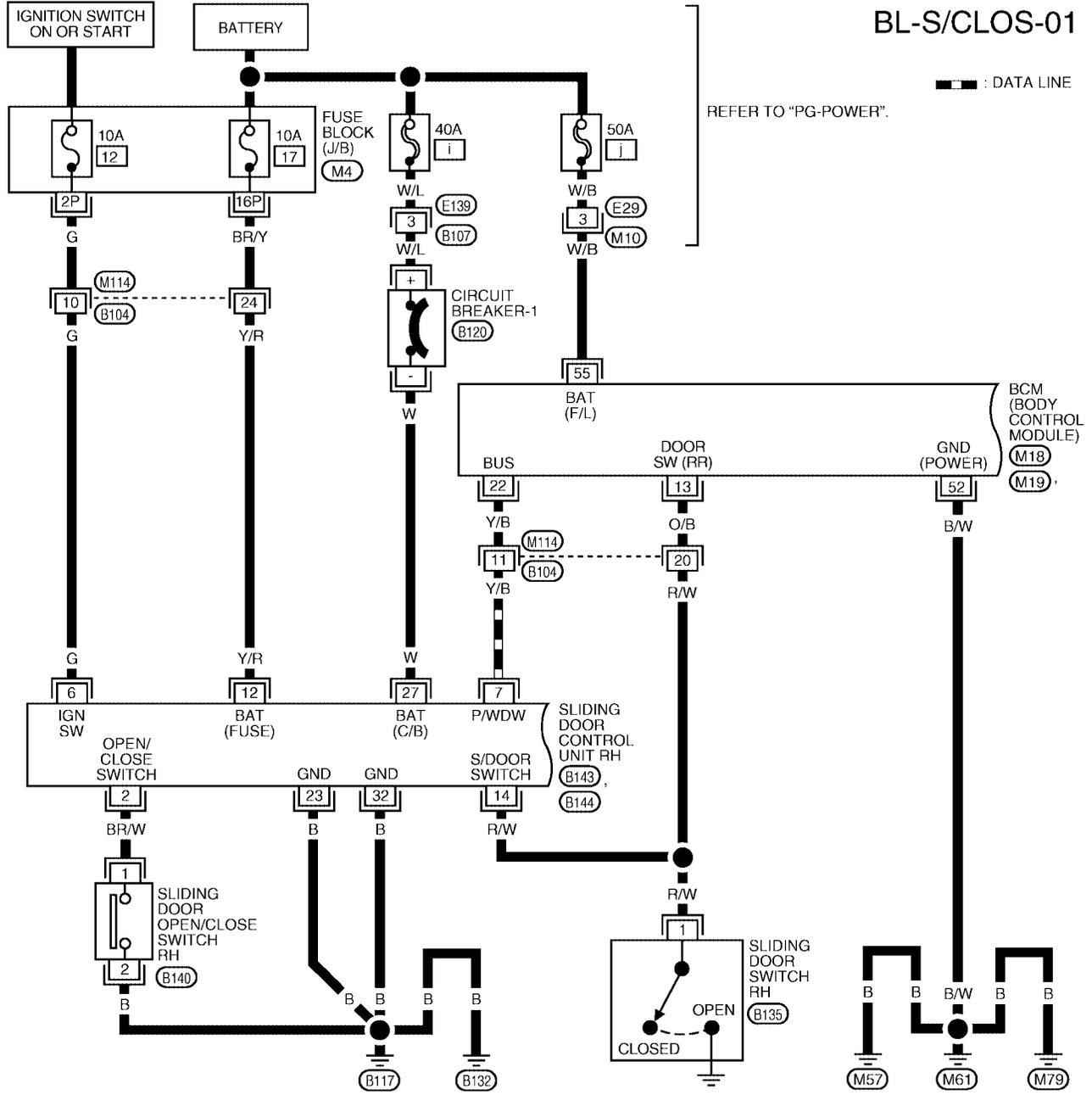
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AUTOMATIC SLIDING DOOR SYSTEM

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Wiring Diagram — S/CLOS — WITH RIGHT HAND SLIDE DOOR AUTO CLOSURE SYSTEM

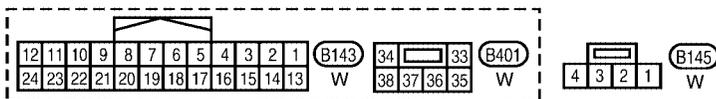
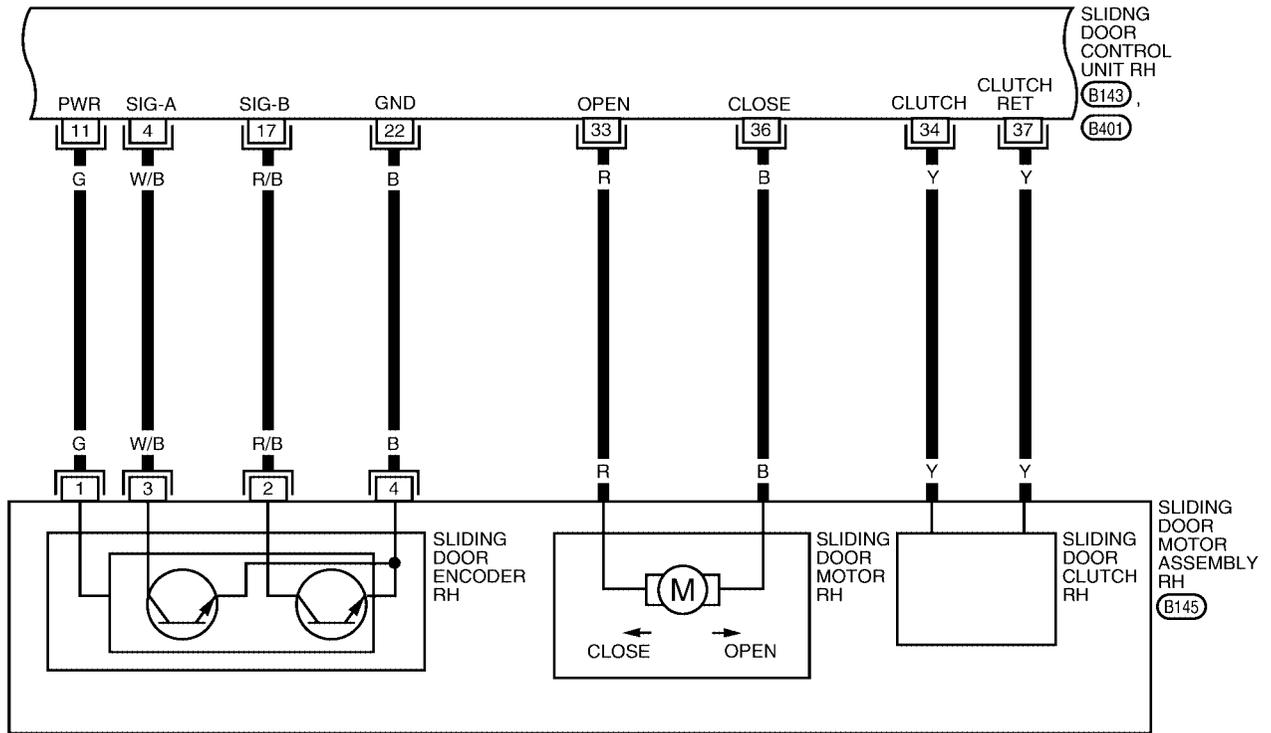
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AUTOMATIC SLIDING DOOR SYSTEM

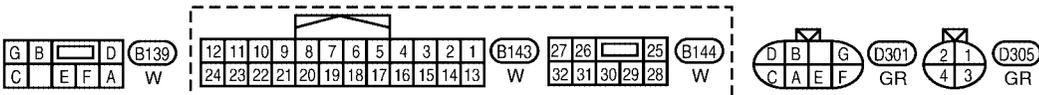
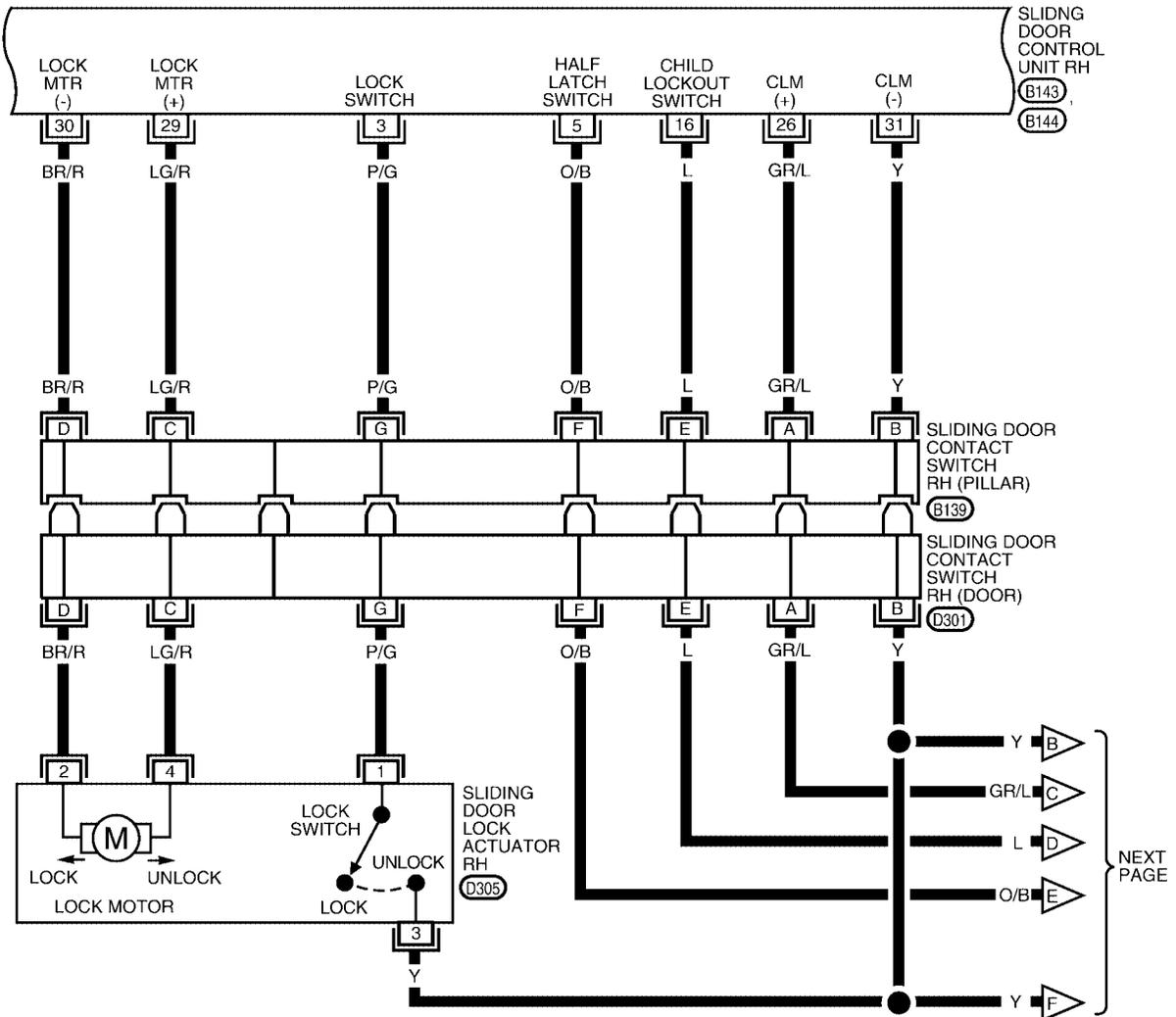
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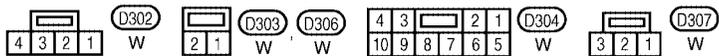
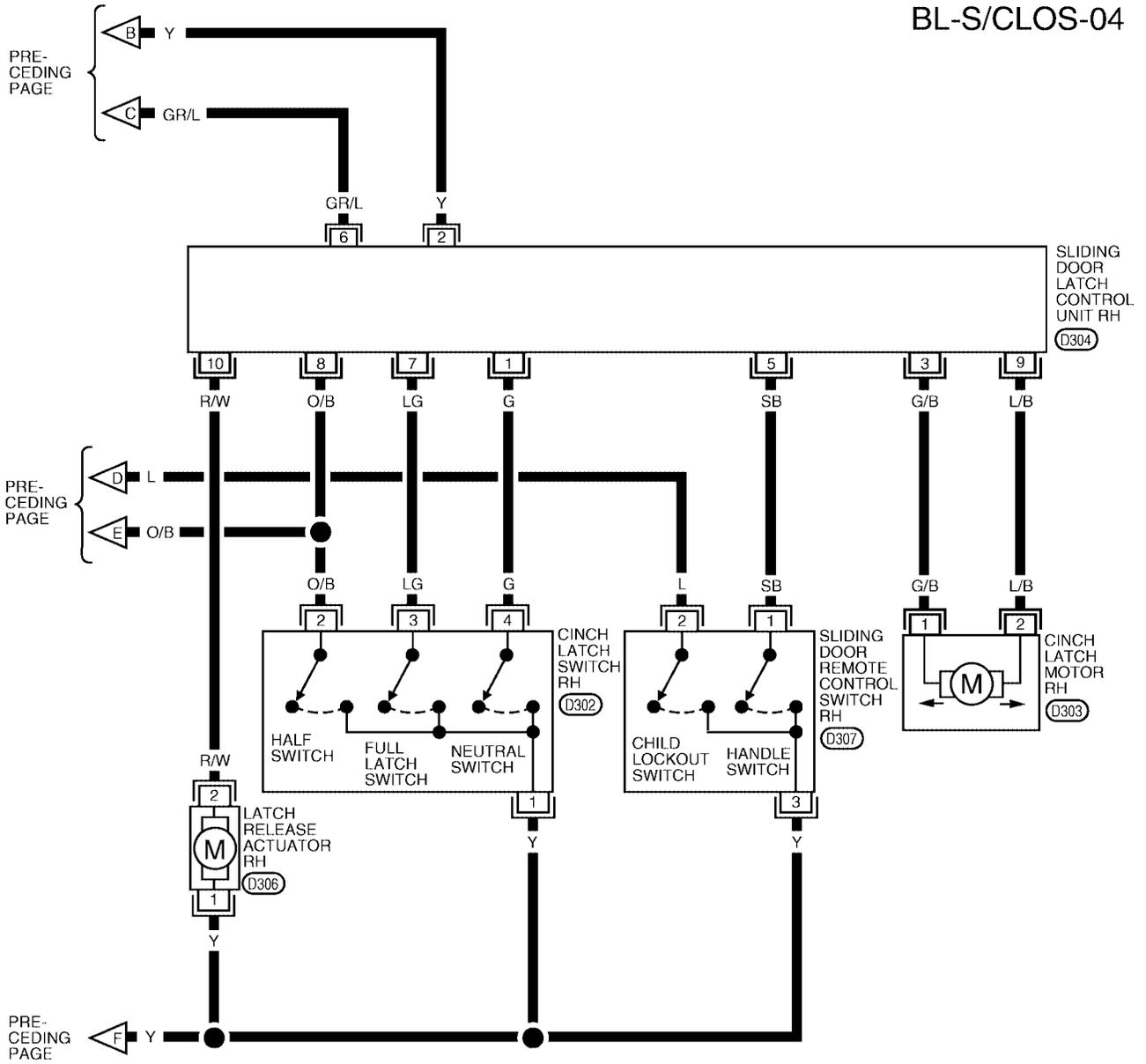
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AUTOMATIC SLIDING DOOR SYSTEM

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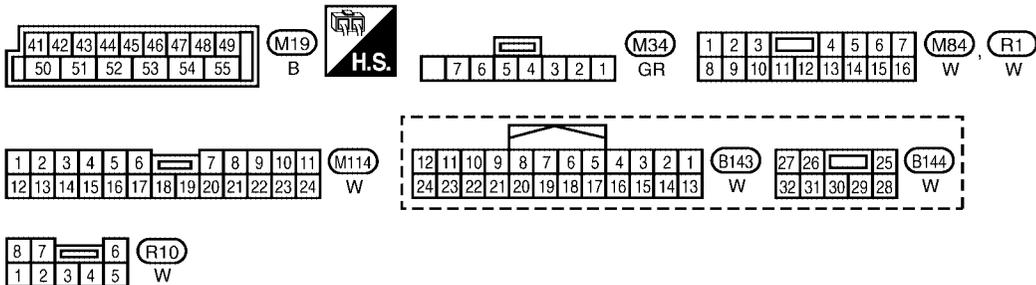
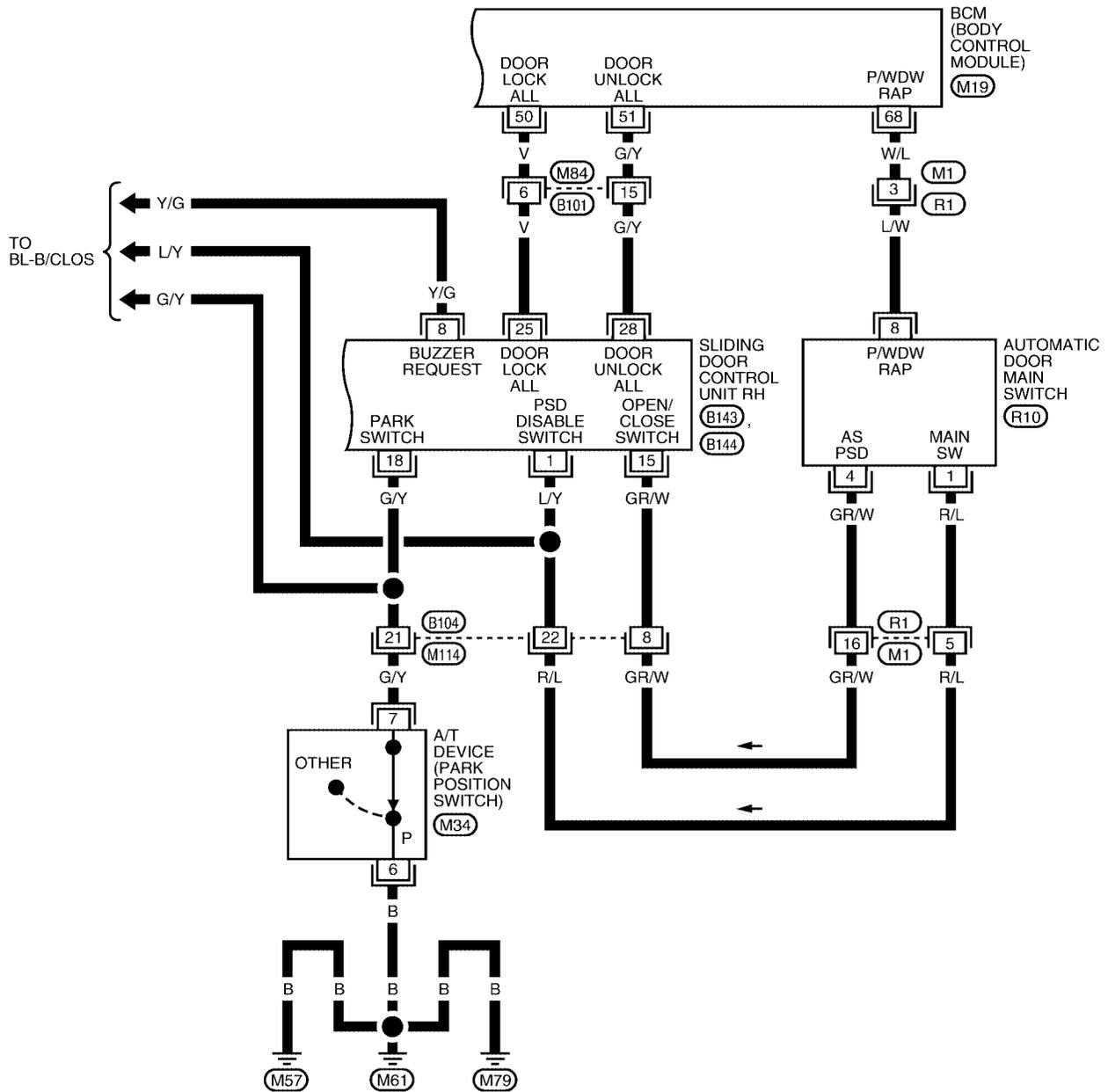
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AUTOMATIC SLIDING DOOR SYSTEM

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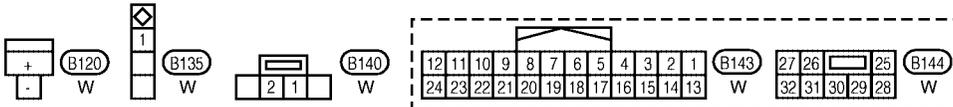
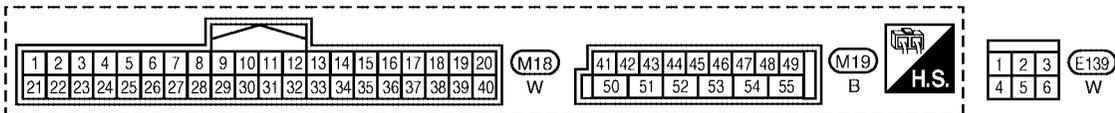
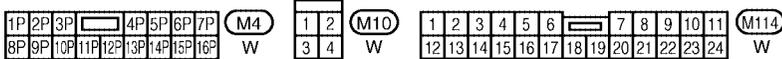
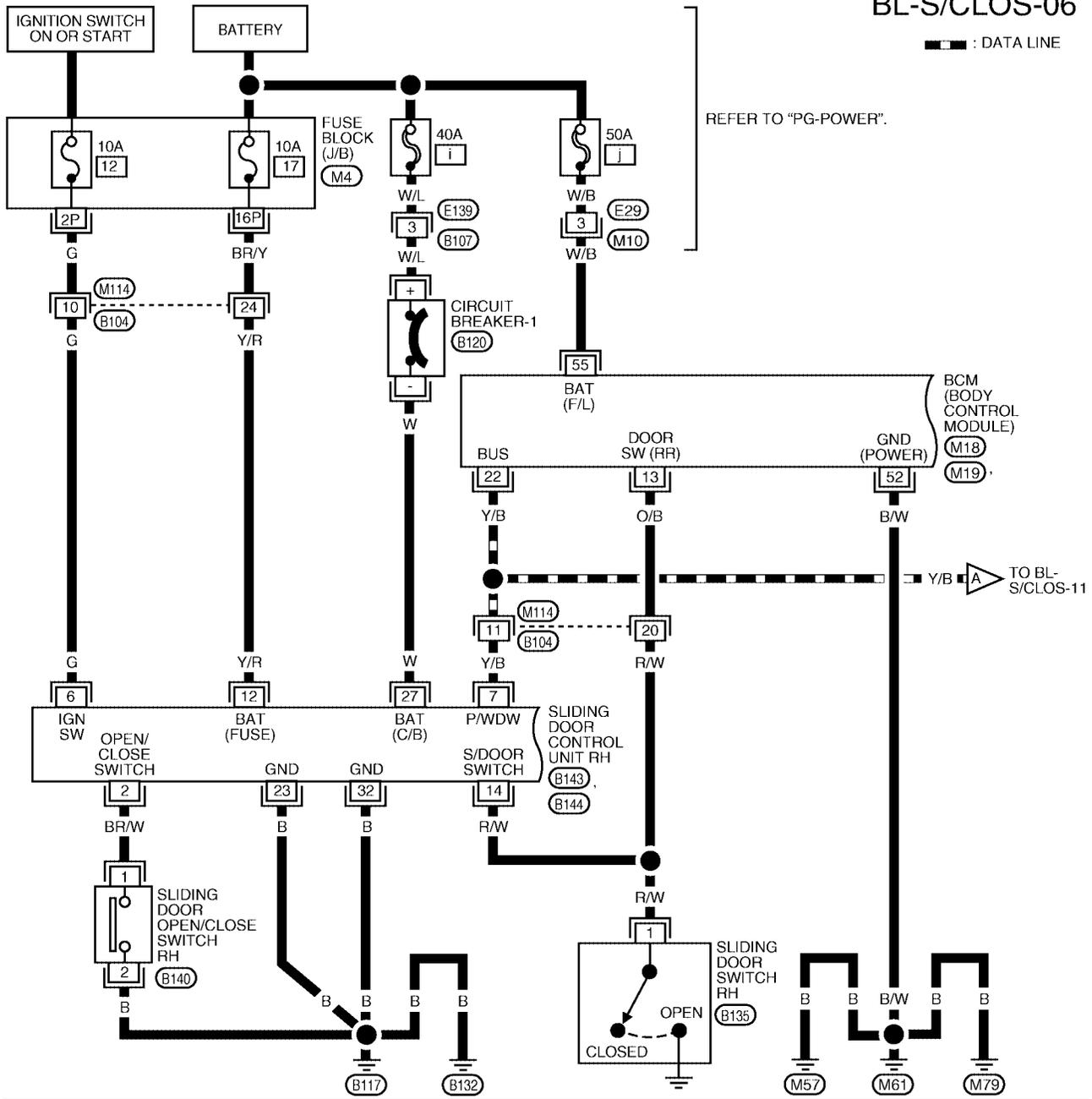
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AUTOMATIC SLIDING DOOR SYSTEM

WITH RIGHT AND LEFT HAND SLIDE DOOR AUTO CLOSURE SYSTEM

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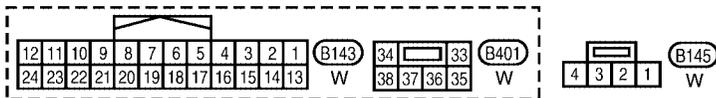
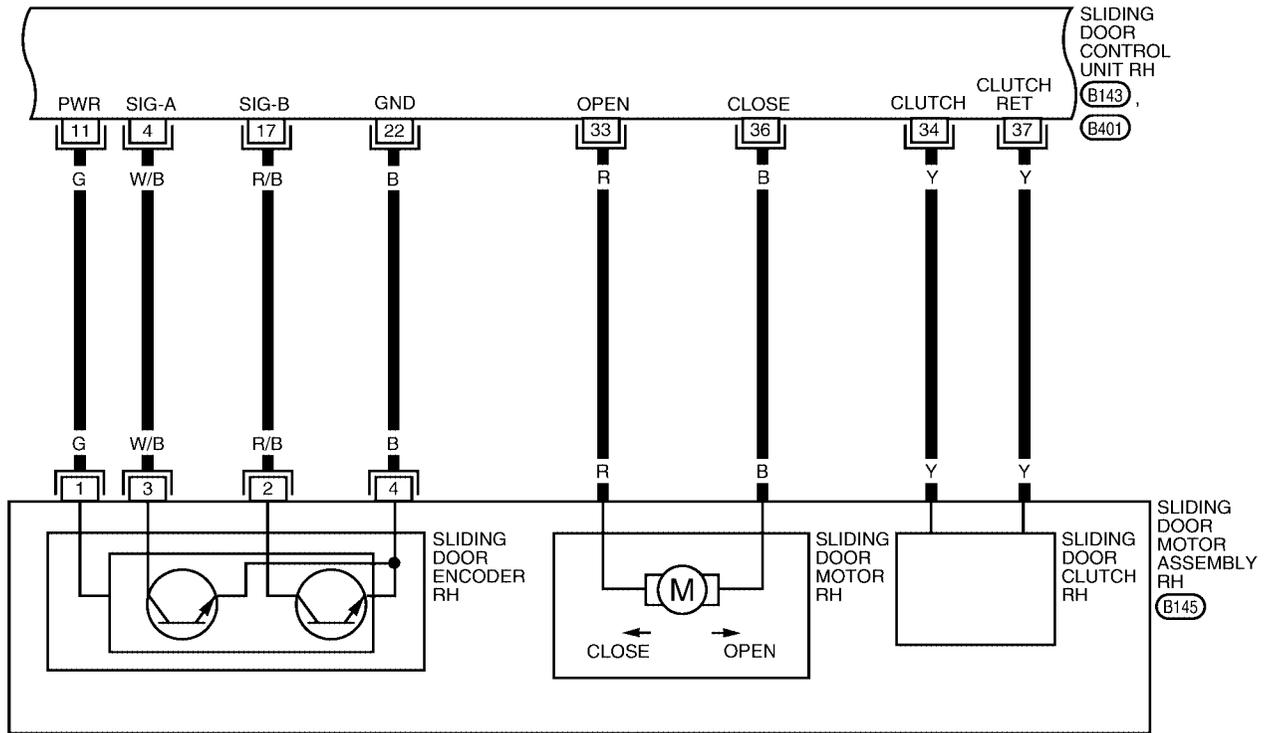
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AUTOMATIC SLIDING DOOR SYSTEM

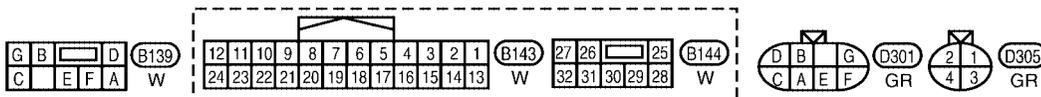
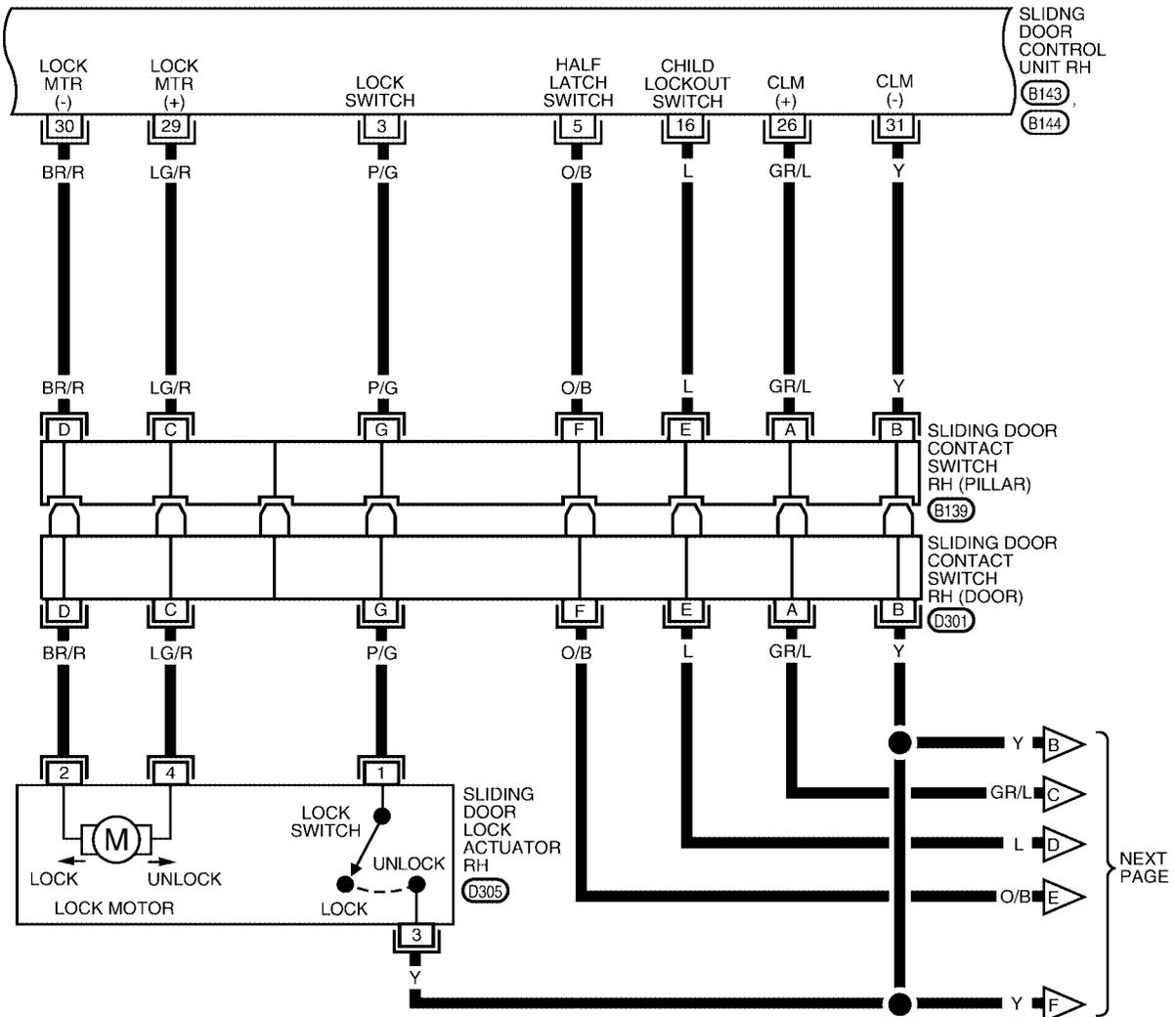
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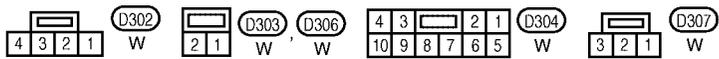
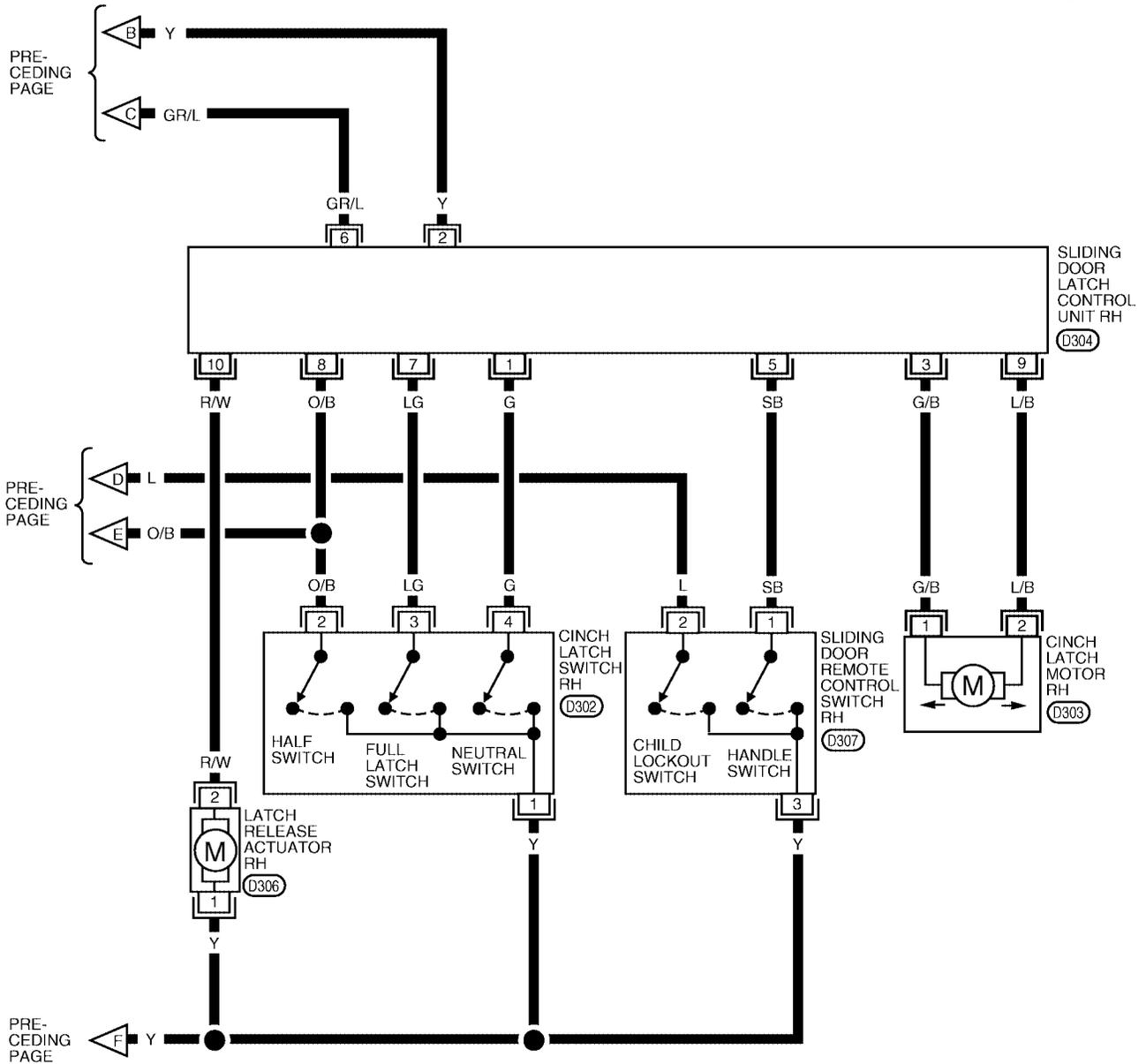
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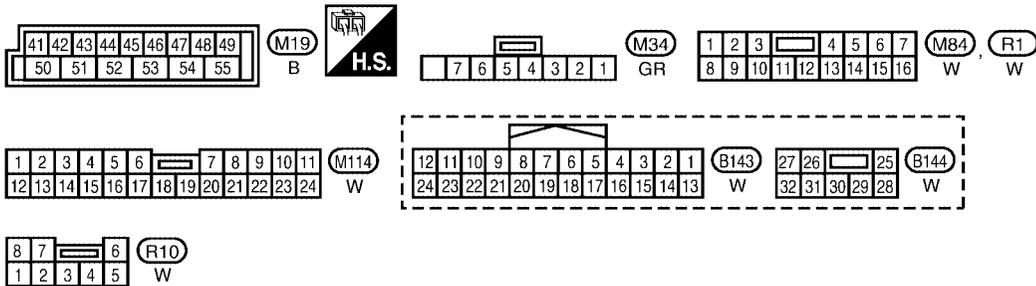
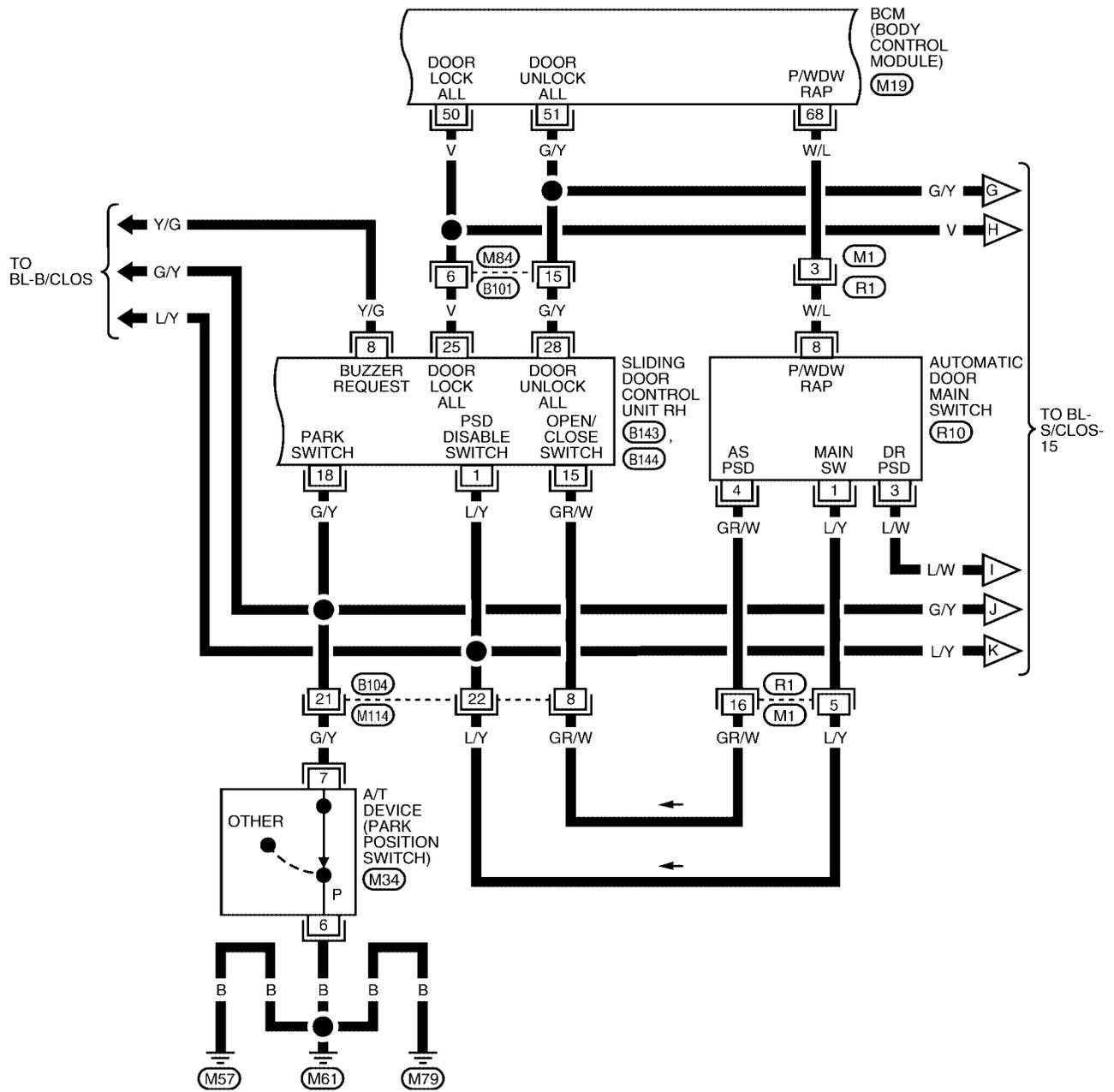
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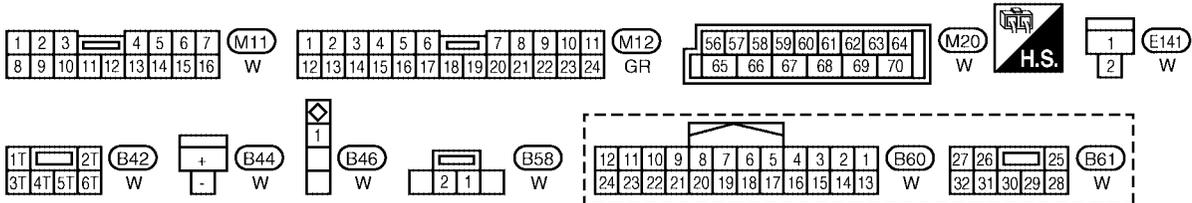
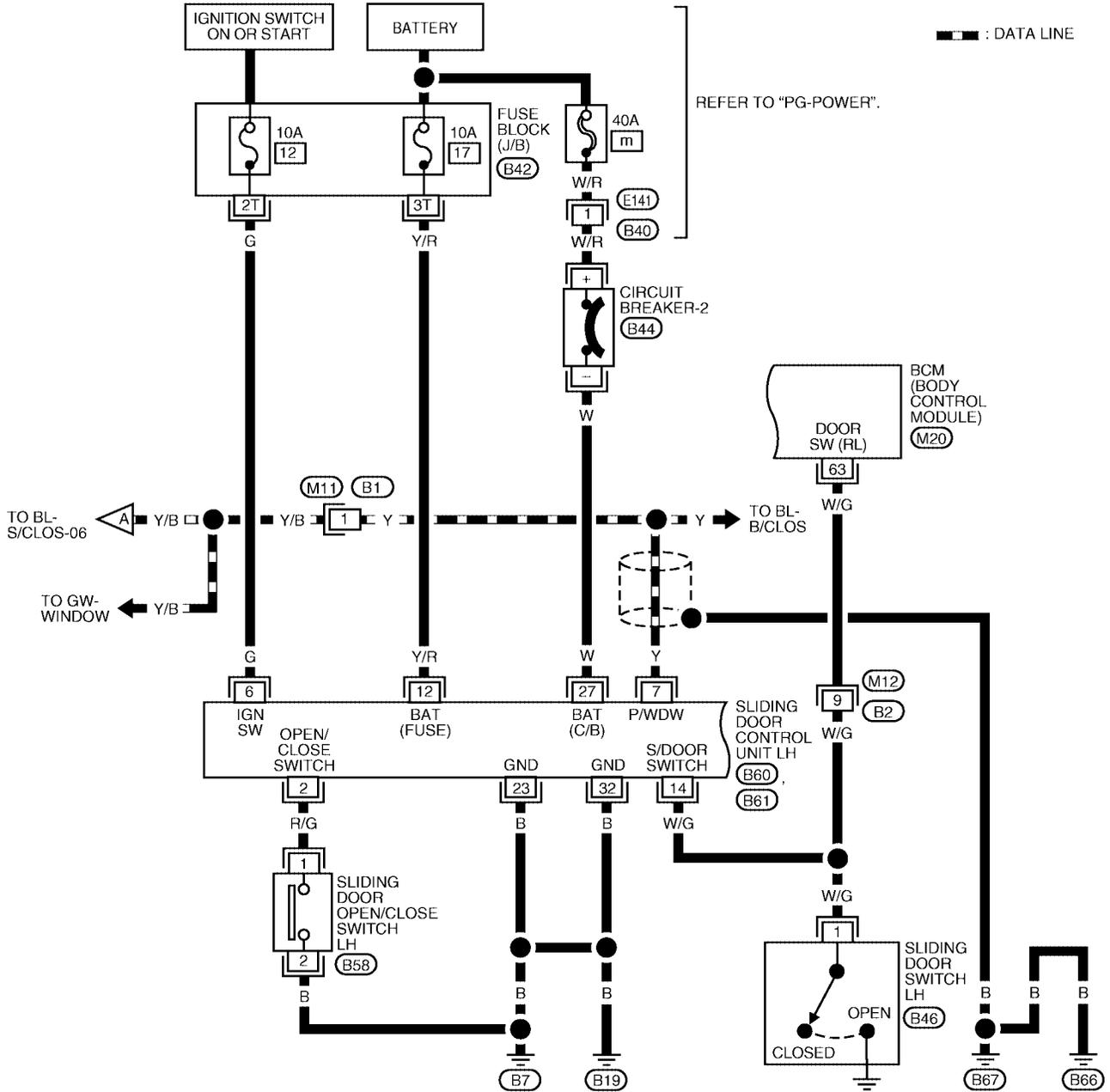
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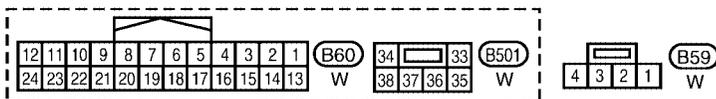
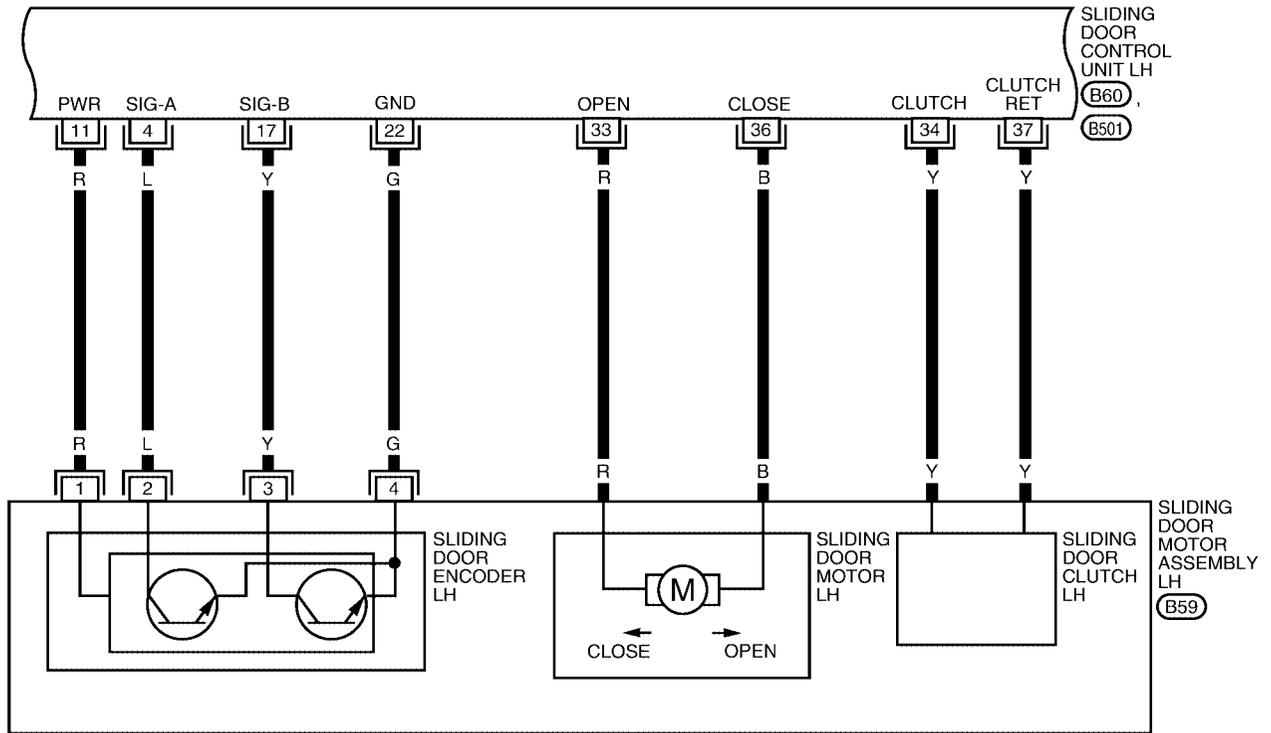
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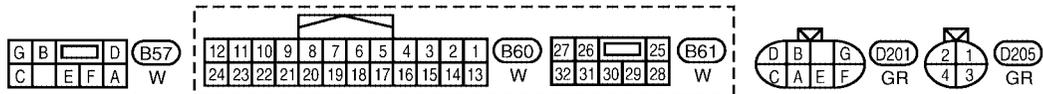
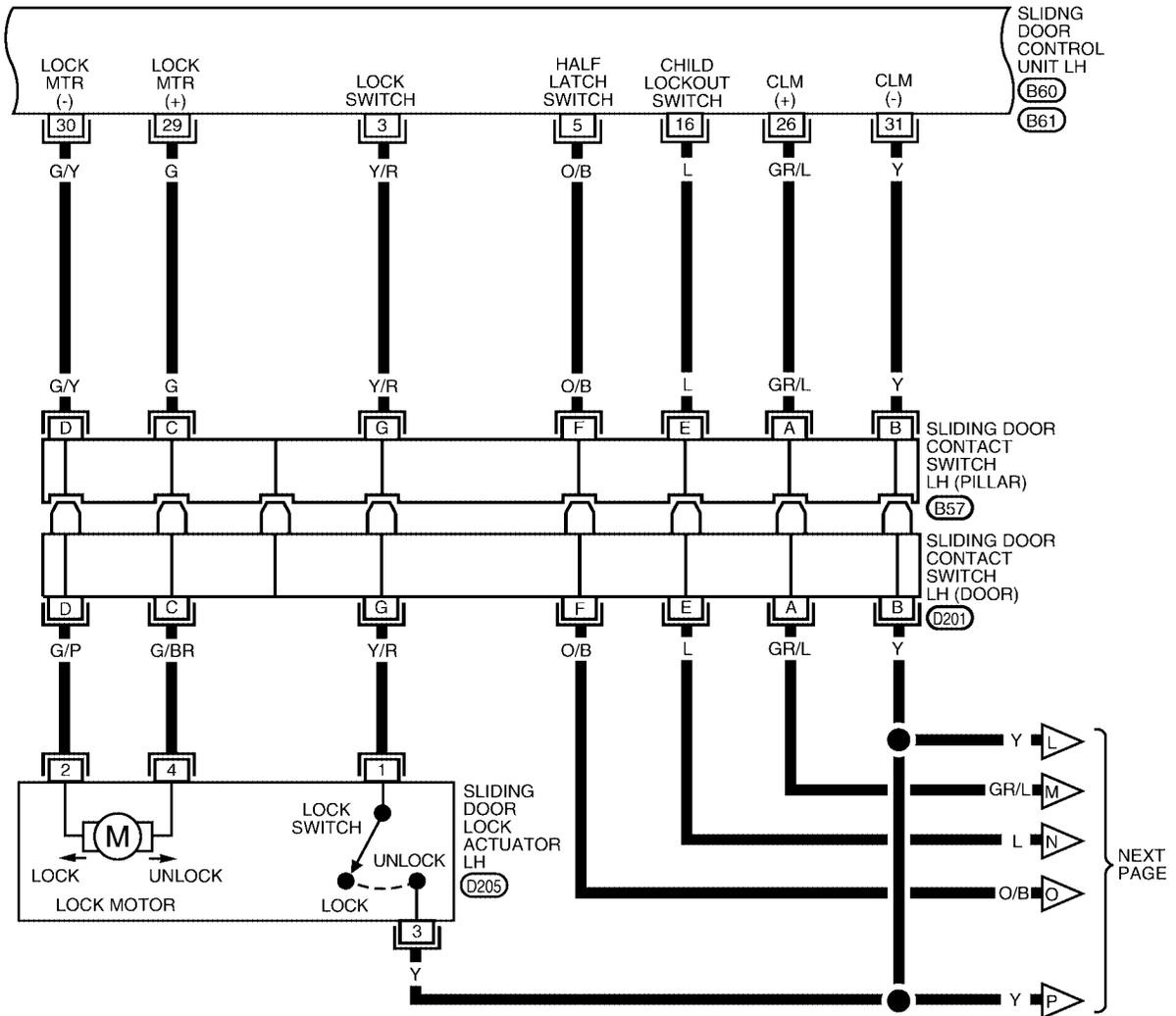
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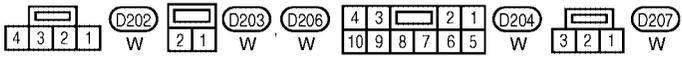
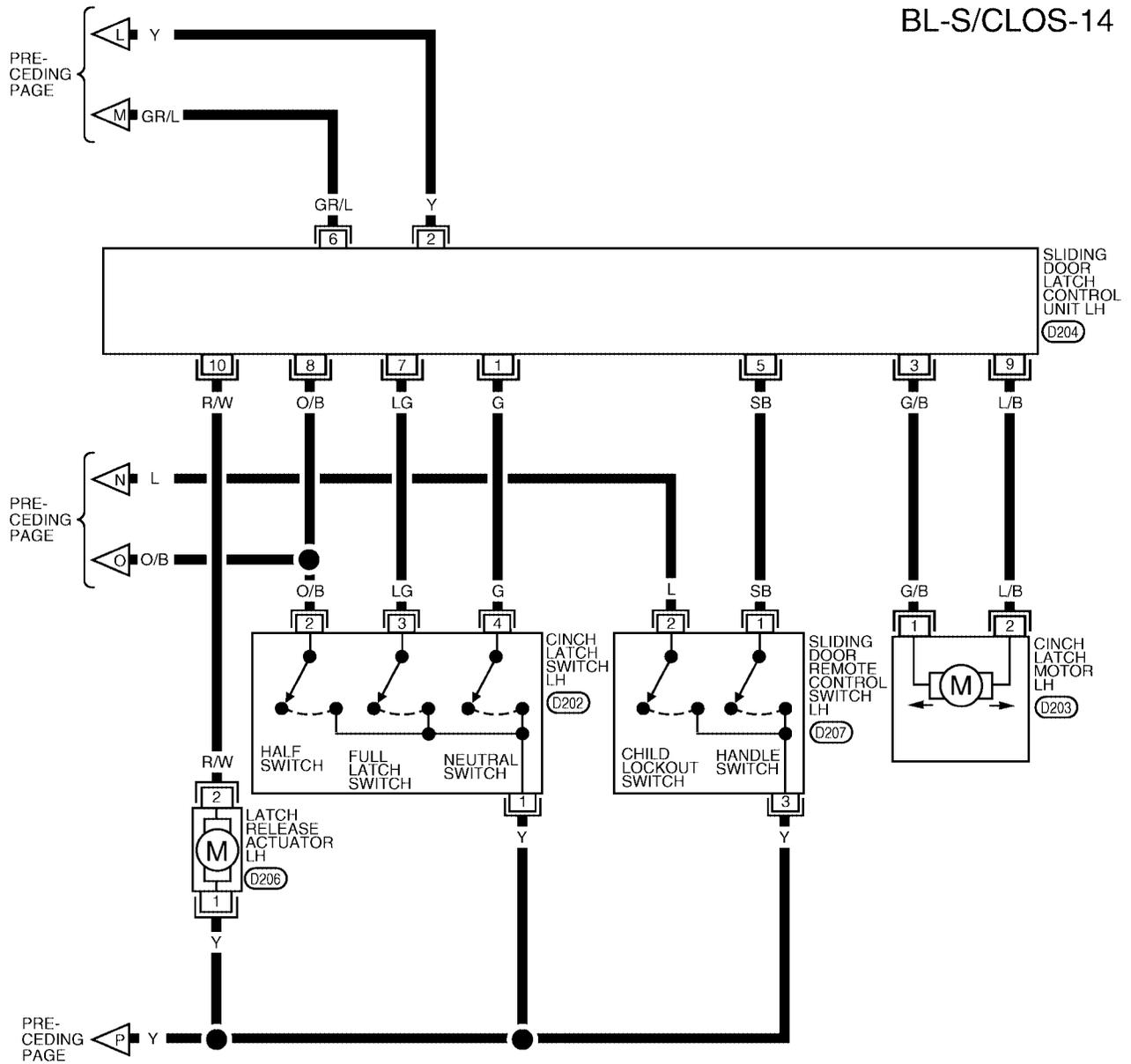
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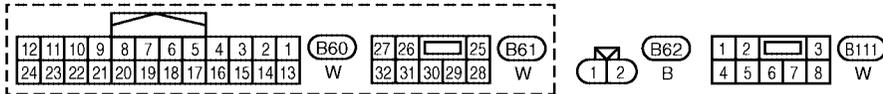
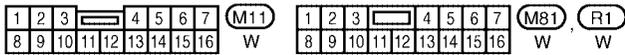
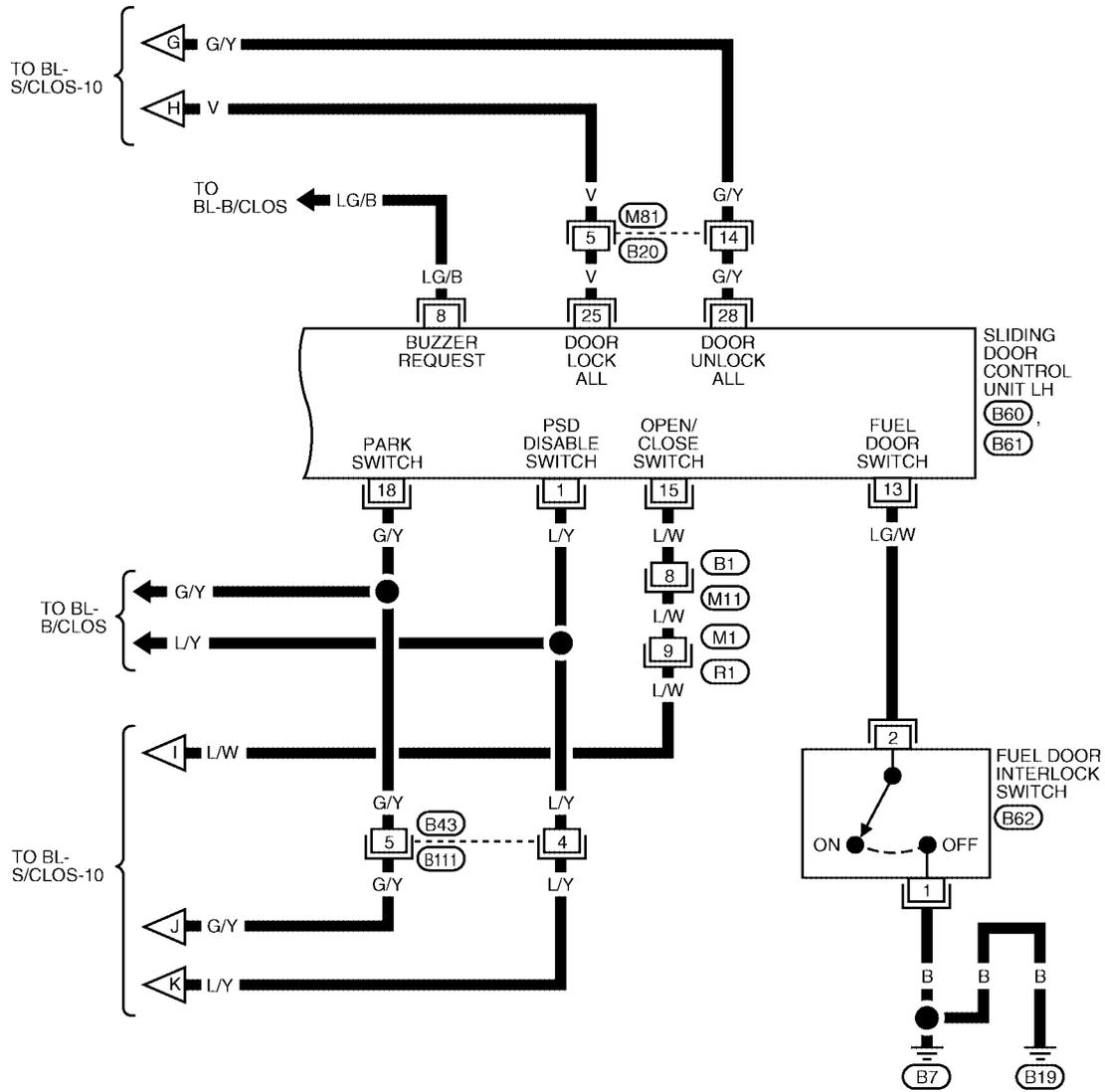
AUTOMATIC SLIDING DOOR SYSTEM

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AUTOMATIC SLIDING DOOR SYSTEM

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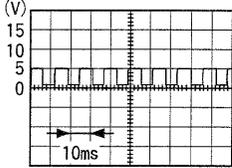
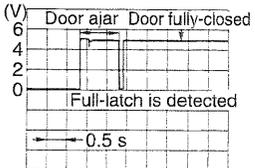
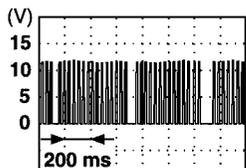
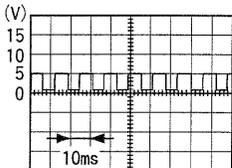


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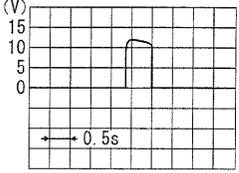
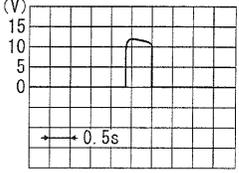
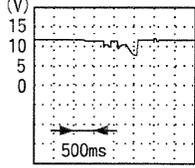
AUTOMATIC SLIDING DOOR SYSTEM

Terminals and Reference Value for Sliding Door Control Unit RH

EIS001XA

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
1	L/Y	Automatic door main switch ON/OFF switch	Automatic door main switch ON	0
			Automatic door main switch OFF	5
2	BR/W	Sliding door open/close switch	Sliding door open/close switch ON	0
			Sliding door open/close switch OFF	5
3	P/G	Sliding door lock/unlock actuator unlock output signal	Power door lock switch door unlock operation	0 → Battery voltage → 0
			Other than above	0
4	W/B	Encoder pulse signal A	Sliding door (motor active)	 <p style="text-align: right;">PIIA1060E</p>
5	O/B	Half-latch switch	Sliding door Fully open → half → fully closed	 <p style="text-align: right;">PIIA2169E</p>
6	G	Ignition switch	Ignition switch ON	Battery voltage
			Ignition switch OFF	0
7	Y/B	Power window serial link	When ignition switch is ON or power window timer operates	 <p style="text-align: right;">PIIA2344E</p>
8	Y/G	Warning chime output signal	Warning chime ON	0
			Warning chime OFF	Battery voltage
11	G	Encoder power supply	—	9
12	Y/R	Battery power supply	—	Battery voltage
14	R/W	Sliding door switch	OPEN	0
			CLOSED	5
15	GR/W	Automatic door main switch	ON	0
			OFF	5
16	L	Child lockout switch	ACTIVE	5
			INACTIVE	0
17	R/B	Encoder pulse signal B	Sliding door (motor active)	 <p style="text-align: right;">PIIA1060E</p>

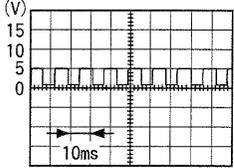
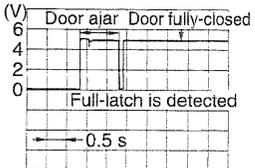
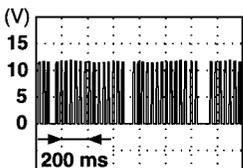
AUTOMATIC SLIDING DOOR SYSTEM

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
18	G/Y	A/T device (park position switch)	P position	0
			Other than above	5
22	B	Encoder ground	—	—
23	B	Ground	—	—
25	V	Door lock input	Door lock & unlock switch (Neutral → Lock)	0 → Battery voltage
26	GR/L	Closure motor CLOSE output signal	Sliding door Fully open → half → fully closed	 <p style="text-align: right; font-size: small;">SIIA1480E</p>
27	W	Battery power supply	—	Battery voltage
28	G/Y	Door unlock input	Door lock & unlock switch (Neutral → Unlock)	0 → Battery voltage
29	LG/R	Sliding door lock motor lock signal	Door lock (Neutral → Lock)	0 → Battery voltage
30	BR/R	Sliding door lock motor unlock signal	Door lock (Neutral → Unlock)	0 → Battery voltage
31	Y	Closure motor RETURN output signal	Sliding door Fully open → half → fully closed	 <p style="text-align: right; font-size: small;">SIIA1480E</p>
32	B	Ground	—	—
33	R	Sliding door motor OPEN output signal	Sliding door auto OPEN operation (motor active)	Battery voltage
			Other than above	0
34	Y	Magnetic clutch power supply	Auto sliding door (motor active)	<p style="text-align: center;">Battery voltage → 0</p>  <p style="text-align: right; font-size: small;">PIIA1798E</p>
36	B	Sliding door motor CLOSE output signal	Sliding door auto CLOSE operation (motor active)	Battery voltage
			Other than above	0
37	Y	Magnetic clutch ground	—	—

AUTOMATIC SLIDING DOOR SYSTEM

Terminals and Reference Value for Sliding Door Control Unit LH

EIS0022K

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
1	L/Y	Automatic door main switch ON/OFF switch	Automatic door main switch ON	0
			Automatic door main switch OFF	5
2	R/G	Sliding door open/close switch	Sliding door open/close switch ON	0
			Sliding door open/close switch OFF	5
3	Y/R	Sliding door lock/unlock actuator unlock output signal	Power door lock switch door unlock operation	0 → Battery voltage → 0
			Other than above	0
4	L	Encoder pulse signal A	Sliding door (motor active)	 <p style="text-align: right; font-size: small;">PIIA1060E</p>
5	O/B	Half-latch switch	Sliding door Fully open → half → fully closed	 <p style="text-align: right; font-size: small;">PIIA2169E</p>
6	G	Ignition switch	Ignition switch ON	Battery voltage
			Ignition switch OFF	0
7	Y	Power window serial link	When ignition switch is ON or power window timer operates	 <p style="text-align: right; font-size: small;">PIIA2344E</p>
8	LG/B	Warning chime output signal	Warning chime ON	0
			Warning chime OFF	Battery voltage
11	R	Encoder power supply	—	9
12	Y/R	Battery power supply	—	Battery voltage
13	LG/W	Fuel door interlock switch	Fuel door closed	0
			Fuel door open	5
14	W/G	Sliding door switch	OPEN	0
			CLOSED	5
15	L/W	Automatic door main switch	ON	0
			OFF	5
16	L	Child lockout switch	ACTIVE	5
			INACTIVE	0

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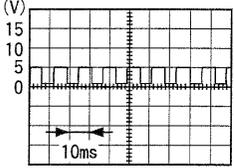
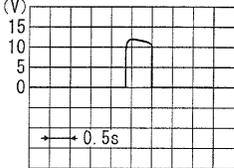
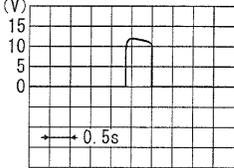
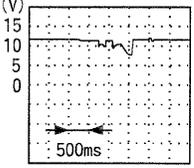
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AUTOMATIC SLIDING DOOR SYSTEM

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
17	Y	Encoder pulse signal B	Sliding door (motor active)	<p style="text-align: center;">Battery voltage</p>  <p style="text-align: right;">PIIA1060E</p>
18	G/Y	A/T device (park position switch)	P position	0
			Other than above	5
22	G	Encoder ground	—	—
23	B	Ground	—	—
25	V	Door lock input	Door lock & unlock switch (Neutral → Lock)	0 → Battery voltage
26	GR/L	Closure motor CLOSE output signal	Sliding door Fully open → half → fully closed	 <p style="text-align: right;">SIIA1480E</p>
27	W	Battery power supply	—	Battery voltage
28	G/Y	Door unlock input	Door lock & unlock switch (Neutral → Unlock)	0 → Battery voltage
29	G	Sliding door lock motor lock signal	Door lock (Neutral → Lock)	0 → Battery voltage
30	G/Y	Sliding door lock motor unlock signal	Door lock (Neutral → Unlock)	0 → Battery voltage
31	Y	Closure motor RETURN output signal	Sliding door Fully open → half → fully closed	 <p style="text-align: right;">SIIA1480E</p>
32	B	Ground	—	—
33	R	Sliding door motor OPEN output signal	Sliding door auto OPEN operation (motor active)	Battery voltage
			Other than above	0
34	Y	Magnetic clutch power supply	Auto sliding door (Motor active)	<p style="text-align: center;">Battery voltage → 0</p>  <p style="text-align: right;">PIIA1798E</p>
36	B	Sliding door motor CLOSE output signal	Sliding door auto CLOSE operation (motor active)	Battery voltage
			Other than above	0
37	Y	Magnetic clutch ground	—	—

AUTOMATIC SLIDING DOOR SYSTEM

Terminals and Reference Value for Sliding Door Latch Control Unit

EIS001XB

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
1	G	Neutral switch signal	Sliding door Fully open → half → fully closed	<p>PIIA2170E</p>
2	Y	Cinch latch motor RETURN signal	Sliding door Fully open → half → fully closed	<p>SIA1480E</p>
3	G/B	Cinch latch motor CLOSE output	Latch Open (ON) → Close (OFF)	Battery voltage → 0
			Other than above	0
5	SB	Handle switch (open) signal	Handle operation	0
			Other than above	5
6	GR/L	Cinch latch motor CLOSE signal	Sliding door Fully open → half → fully closed	<p>SIA1480E</p>
7	LG	Full-latch switch signal	Sliding door Fully open → half → fully closed	<p>PIIA2171E</p>
8	O/B	Half-latch switch signal	Sliding door Fully open → half → fully closed	<p>PIIA2169E</p>
9	L/B	Cinch latch motor OPEN output	Latch Close (OFF) → Open (ON)	Battery voltage → 0
			Other than above	0
10	R/W	Latch release actuator output	Latch (Lock → Unlock)	Battery voltage → 0
			Other than above	0

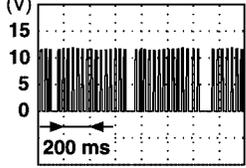
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AUTOMATIC SLIDING DOOR SYSTEM

EIS001XC

Terminals and Reference Value for BCM

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
13	O/B	Sliding door switch RH	Door Close (OFF) → Open (ON)	Battery voltage → 0
22	Y/B	Power window serial link	When ignition switch is ON or power window timer operates	 <p style="text-align: right; font-size: small;">PIIA2344E</p>
50	V	Door lock actuators	Door lock & unlock switch (Neutral → Lock)	0 → Battery voltage
51	G/Y	Passenger and sliding doors lock actuator	Door lock & unlock switch (Neutral → Unlock)	0 → Battery voltage
52	B/W	Ground	—	0
55	W/B	Battery power supply	—	Battery voltage
63*	W/G	Sliding door switch LH	Door Close (OFF) → Open (ON)	Battery voltage → 0
68	W/L	Power window power source	—	Battery voltage

*: with LH slide door auto closure system.

AUTOMATIC SLIDING DOOR SYSTEM

Trouble Diagnosis Procedure

EIS00200

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to [BL-55, "System Description"](#) .
3. Confirm system operation.
4. Perform pre-diagnosis inspection. Refer to [BL-70, "Pre-Diagnosis Inspection"](#) .
5. Perform self-diagnosis procedures. Refer to [BL-145, "Self-Diagnosis Procedures"](#) .
6. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to [BL-71, "Trouble Diagnoses"](#) .
7. Inspection End.

Self-Diagnosis Procedures

EIS005W4

INPUT SIGNAL CHECK MODE

Input signal check mode allows testing of switch input signal to the sliding door control unit. To activate input signal check mode on the automatic sliding door, perform the following steps:

1. Turn ignition switch OFF.
2. Turn automatic door main switch OFF (system cancelled).
3. Place A/T selector lever in P position.
4. Confirm fuel door closed (with LH sliding door).
5. Open sliding door RH or LH manually.
6. Have an assistant press and hold the sliding door open/close switch RH or LH.
7. While the assistant continues to hold the sliding door open/close switch RH or LH, turn ignition switch ON (DO NOT start engine).
8. After approximately 5 seconds, the back door warning chime will sound for 0.5 seconds.
9. Release the sliding door open/close switch RH or LH.
10. Within 8 seconds of the back door warning chime sounding, press and hold the automatic door main sliding door open/close switch RH or LH.
11. After approximately 5 seconds, the back door warning chime will sound for 1 second.
12. Release the automatic door main sliding door open/close switch RH or LH.
13. The input signal check mode is now initialized.

The input signal check mode can test the following inputs. The back door warning chime will sound for approximately 0.5 seconds each time a switch signal input occurs. Use this test when one of these inputs is not responding during normal automatic sliding door operation.

Switch signal	Operation	Refer to
Automatic door main switch	OFF → ON	BL-148
Automatic door main sliding door open/close switch RH or LH	OFF → ON	BL-148
Sliding door open/close switch RH or LH	OFF → ON	BL-149
Sliding door switch RH or LH	OFF (door closed) → ON (door open)	BL-76
A/T device (park position switch)	P position → other than P position	SE-77
Fuel door interlock switch	OFF (fuel door closed) → ON (fuel door open)	BL-205
Sliding door lock/unlock signal	LOCK → UNLOCK	BL-153
Vehicle speed*	Vehicle speed	BL-54
Remote keyless entry signal	Keyfob switch OFF → ON	BL-79
Door lock/unlock signal	LOCK → UNLOCK	BL-76

*Back door warning chime should sound as soon as vehicle moves.
Turn ignition switch OFF to end input signal check mode.

OPERATING CHECK MODE

Operating check mode allows self-diagnosis of the automatic sliding door system. To activate operating check mode on the automatic sliding door, perform the following steps:

1. Turn ignition switch OFF.

AUTOMATIC SLIDING DOOR SYSTEM

2. Turn automatic door main switch OFF (system cancelled).
3. Place A/T selector lever in P position.
4. Open sliding door RH or LH manually.
5. Have an assistant press and hold the sliding door open/close switch RH or LH.
6. While the assistant continues to hold the sliding door open/close switch RH or LH, turn ignition switch ON (DO NOT start engine).
7. After approximately 5 seconds, the back door warning chime will sound for 0.5 seconds.
8. Release the sliding door open/close switch RH or LH.
9. Within 8 seconds of the back door warning chime sounding, press the automatic door main sliding door open/close switch RH or LH 5 times in rapid succession.
10. After approximately 5 seconds, the back door warning chime will sound for 1 second.
11. Release the automatic door main sliding door open/close switch RH or LH.
12. Immediately close the sliding door RH or LH manually.
13. Turn automatic door main switch ON.
14. Open and close the back door with the automatic door main sliding door open/close switch RH or LH to activate operating check mode.

Self-diagnosis results are indicated by the back door warning chime.

Back door warning chime order	Back door warning chime length	
Start self-diagnosis	1.5 seconds	
	OK	NG
1. Operating conditions diagnosis	0.5 seconds	0.2 seconds
2. Sliding door encoder diagnosis	0.5 seconds	0.2 seconds
3. Sliding door clutch diagnosis	0.5 seconds	0.2 seconds
4. Sliding door motor diagnosis	0.5 seconds	0.2 seconds
5. Cinch latch motor diagnosis	0.5 seconds	0.2 seconds
Restart self-diagnosis	1.5 seconds	

Item	NG Result	Refer to
1. Operating conditions diagnosis result	One of the following operating conditions no longer met: ignition switch ON, automatic door main switch ON, A/T selector lever in P position	—
2. Sliding door encoder diagnosis result	Sensor diagnosis/short, pulse signal, pulse signal direction	BL-151
3. Sliding door clutch diagnosis result	Sliding door clutch does not operate	BL-151
4. Sliding door motor diagnosis result	Sliding door motor does not operate (no operating current)	BL-150
5. Cinch latch motor diagnosis result	Cinch latch motor does not operate (no operating current)	BL-159

Turn ignition switch OFF to end input signal check mode.

AUTOMATIC SLIDING DOOR SYSTEM

Diagnosis Chart

EIS0020P

Symptom	Suspect systems	Refer to
Automatic operations are not executed from the sliding door fully closed or fully open position. (Auto open/close operations from a position midway through automatic operation, power assist, and auto closure operate normally.)	Latch release actuator system inspection	BL-155
Automatic operations are not carried out together with open/close operations. (Manual operations are normal.)	Automatic door main switch system inspection	BL-148
	Sliding door open/close switch system inspection	BL-149
	Magnetic clutch line check	BL-151
	Auto sliding door power supply and ground circuit system inspection.	BL-148
Power window serial link.	Power window main switch	BL-144
Stops midway through sliding door open/close operations, power assist does not operate.	Encoder system inspection	BL-151
Warning chime does not sound.	Warning chime system inspection	BL-156
During auto closing operations, if obstruction is detected, the door does not operate in reverse.	Encoder system inspection	BL-151
During cinching operations, the door does not operate in reverse if the sliding door handle is operated.	Handle switch system	BL-153
When the keyfob is operated, the sliding door does not operate automatically.	Remote keyless entry system inspection	BL-54
Auto closure does not operate.	Half-latch switch system	BL-156
	Cinch latch motor system	BL-159
	Handle switch system	BL-153
	Contact switch	—
The sliding door does not open. (Closure motor rotation is not reversed.)	Neutral switch system	BL-158
	Full-latch switch	BL-157
	Handle switch system	BL-153
	Door switch	BL-43
Auto closure operation works, but the sliding door is not fully closed.	Full-latch switch system	BL-157
	Handle switch system	BL-153
	Cinch latch motor system	BL-159
	Sliding door latch assembly mechanism damaged or worn.	BL-155

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AUTOMATIC SLIDING DOOR SYSTEM

EIS00200

Auto Sliding Door Power Supply and Ground Circuit Inspection

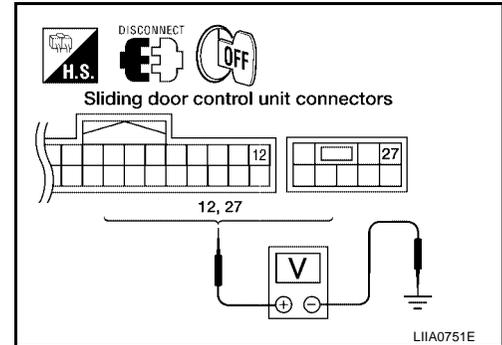
1. AUTO SLIDING DOOR POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition switch OFF.
2. Disconnect sliding door control unit.
3. Check voltage between sliding door control unit connectors B143, B144 terminals 12, 27 and ground.

12 (Y/R) - Ground : Approx. battery voltage
27 (W) - Ground : Approx. battery voltage

OK or NG

- OK >> GO TO 2.
 NG >> Repair the sliding door control unit power supply circuit.



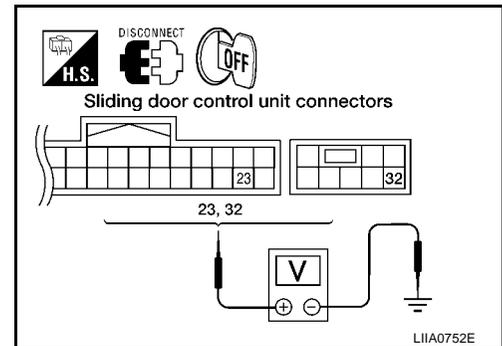
2. AUTO SLIDING DOOR GROUND CIRCUIT INSPECTION

Check continuity between sliding door control unit connector B143, B144 terminals 23, 32 and ground.

23 (B) - Ground : Continuity should exist.
32 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Circuit is OK.
 NG >> Repair or replace harness.



Automatic Door Main Switch System Inspection

EIS0020R

1. AUTOMATIC DOOR MAIN SWITCH FUNCTION INSPECTION

Check automatic door main switch using switch operation.

OK or NG

- OK >> Automatic door main switch is OK.
 NG >> GO TO 2.

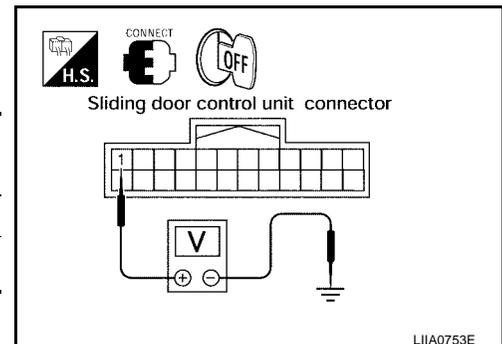
2. AUTOMATIC DOOR MAIN SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the automatic door main switch, check voltage between sliding door control unit (LH or RH) connector terminal 1 and ground.

Connector terminal		Measuring condition		Voltage (V) (Approx.)
(+)	(-)			
1 (L/Y)	Ground	Automatic door main switch	ON	0
			OFF	5

OK or NG

- OK >> Automatic door main switch is OK.
 NG >> GO TO 3.



AUTOMATIC SLIDING DOOR SYSTEM

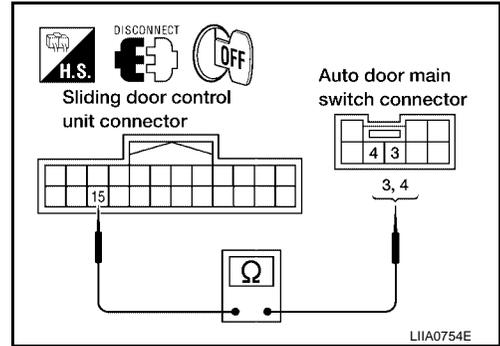
3. AUTOMATIC DOOR MAIN SWITCH CIRCUIT INSPECTION

1. Disconnect automatic door main switch and sliding door control unit.
2. Check continuity between automatic door main switch connector terminals 3 (LH), 4 (RH) and sliding door control unit connectors B60, B143 terminal 15.

3 (L/W) - 15 (L/W) : Continuity should exist.
4 (GR/W) - 15 (GR/W) : Continuity should exist.

OK or NG

- OK >> Replace automatic door main switch.
- NG >> Repair or replace harness.



Sliding Door Open/Close Switch System Inspection

E/IS0020S

1. SLIDING DOOR OPEN/CLOSE SWITCH FUNCTION INSPECTION

Check sliding door open/close switch using switch operation.

OK or NG

- OK >> Sliding door open/close switch is OK.
- NG >> GO TO 2.

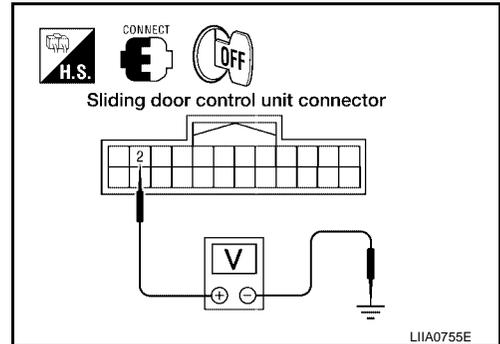
2. SLIDING DOOR OPEN/CLOSE SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the sliding door open/close switch, check voltage between sliding door control unit (LH or RH) connector terminals 2 and ground.

Connector terminal		Measuring condition		Voltage (V) (Approx.)
(+)	(-)			
2 (BR/W) (RH) or (R/G) (LH)	Ground	Automatic door main switch	ON	0
			OFF	5

OK or NG

- OK >> Sliding door open/close switch is OK.
- NG >> GO TO 3.



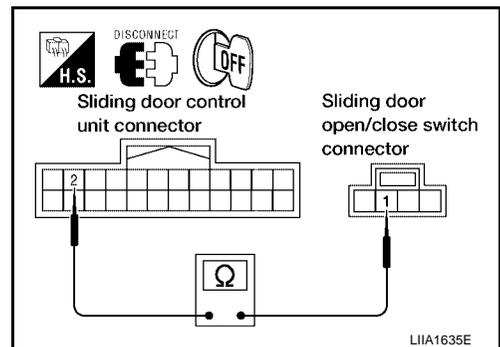
3. SLIDING DOOR OPEN/CLOSE SWITCH CIRCUIT INSPECTION

1. Disconnect sliding door open/close switch and sliding door control unit.
2. Check continuity between sliding door open/close switch connector terminal 1 and sliding door control unit connectors terminal 2.

1 (BR/W) RH or (R/G) LH - 2 (BR/W) : Continuity should exist.

OK or NG

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



AUTOMATIC SLIDING DOOR SYSTEM

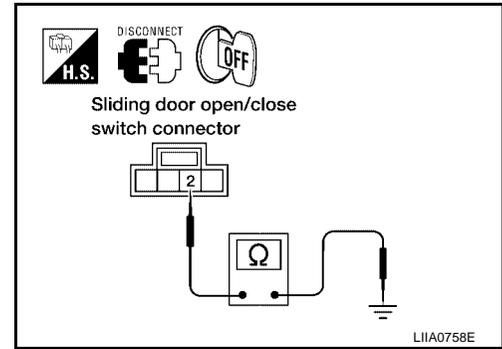
4. SLIDING DOOR OPEN/CLOSE SWITCH GROUND INSPECTION

Check continuity between sliding door open/close switch connector terminal 2 and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the sliding door open/close switch.
- NG >> Repair or replace harness.



Sliding Door Motor System Inspection

EIS0020T

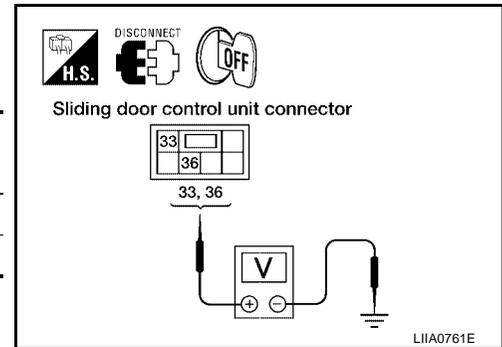
1. SLIDING DOOR MOTOR SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. Operate the sliding door fully open → fully closed and check voltage between sliding door control unit connector terminals 33, 36 and ground.

Connector terminal		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
33 (R)	Ground	Fully open → half → fully closed	0
36 (B)			0 → Battery voltage → 0

OK or NG

- OK >> GO TO 2.
- NG >> Replace sliding door control unit.



2. SLIDING DOOR MOTOR OPERATION INSPECTION

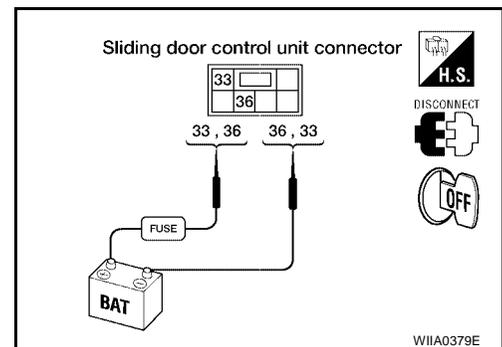
Connect battery power to terminals 33 and 36 on the sliding door control unit connector and check motor operation.

33 (+) - 36 (-) : It operates.

33 (-) - 36 (+) : It operates. (Reverse rotation)

OK or NG

- OK >> Motor is OK.
- NG >> Replace the sliding door motor. Refer to [BL-197, "SLIDE DOOR LOCK"](#).



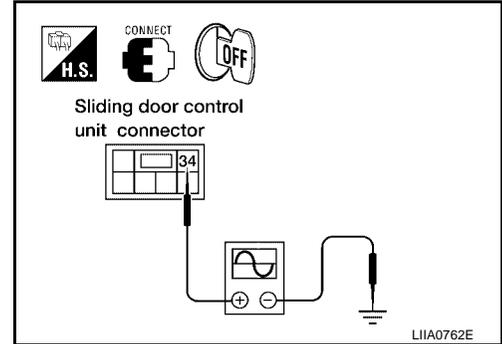
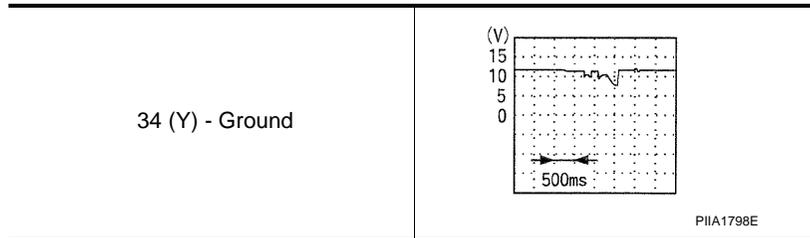
AUTOMATIC SLIDING DOOR SYSTEM

EIS0020U

Magnetic Clutch Line Check

1. MAGNETIC CLUTCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. Operate the sliding door and check voltage waveform between sliding door control unit connector terminal 34 and ground using an oscilloscope.



OK or NG

- OK >> GO TO 2.
NG >> Replace sliding door control unit.

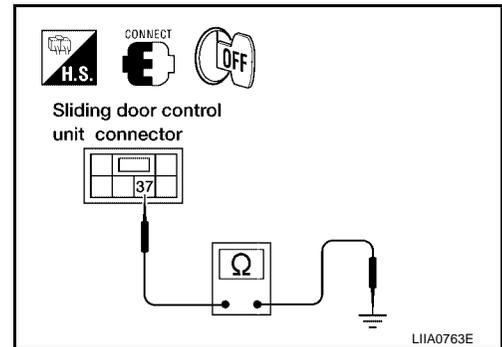
2. MAGNETIC CLUTCH GROUND CIRCUIT INSPECTION

Check continuity between sliding door control unit connector terminal 37 and ground.

37 (Y) - Ground : Continuity should exist.

OK or NG

- OK >> Clutch circuit is OK.
NG >> Repair or replace harness.



Sliding Door Encoder System Inspection

EIS0020V

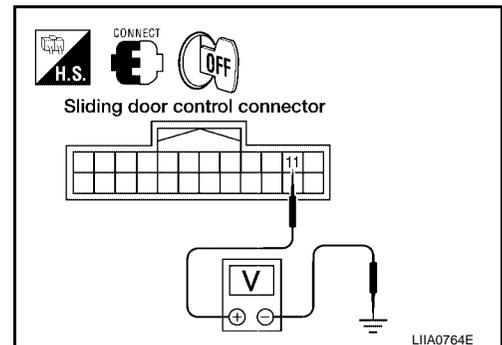
1. SLIDING DOOR ENCODER POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition switch OFF.
2. Check voltage between sliding door control unit connector terminal 11 and ground.

11 (G) - Ground : Approx. 9V

OK or NG

- OK >> GO TO 3.
NG >> GO TO 2.



AUTOMATIC SLIDING DOOR SYSTEM

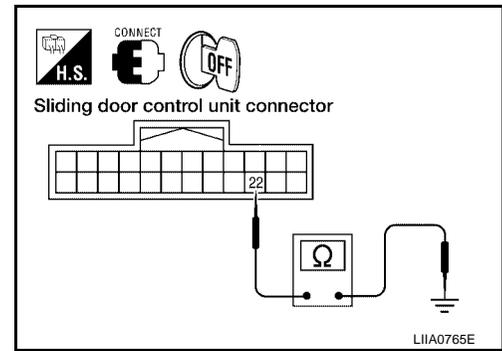
2. SLIDING DOOR ENCODER GROUND CIRCUIT INSPECTION

Check continuity between sliding door control unit connector terminal 22 and ground.

22 (B) - Ground : Continuity should exist.

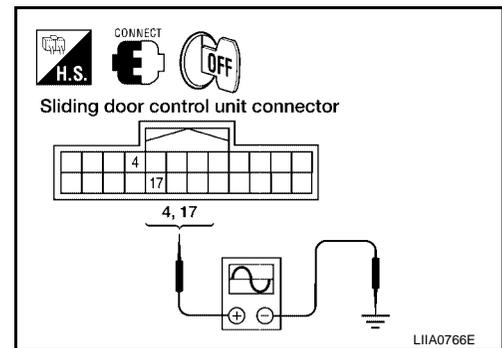
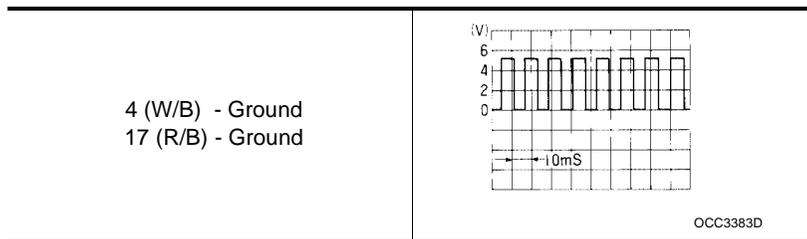
OK or NG

- OK >> GO TO 4.
- NG >> Replace sliding door control unit.



3. ENCODER (POSITION) SIGNAL INSPECTION

Operate the sliding door and check voltage waveform between sliding door control unit connector terminals 4, 17 and ground using an oscilloscope.



OK or NG

- OK >> GO TO 4.
- NG >> Replace sliding door encoder.

4. SLIDING DOOR ENCODER CIRCUIT INSPECTION

1. Disconnect sliding door control unit and sliding door encoder.
2. Check continuity between sliding door control unit connector terminals 4, 11, 17, 22 and sliding door encoder terminals 1, 2, 3, 4 and ground.

Sliding Door RH

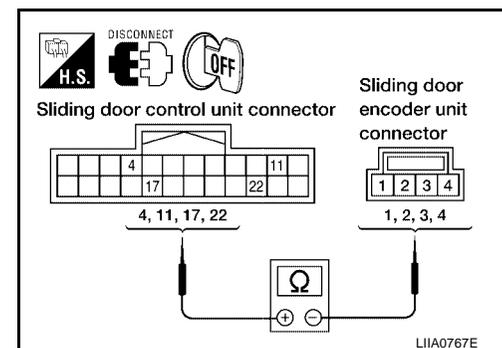
- 11 (G) - 1 (G) : Continuity should exist.**
- 17 (R/B) - 2 (R/B) : Continuity should exist.**
- 22 (B) - 4 (B) : Continuity should exist.**
- 4 (W/B) - 3 (W/B) : Continuity should exist.**

Sliding Door LH

- 11 (R) - 1 (R) : Continuity should exist.**
- 17 (Y) - 3 (Y) : Continuity should exist.**
- 22 (G) - 4 (G) : Continuity should exist.**
- 4 (L) - 2 (L) : Continuity should exist.**

OK or NG

- OK >> System is OK.
- NG >> Repair or replace harness.



AUTOMATIC SLIDING DOOR SYSTEM

EIS0020W

Sliding Door Remote Control Switch System Inspection

1. SLIDING DOOR REMOTE CONTROL SWITCH FUNCTION INSPECTION

Check sliding door remote control switch operation.

OK or NG

- OK >> Sliding door remote control switch is OK.
- NG >> GO TO 2.

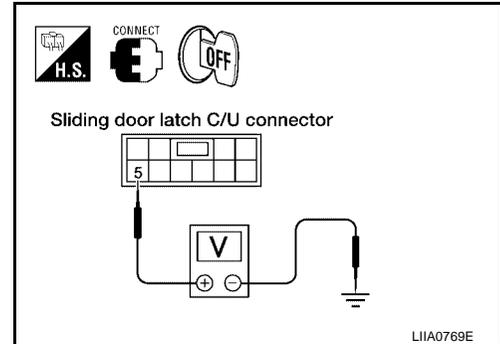
2. SLIDING DOOR REMOTE CONTROL SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. Close the sliding door.
3. While operating the sliding door remote control switch, check voltage between sliding door latch control unit connector terminal 5 and ground.

Connector terminal		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
5 (SB)	Ground	Sliding door handle open direction operation	0
		Other than above	5

OK or NG

- OK >> Sliding door remote control switch is OK.
- NG >> GO TO 3.



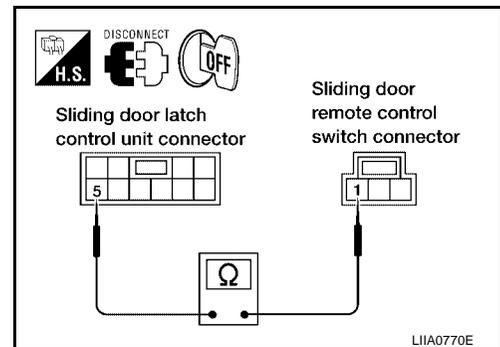
3. SLIDING DOOR REMOTE CONTROL SWITCH CIRCUIT INSPECTION

1. Disconnect sliding door remote control switch and sliding door latch control unit.
2. Check continuity between sliding door remote control switch connector terminal 1 and sliding door latch control unit connector terminal 5.

1 (SB) - 5 (SB) : Continuity should exist.

OK or NG

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



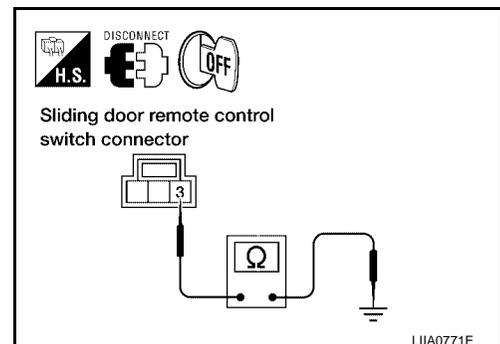
4. SLIDING DOOR REMOTE CONTROL SWITCH GROUND INSPECTION

1. Close the sliding door.
2. Check continuity between sliding door remote control switch connector terminal 3 and ground.

3 (Y) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the sliding door remote control switch.
- NG >> Repair or replace harness.



AUTOMATIC SLIDING DOOR SYSTEM

EIS0020X

Child Lockout Switch System Inspection

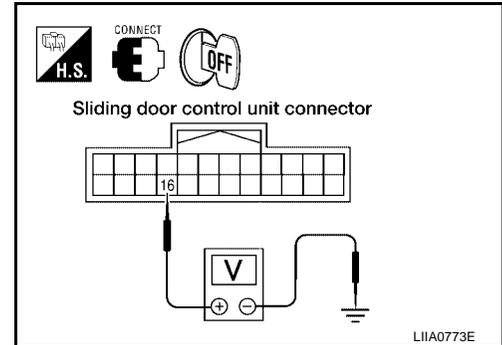
1. CHILD LOCKOUT SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. Set child lockout switch in LOCK position and close door.
3. While operating the sliding door in the open direction, check voltage between sliding door control unit connector terminal 16 and ground.

Connector terminal		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
16 (L)	Ground	Sliding door handle in the open direction	0

OK or NG

- OK >> Switch is OK.
 NG >> GO TO 2.



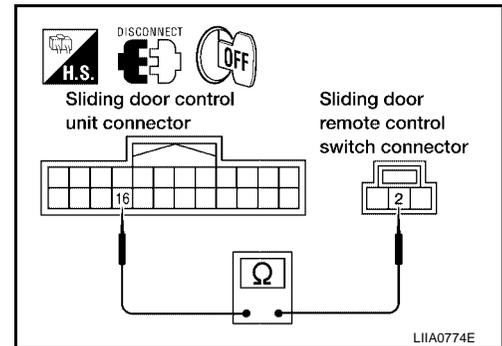
2. CHILD LOCKOUT SWITCH CIRCUIT INSPECTION

1. Disconnect sliding door remote control switch and sliding door control unit.
2. Check continuity between sliding door remote control switch connector terminal 2 and sliding door control unit connector terminal 16.

2 (L) - 16 (L) : Continuity should exist.

OK or NG

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



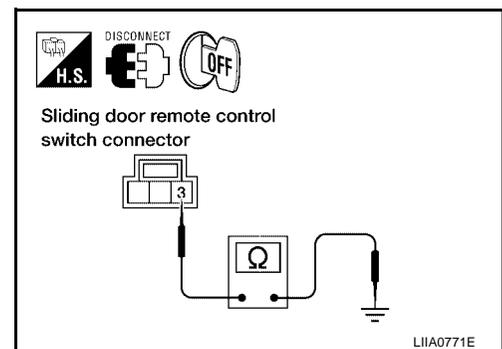
3. CHILD LOCKOUT SWITCH GROUND INSPECTION

1. Close the sliding door.
2. Check continuity between sliding door remote control switch connector terminal 3 and ground.

3 (Y) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the sliding door remote control switch.
 NG >> Repair or replace harness.



AUTOMATIC SLIDING DOOR SYSTEM

EIS0020Y

Latch Release Actuator System Inspection

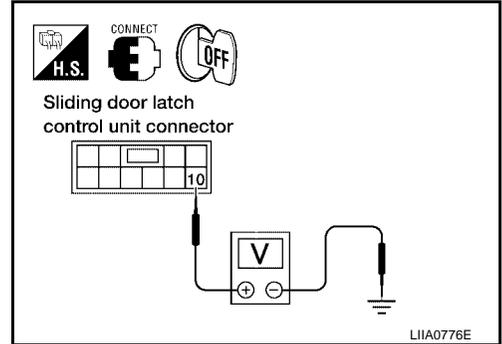
1. LATCH RELEASE ACTUATOR SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the sliding door, check voltage between sliding door latch control unit connector terminal 10 and ground.

Connector terminal		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
10 (R/W)	Ground	Latch release actuator operation	Battery voltage
		Other than above	0

OK or NG

- OK >> Latch release actuator is OK.
- NG >> GO TO 2.



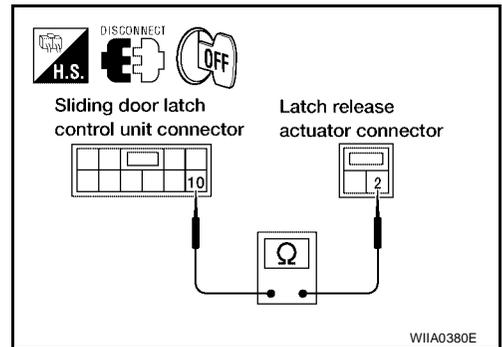
2. LATCH RELEASE ACTUATOR CIRCUIT INSPECTION

1. Disconnect latch release actuator and sliding door latch control unit.
2. Check continuity between latch release actuator connector terminal 2 and sliding door latch control unit connector terminal 10.

2 (R/W) - 10 (R/W) : Continuity should exist.

OK or NG

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



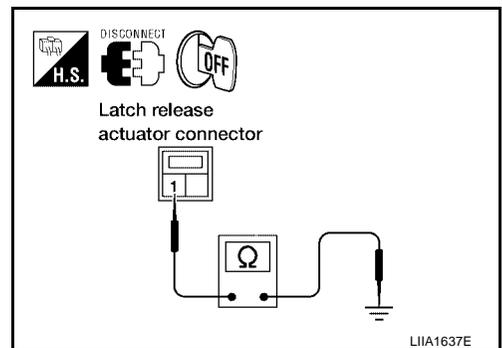
3. LATCH RELEASE ACTUATOR GROUND INSPECTION

1. Close the sliding door.
2. Check continuity between latch release actuator connector terminal 1 and ground.

1 (Y) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the latch release actuator.
- NG >> Repair or replace harness.



AUTOMATIC SLIDING DOOR SYSTEM

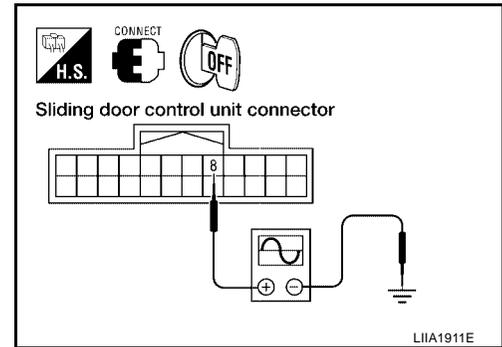
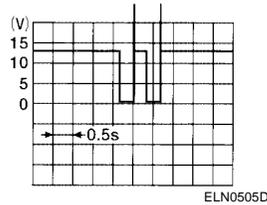
EIS0020Z

Warning Chime System Inspection

1. WARNING CHIME OUTPUT SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. Operate the sliding door and check voltage waveform between sliding door control unit connector terminal 8 and ground using an oscilloscope.

8 (Y/G) RH or (LG/B) LH - Ground



OK or NG

- OK >> Warning chime system is OK.
 NG >> Replace sliding door control unit.

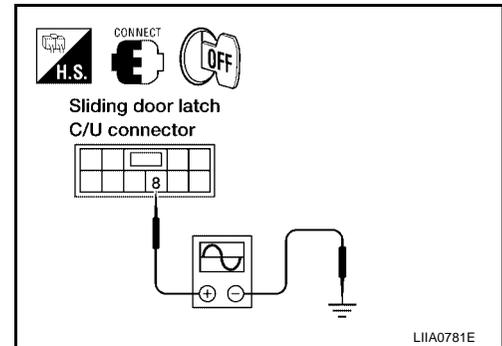
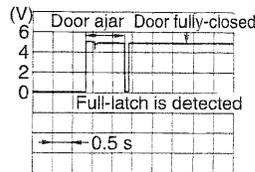
Half-Latch Switch System Inspection

EIS00210

1. HALF-LATCH SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully opening and closing the sliding door, check voltage waveform between sliding door latch control unit connector terminal 8 and ground using an oscilloscope.

8 (O/B) - Ground



OK or NG

- OK >> Half-latch switch is OK.
 NG >> GO TO 2.

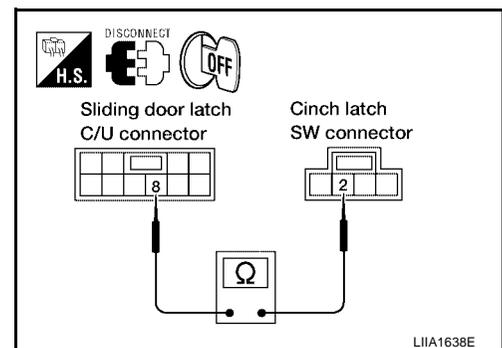
2. HALF-LATCH SWITCH CIRCUIT INSPECTION

1. Disconnect cinch latch switch and sliding door latch control unit.
2. Check continuity between cinch latch switch connector terminal 2 and sliding door latch control unit connector terminal 8.

2 (O/B) - 8 (O/B) : Continuity should exist.

OK or NG

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



AUTOMATIC SLIDING DOOR SYSTEM

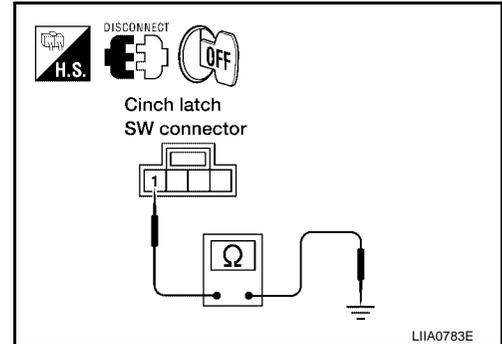
3. HALF-LATCH SWITCH GROUND INSPECTION

1. Close the sliding door.
2. Check continuity between cinch latch switch connector terminal 1 and ground.

1 (Y) - Ground : Continuity should exist.

OK or NG

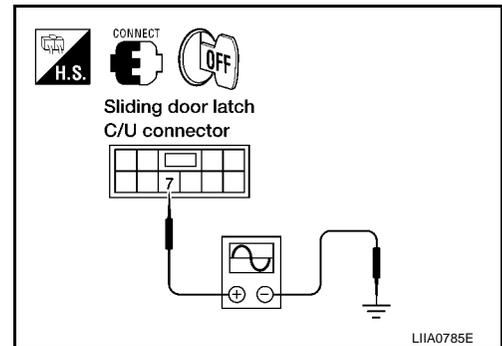
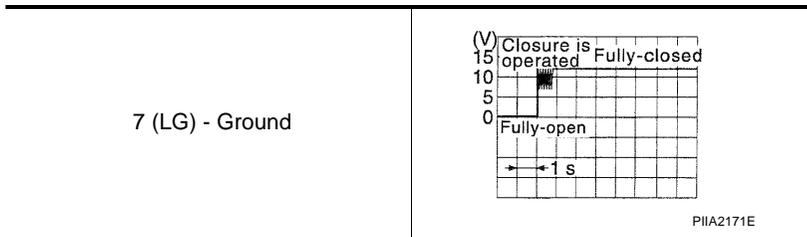
- OK >> Replace the cinch latch switch.
 NG >> Repair or replace harness.



Full-Latch Switch System Inspection

1. FULL-LATCH SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully closing and opening the sliding door, check voltage waveform between sliding door latch control unit connector terminal 7 and ground using an oscilloscope.



OK or NG

- OK >> Full-latch switch is OK.
 NG >> GO TO 2.

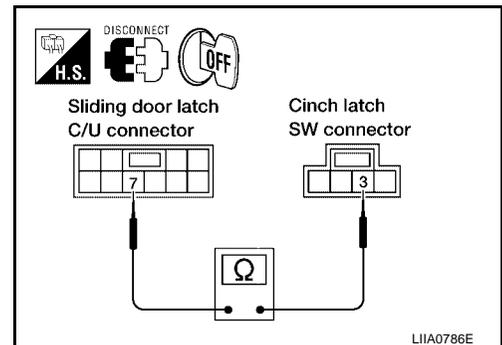
2. FULL-LATCH SWITCH CIRCUIT INSPECTION

1. Disconnect cinch latch switch and sliding door latch control unit.
2. Check continuity between cinch latch switch connector terminal 3 and sliding door latch control unit connector terminal 7.

3 (LG) - 7 (LG) : Continuity should exist.

OK or NG

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



AUTOMATIC SLIDING DOOR SYSTEM

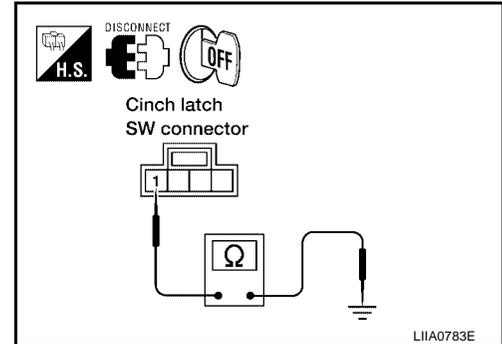
3. FULL-LATCH SWITCH GROUND INSPECTION

1. Close the sliding door.
2. Check continuity between cinch latch switch connector terminal 1 and ground.

1 (Y) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the cinch latch switch.
NG >> Repair or replace harness.

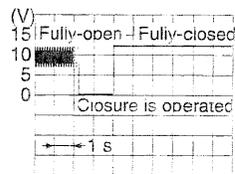


Neutral Switch System Inspection

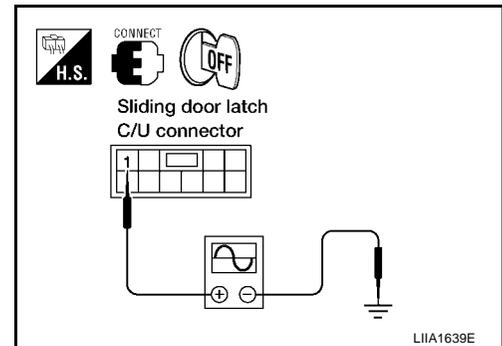
1. NEUTRAL SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully opening and closing the sliding door, check voltage waveform between sliding door latch control unit connector terminal 1 and ground using an oscilloscope.

1 (G) - Ground



PIIA2170E



OK or NG

- OK >> Neutral switch is OK.
NG >> GO TO 2.

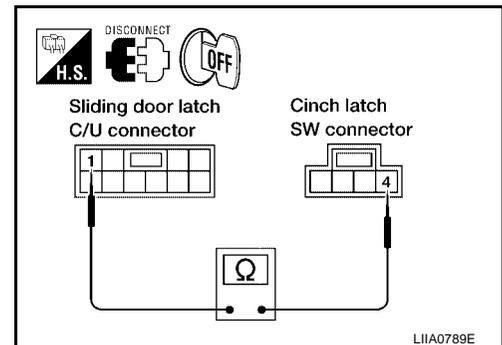
2. NEUTRAL SWITCH CIRCUIT INSPECTION

1. Disconnect cinch latch switch and sliding door latch control unit.
2. Check continuity between cinch latch switch connector terminal 4 and sliding door latch control unit connector terminal 1.

4 (G) - 1 (G) : Continuity should exist.

OK or NG

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



AUTOMATIC SLIDING DOOR SYSTEM

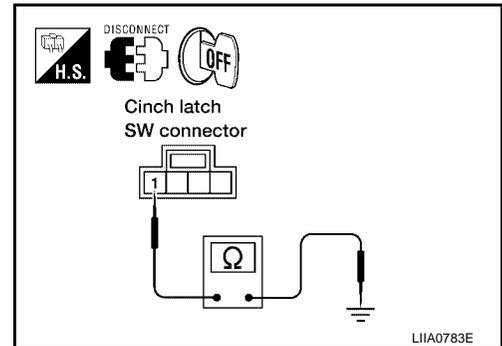
3. NEUTRAL SWITCH GROUND INSPECTION

1. Close the sliding door.
2. Check continuity between cinch latch switch connector terminal 1 and ground.

1 (Y) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the cinch latch switch.
 NG >> Repair or replace harness.



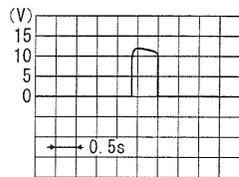
EIS00213

Cinch Latch Motor System Inspection

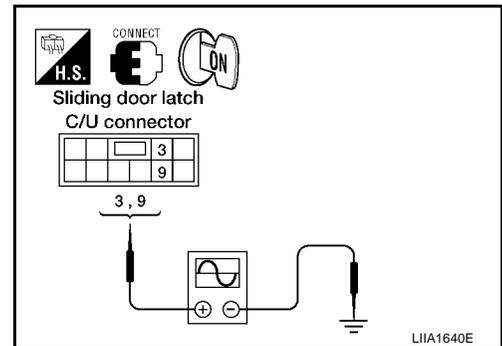
1. CINCH LATCH MOTOR SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully opening and closing the sliding door, check voltage waveform between sliding door latch control unit connector terminals 3, 9 and ground using an oscilloscope.

3 (G/B) - Ground
 9 (L/B) - Ground



SIIA1480E



LIAA1640E

OK or NG

- OK >> GO TO 2.
 NG >> Replace the sliding door latch control unit.

2. CINCH LATCH MOTOR CIRCUIT INSPECTION

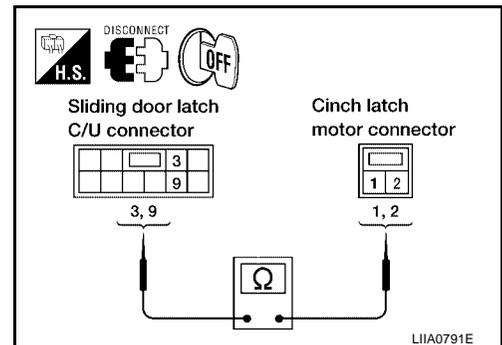
1. Disconnect cinch latch switch and sliding door latch control unit.
2. Check continuity between cinch latch motor connector terminals 1, 2 and sliding door latch control unit connector terminals 3, 9.

1 (G/B) - 3 (G/B) : Continuity should exist.

2 (L/B) - 9 (L/B) : Continuity should exist.

OK or NG

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



LIAA0791E

AUTOMATIC SLIDING DOOR SYSTEM

3. CINCH LATCH MOTOR OPERATION INSPECTION

Connect battery power to terminals 1 and 2 on the cinch latch motor and check motor operation.

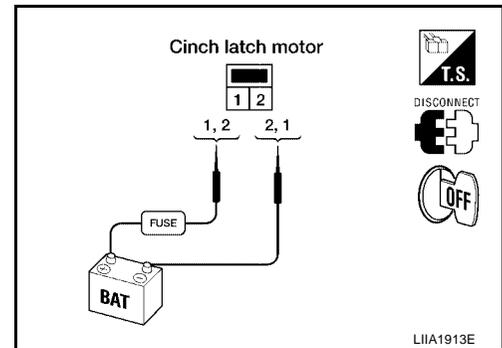
1 (+) - 2 (-) : It operates.

1 (-) - 2 (+) : It operates. (Reverse rotation)

OK or NG

OK >> Motor is OK.

NG >> Replace the cinch latch motor.



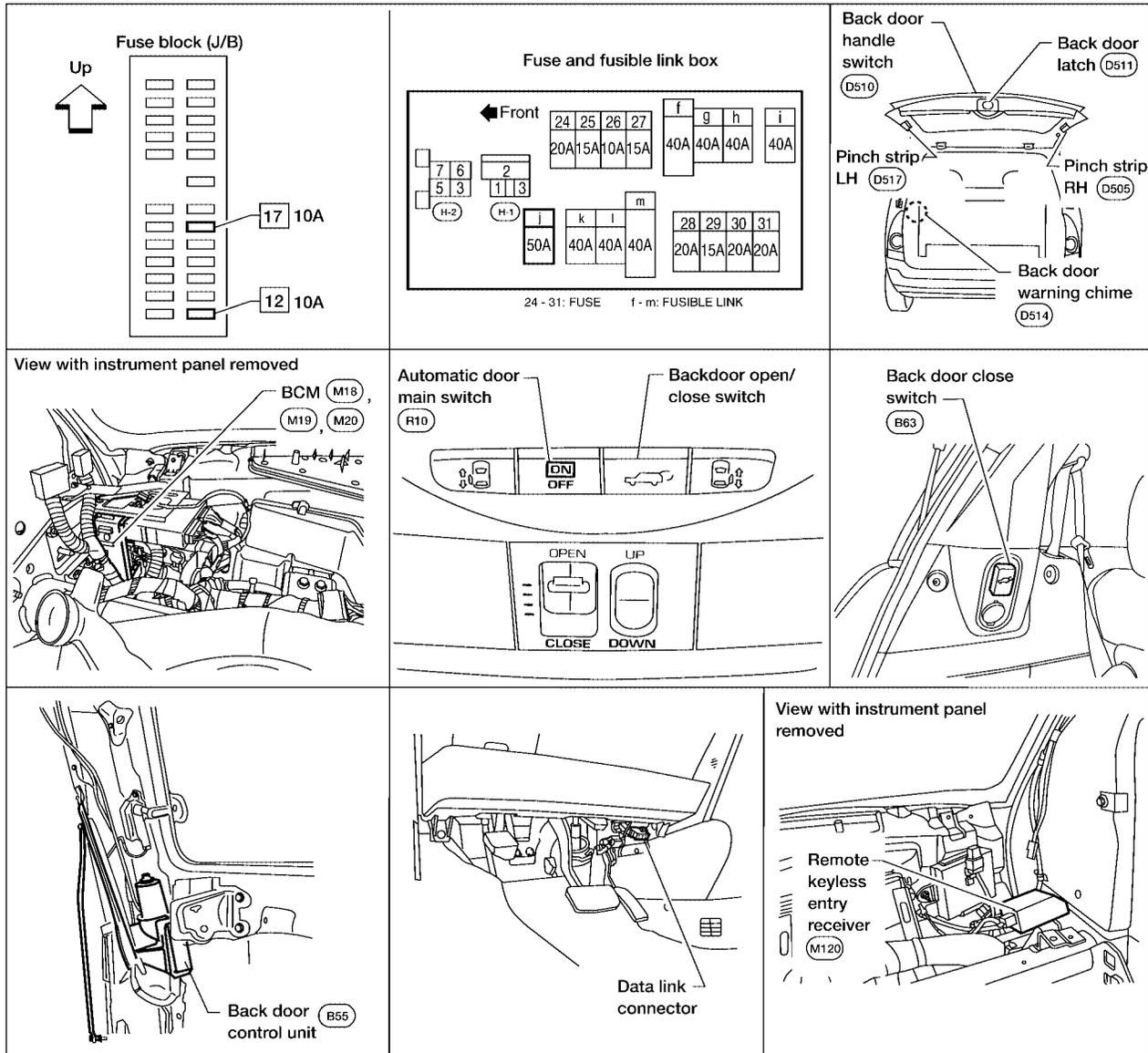
AUTOMATIC BACK DOOR SYSTEM

PF:82580

EIS001XD

AUTOMATIC BACK DOOR SYSTEM

Component Parts and Harness Connector Location



LIIA1914E

System Description

EIS001XE

The automatic back door system consists of a one piece unit that combines the back door control unit along with the back door motor, back door clutch and the back door encoder. The back door latch contains a lock function that can control the two functions of automatic back door latch closure and electrical opener with a single motor when the back door is closed to the halfway state.

- Back door auto closure
When the back door is closed to the half-way state (half-latch) position, the motor drives to rotate the latch lever and pull it in from half latched to full latched and automatically close the door.
- Power back door
With the back door closed, press the automatic door main switch or press the remote keyless entry button, or pull the back door handle with the back door unlocked, the back door latch motor drives the open the locking plate and releases the latch. The back door motor then raises the door to the full open position.
With the back door open, press the automatic door main switch, remote keyless entry button or the back door close switch, the back door motor closes the door to the half-latch state. The back door latch motor then drives the latch to the full close position.

A
B
C
D
E
F
G
H
BL
J
K
L
M

AUTOMATIC BACK DOOR SYSTEM

On an open or close signal, the hazard lamps will flash 3 times and the warning chime will sound 3 dings lasting a total of 2 seconds.

OPERATION DESCRIPTION

Automatic Door Main Switch Operation (Fully Closed → Fully Open Operation)

- When the automatic door main switch is pressed, back door control unit terminal 23 receives the signal.
- The back door control unit checks the automatic transaxle select lever (A/T device) position through terminal 18, vehicle speed through terminal 21 and battery voltage.
- When the back door control unit receives the signal, if the auto back door operating enable conditions are met, it sends a signal through terminal 6 and grounds terminal 9 to sound the warning chime, sends a signal to the BCM through terminal 4 to flash the hazard lamps and sends the unlock signal to the back door latch.
- When the back door latch receives the signal, it supplies voltage from terminal 12 to operate the release actuator and releases the door lock.
- The back door control unit supplies power to the magnetic clutch and the back door motor and moves the back door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the back door is opened to the full-open position, the full-open position is detected by the encoder, and the back door control unit switches the back door motor OFF and the magnetic clutch is pulsed and then turned OFF.
- The back door is held in the fully open position by the gas stays.

Remote Keyless Entry Operation (Fully Closed → Fully Open Operation)

- When the remote keyless entry button is pressed for at least 0.5 seconds, back door control unit terminal 21 receives the signal.
- The back door control unit checks the automatic transaxle select lever (A/T device) position through terminal 18, vehicle speed through terminal 21 and battery voltage
- When the back door control unit receives the signal, if the auto back door operating enable conditions are met, it sends a signal through terminal 6 and grounds terminal 9 to sound the warning chime, sends a signal to the BCM through terminal 4 to flash the hazard lamps and sends the unlock signal to the back door latch.
- When the back door latch receives the signal, it supplies voltage from terminal 12 to operate the release actuator and releases the door lock.
- The back door control unit supplies power to the magnetic clutch and the back door motor and moves the back door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the back door is opened to the full-open position, the full-open position is detected by the encoder, and the back door control unit switches the back door motor OFF and the magnetic clutch is pulsed and then turned OFF.
- The back door is held in the fully open position by the gas stays.

Back Door Handle Switch Operation (Fully Closed → Fully Open Operation)

- When the back door is unlocked and the back door handle is pulled, back door control unit terminal 26 receives the signal.
- The back door control unit checks the automatic transaxle select lever (A/T device) position through terminal 18, vehicle speed through terminal 21 and battery voltage and automatic door main switch position through terminal 13.
- When the back door control unit receives the signal, if the auto back door operating enable conditions are met, it sends a signal through terminal 6 and grounds terminal 9 to sound the warning chime, sends a signal to the BCM through terminal 4 to flash the hazard lamps and sends the unlock signal to the back door latch.
- When the back door latch receives the signal, it supplies voltage from terminal 12 to operate the release actuator and releases the door lock.
- The back door control unit supplies power to the magnetic clutch and the back door motor and moves the back door in the open direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)

AUTOMATIC BACK DOOR SYSTEM

- When the back door is opened to the full-open position, the full-open position is detected by the encoder, and the back door control unit switches the back door motor OFF and the magnetic clutch is pulsed and then turned OFF. A
- The back door is held in the fully open position by the gas stays. B

Automatic Door Main Switch Operation (Fully Open → Fully Closed Operation)

- When the automatic door main switch is pressed, the back door control unit terminal 23 receives the signal. C
- The back door control unit checks battery voltage. D
- When the back door control unit receives the signal, if the auto back door operating enable conditions are met, it sends a signal through terminal 6 and grounds terminal 9 to sound the warning chime and sends a signal to the BCM through terminal 4 to flash the hazard lamps. E
- The back door control unit supplies power to the magnetic clutch and the back door motor and move the back door in the close direction. (At this time, it also executes speed control, input reverse, and overload reverse control.) F
- When the back door reaches the half-latch state, the half-latch switch detects this and the signal is sent to the back door control unit terminal 22. G
- When the back door control unit receives the signal, it switches OFF the back door motor and the magnetic clutch. H
- When the cinch latch motor operates and the close switch detects this and the back door control unit terminal 14 receives the signal from back door latch terminal 5. I
- When the back door latch operates and full close is detected through terminal 14 of the back door control unit, the back door auto closure operation ends and the door is fully closed. J

Remote Keyless Entry Operation (Fully Open → Fully Closed Operation)

- When the remote keyless entry switch is pressed for at least 0.5 seconds, the back door control unit terminal 21 receives the signal. K
- The back door control unit checks battery voltage. L
- When the back door control unit receives the signal, if the auto back door operating enable conditions are met, it sends a signal through terminal 6 and grounds terminal 9 to sound the warning chime and sends a signal to the BCM through terminal 4 to flash the hazard lamps. M
- The back door control unit supplies power to the magnetic clutch and the back door motor and move the back door in the close direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the back door reaches the half-latch state, the half-latch switch detects this and the signal is sent to the back door control unit terminal 22.
- When the back door control unit receives the signal, it switches OFF the back door motor and the magnetic clutch.
- When the cinch latch motor operates and the close switch detects this and the back door control unit terminal 14 receives the signal from back door latch terminal 5.
- When the back door latch operates and full close is detected through terminal 14 of the back door control unit, the back door auto closure operation ends and the door is fully closed.

Back Door Close Switch Operation (Fully Open → Fully Closed Operation)

- When the back door close switch is pressed with the automatic main door switch ON, the back door control unit terminal 8 receives the signal.
- The back door control unit checks battery voltage.
- When the back door control unit receives the signal, if the auto back door operating enable conditions are met, it sends a signal through terminal 6 and grounds terminal 9 to sound the warning chime and sends a signal to the BCM through terminal 4 to flash the hazard lamps.
- The back door control unit supplies power to the magnetic clutch and the back door motor and move the back door in the close direction. (At this time, it also executes speed control, input reverse, and overload reverse control.)
- When the back door reaches the half-latch state, the half-latch switch detects this and the signal is sent to the back door control unit terminal 22.

AUTOMATIC BACK DOOR SYSTEM

- When the back door control unit receives the signal, it switches OFF the back door motor and the magnetic clutch.
- When the cinch latch motor operates and the close switch detects this and the back door control unit terminal 14 receives the signal from back door latch terminal 5.
- When the back door latch operates and full close is detected through terminal 14 of the back door control unit, the back door auto closure operation ends and the door is fully closed.

Anti-Pinch Function

- During auto operation, if an object is detected in the door's path, the back door operates in the reverse direction to prevent pinching.
- During auto close operation, if an object is detected by the pinch strips in the door's path, the back door operates in the open direction until it is fully open.
- During auto cinch latch operation, if an object is detected by the pinch strips in the door's path, the back door operates depending on the automatic door main switch position. If the automatic door main switch is in the ON position, the back door operates in the open direction until it is fully open. If the automatic door main switch is in the OFF position, the back door will reverse only until the latch is fully released.

Gas Stay Check

- During each power open operation, the back door control unit monitors motor current draw to determine if the gas stays are functioning properly.
- If a failure of the gas stays is detected, the back door control unit will close the back door while sounding the warning chime.

Warning Functions

- The warning chime is sounded according to the back door operating state, operations, and conditions.

Auto Back Door Operation Enable Conditions

Operation	Automatic door main switch		Remote keyless entry		Back door handle switch		Back door close switch	
	Fully closed → open	Fully open → closed	Fully closed → open	Fully open → closed	Fully closed → open	Fully open → closed	Fully closed → open	Fully open → closed
Main switch	ON							
Vehicle stop condition	A/T selector lever in P position and vehicle speed less than 2 km/h	—	A/T selector lever in P position and vehicle speed less than 2 km/h	—	A/T selector lever in P position and vehicle speed less than 2 km/h	—	—	
Battery voltage	Approx. 11V or more						Approx. 11V (operates with warning chime for low voltage of 9 - 11V)	

AUTOMATIC BACK DOOR SYSTEM

Control When Handle Pulled When Operating Enable Conditions Not Yet Met

Items	Operation condition	Not met case	Control
Main switch	ON	OFF	Manual mode (after finishing open/close operation if active)
A/T selector lever P position	P position	Other than P position	Power close operation only
Voltage drop	11V or more	$11 > V > 9$	Power operation will continue but will not begin from full close position
		$9 > V > \text{reset voltage}$	Power operation will stop and warning chime will sound
		reset voltage $> V$	No power function available
Handle switch	Normal	Error	No operation

Control When Operating Enable Conditions No Longer Met

Description	Operation	Full open stop
Main switch turned OFF	Warning chime active → Shift to manual mode after full open or close operation is complete (Recovery to power mode when main switch turned ON or door fully closed)	→ Shift to manual mode
A/T selector lever P position	Warning chime active and one-way operation continuous (Warning chime inactive and door fully open or fully closed or operating conditions recovered)	Stop continued
Voltage drop 11 - 9V	One-way operation continued (equivalent to the case of starting voltage ← 11V for handle operation with warning chime active)	Not allowed
Voltage drop 6 - 4V (Microcomputer reset voltage - clutch hold voltage)	<ul style="list-style-type: none"> ● Motor stopped ● Control not possible because microcomputer being reset 	Control not possible because microcomputer being reset

Warning Chime Active Conditions

The warning chime uses two types of audio warnings, a friendly chime and a warning chime. The friendly chime consists of dings lasting 0.66 seconds each immediately followed by the next ding. The warning chime consists of beeps lasting 0.33 seconds with a pause of 0.33 seconds between each beep.

Operation status	Operation or conditions	Warning chime pattern
When auto operation starts	Automatic door main switch operation	Friendly chime 2 seconds, 3 dings
	Back door handle switch operation	
	Back door close switch operation	
When reverse operation starts	When reverse request is detected from automatic door main switch, remote keyless entry or back door close switch	Friendly chime 1.3 seconds, 2 dings
	When obstacle is detected	Warning chime 2 seconds, 3 beeps
Operating at low voltage	When operating with handle	Warning chime 2 seconds, 3 beeps
A/T selector lever not in P position	Back door close operation	Friendly chime Continuous dings
	Back door open operation	Warning chime Continuous beeps

AUTOMATIC BACK DOOR SYSTEM

Reverse Conditions

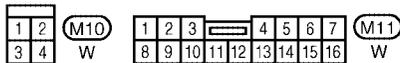
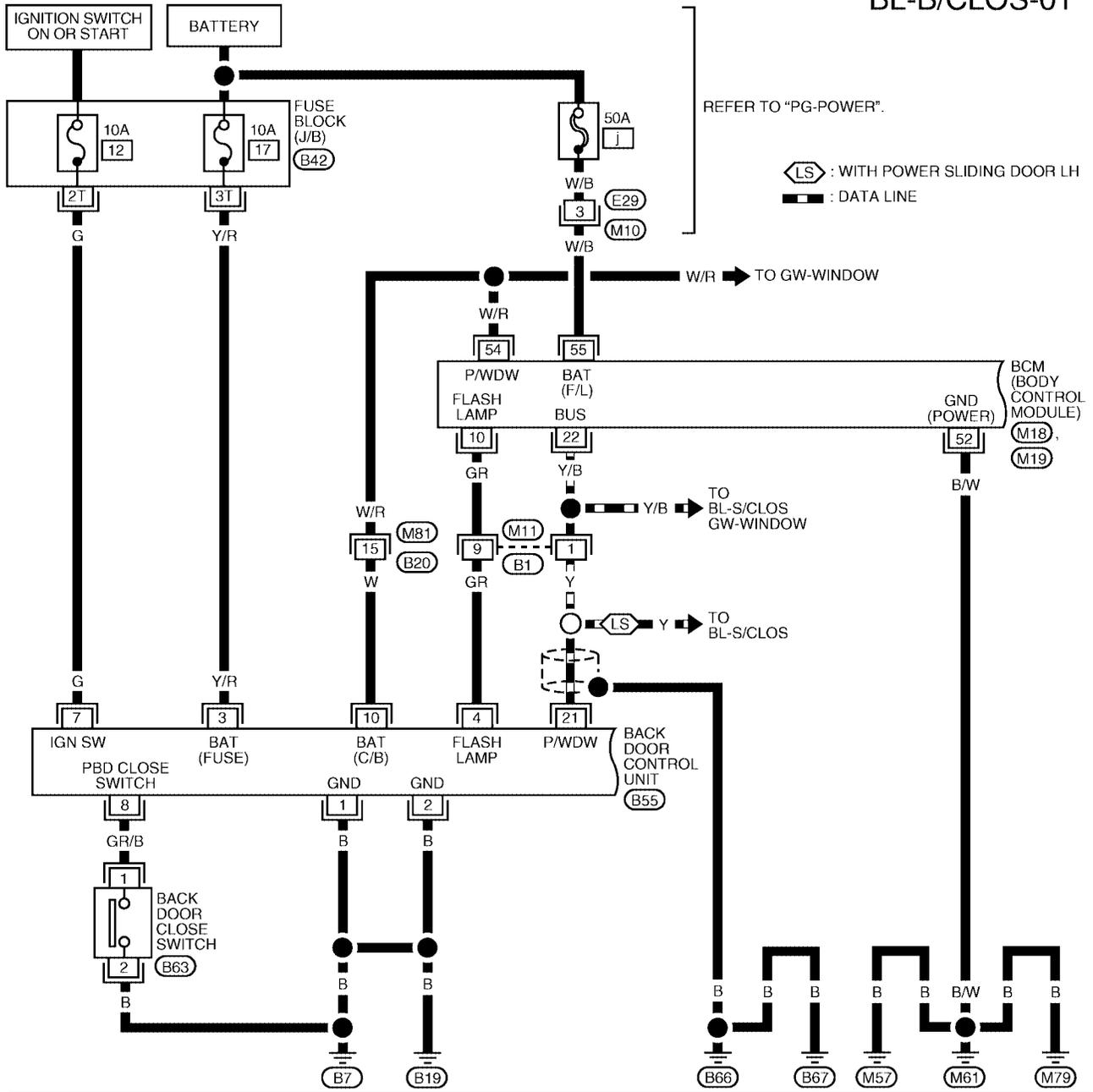
Type	Overload reverse
Operation covered	Both directions
Detection method	Operation speed and motor current change direction
	Pinch strips during back door close operation
Non-reversed area	<ul style="list-style-type: none">● For about 0.5 seconds immediately after drive motor operation starts● Between full open and approx. 7° from full open● Closure operation area
Number of times reverse allowed	One reversal is allowed (if a second obstacle is detected during a power open or close operation, the door reverts to manual mode).

AUTOMATIC BACK DOOR SYSTEM

Wiring Diagram — B/CLOS —

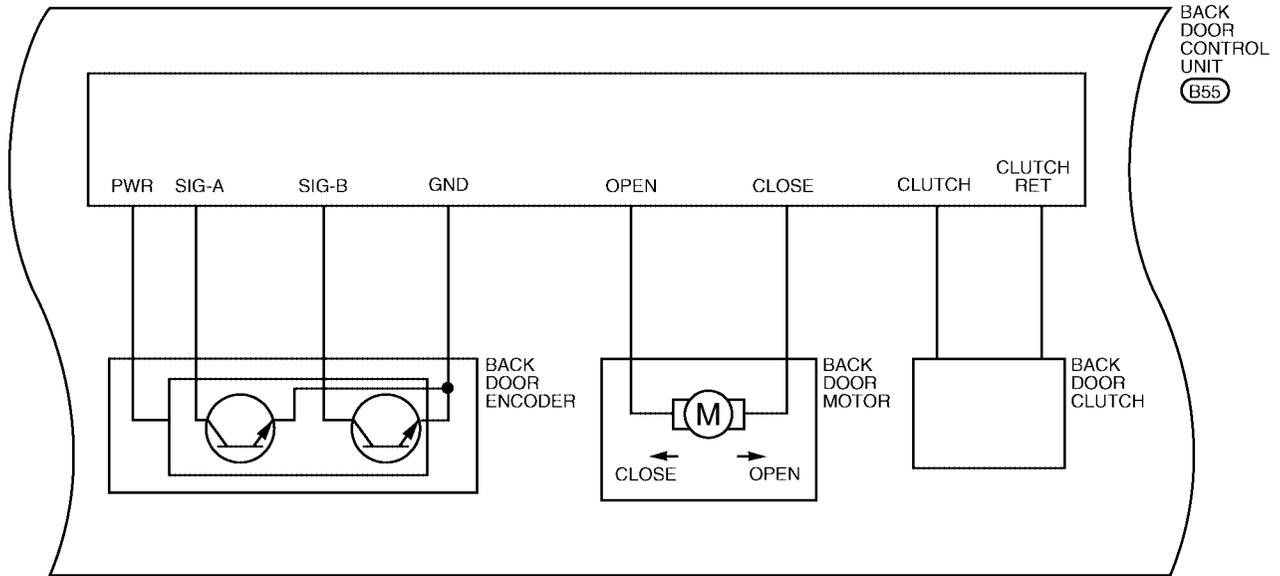
EIS001XG

BL-B/CLOS-01



AUTOMATIC BACK DOOR SYSTEM

BL-B/CLOS-02



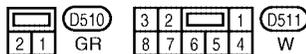
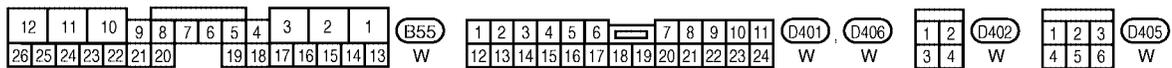
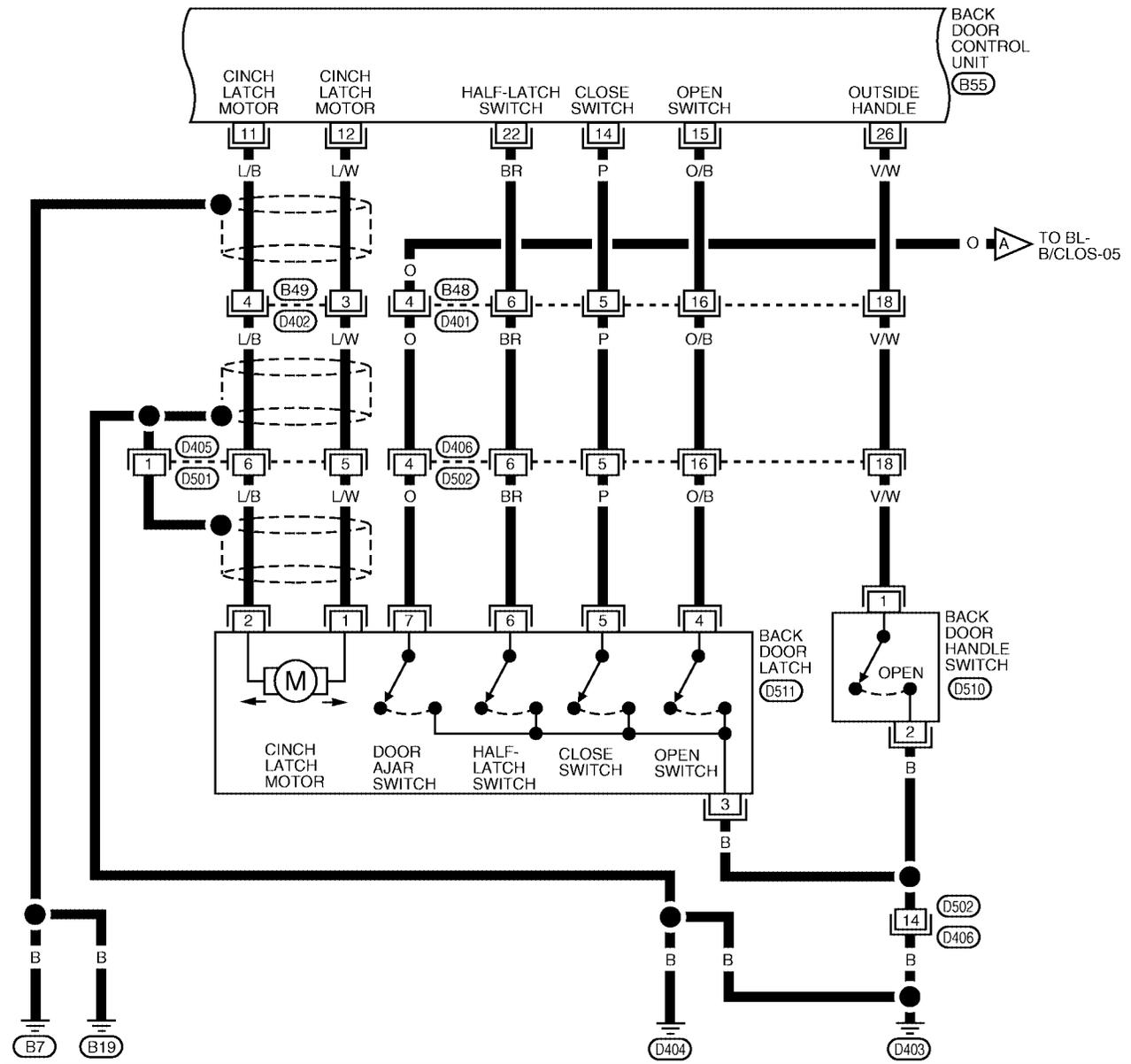
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AUTOMATIC BACK DOOR SYSTEM

BL-B/CLOS-03

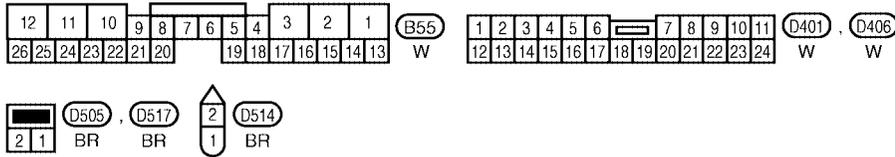
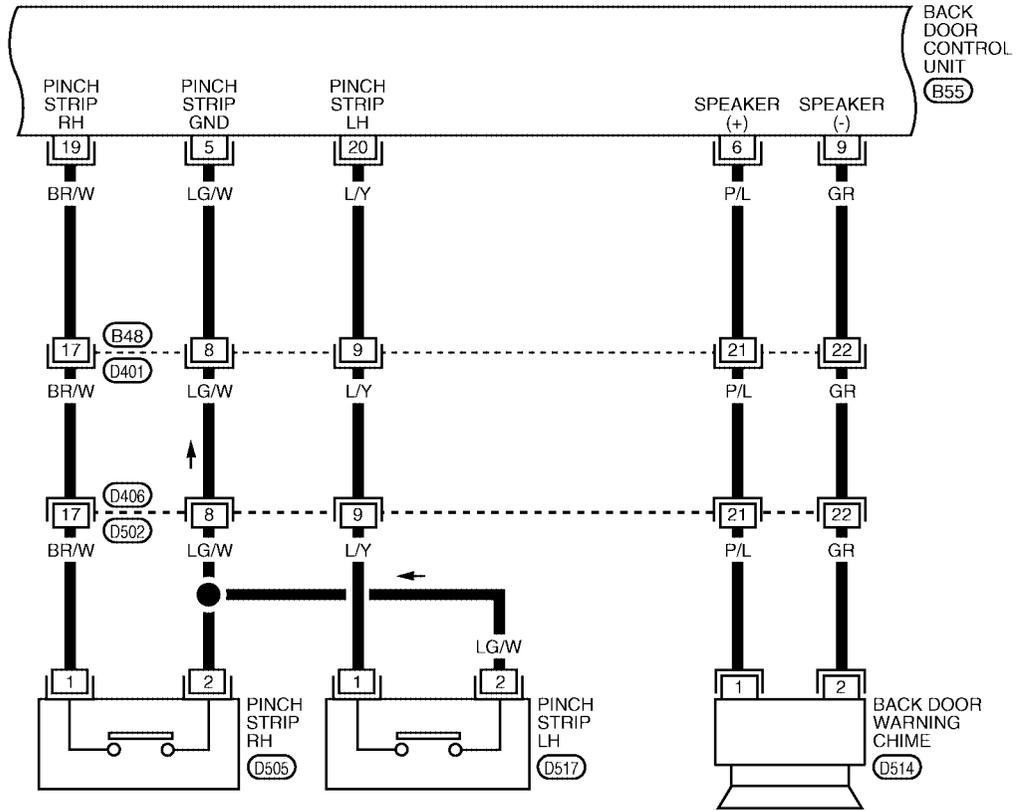


W1WA0513E

AUTOMATIC BACK DOOR SYSTEM

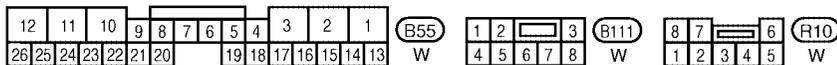
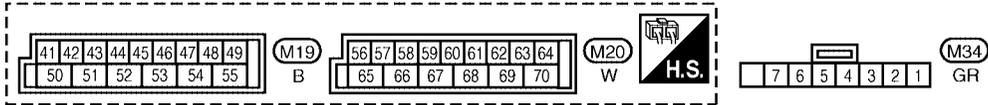
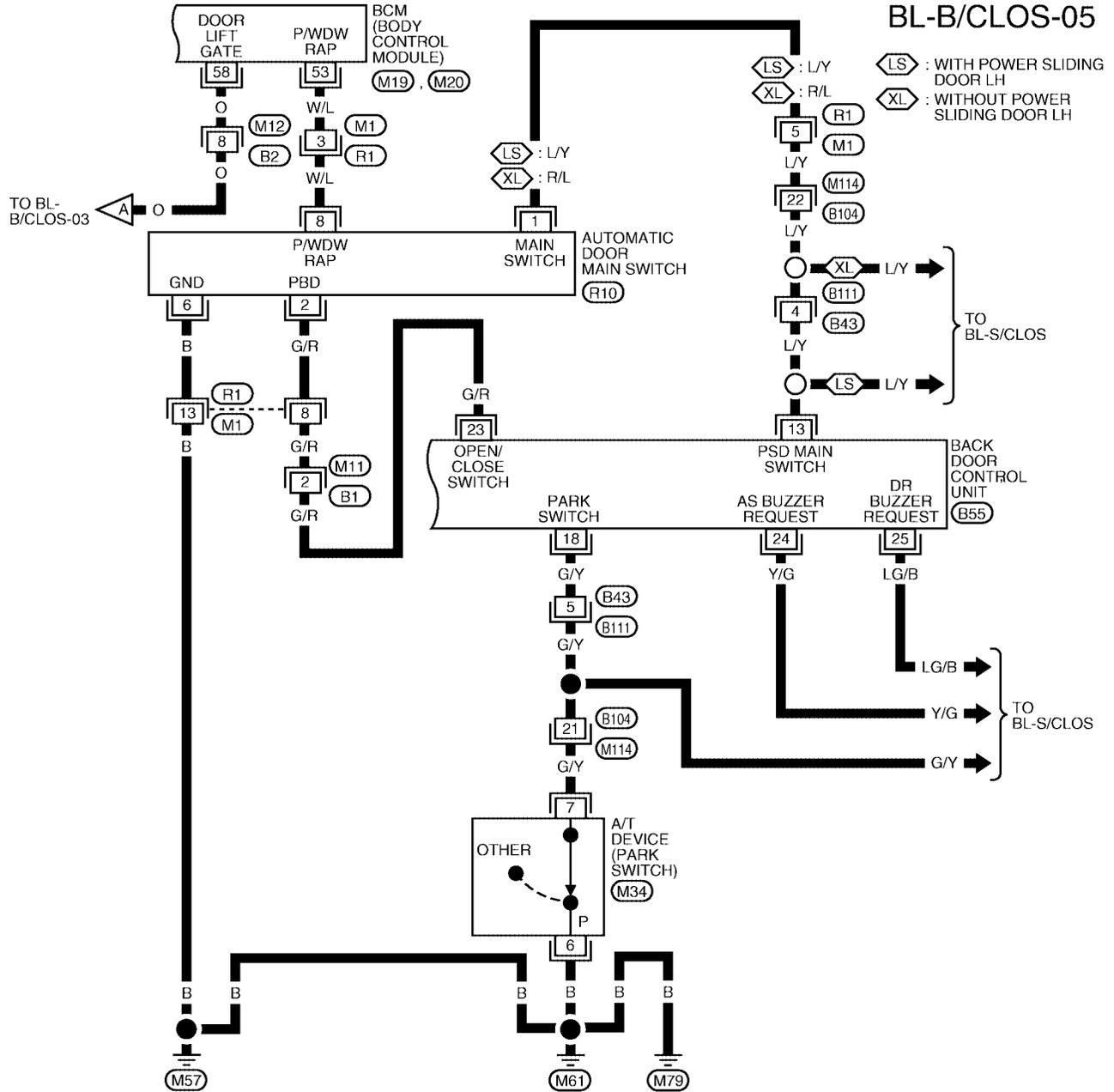
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AUTOMATIC BACK DOOR SYSTEM



WIWA0515E

AUTOMATIC BACK DOOR SYSTEM

Terminals and Reference Value for Back Door Control Unit

EIS001XH

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
1	B	Ground	—	—
2	B	Ground	—	—
3	Y/R	Battery power supply	—	Battery voltage
4	GR	Hazard lamp output	Back door motor active	5
5	LG/W	Pinch strip ground	—	—
6	P/L	Warning chime output	Back door motor active	12
7	G	Ignition switch	Ignition switch ON	Battery voltage
			Ignition switch OFF	0
8	GR/B	Back door close switch	Back door close switch ON	0
			Back door close switch OFF	5
9	GR	Warning chime ground	—	—
10	W	Battery power	—	Battery voltage
11	L/B	Cinch latch motor CLOSE output	Back door close operation	Battery voltage
12	L/W	Cinch latch motor RETURN output	Back door open operation	Battery voltage
13	L/Y	Automatic door main switch ON/OFF switch	Automatic door main switch ON	0
			Automatic door main switch OFF	5
14	P	Close switch signal	Back door close operation	5
15	O/B	Open switch signal	Back door open operation	5
18	G/Y	A/T device (park position switch)	P position	0
			Other than above	5
19	BR/W	Pinch strip RH	Detecting obstruction	0
			Other than above	4
20	L/Y	Pinch strip LH	Detecting obstruction	0
			Other than above	4
21	Y	Power window serial link	—	—
22	BR	Half-latch switch	Back door close operation	5
23	G/R	Automatic door main switch	ON	0
			OFF	5
24	Y/G	Sliding door RH warning chime request	Sliding door active	0
			Other than above	5
25	LG/B	Sliding door LH warning chime request	Sliding door active	0
			Other than above	5
26	V/W	Back door handle switch signal	Handle operation	0
			Other than above	5

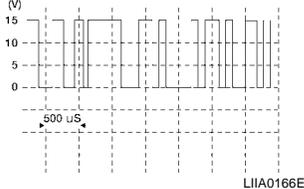
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AUTOMATIC BACK DOOR SYSTEM

Terminals and Reference Value for BCM

EIS001XJ

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
10	GR	Hazard lamp flash input	Back door active	0
			Other	5
22	Y/B	Power window serial link	—	
52	B/W	Ground	—	0
54	W/R	Power window (RAP)	—	Battery voltage
55	W/B	Battery power supply	—	Battery voltage
58	O	Back door switch	Open	0
			Closed	5
68	W/L	Power window power source	—	Battery voltage

AUTOMATIC BACK DOOR SYSTEM

EIS00214

Trouble Diagnosis Procedure

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to [BL-55, "System Description"](#) .
3. Confirm system operation.
4. Perform pre-diagnosis inspection. Refer to [BL-70, "Pre-Diagnosis Inspection"](#) .
5. Perform self-diagnosis procedures. Refer to [BL-175, "Self-Diagnosis Procedures"](#) .
6. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to [BL-71, "Trouble Diagnoses"](#) .
7. Inspection End.

Self-Diagnosis Procedures

EIS005W5

INPUT SIGNAL CHECK MODE

Input signal check mode allows testing of switch input signal to the back door control unit. To activate input signal check mode on the automatic sliding door, perform the following steps:

1. Turn ignition switch OFF.
2. Turn automatic door main switch OFF (system cancelled).
3. Place A/T selector lever in P position.
4. Using the inside emergency release lever, open the back door.
5. Have an assistant press and hold the back door close switch.
6. While the assistant continues to hold the back door close switch, turn ignition switch ON (DO NOT start engine).
7. After approximately 5 seconds, the back door warning chime will sound for 0.5 seconds.
8. Release the back door close switch RH or LH.
9. Within 8 seconds of the back door warning chime sounding, press and hold the automatic door main back door open/close switch.
10. After approximately 5 seconds, the back door warning chime will sound for 1 second.
11. Release the automatic door main back door open/close switch.
12. The input signal check mode is now initialized.

The input signal check mode can test the following inputs. The back door warning chime will sound for approximately 0.5 seconds each time a switch signal input occurs. Use this test when one of these inputs is not responding during normal automatic sliding door operation.

Switch signal	Operation	Refer to
Automatic door main switch	OFF → ON	BL-178
Automatic door main back door open/close switch	OFF → ON	BL-178
Back door close switch	OFF → ON	BL-179
Back door handle switch	OFF → ON	BL-185
A/T device (park position switch)	P position → other than P position	SE-77
Vehicle speed*	Vehicle speed	—
Remote keyless entry signal	Keyfob switch OFF → ON	BL-79
Door lock/unlock signal	LOCK → UNLOCK	BL-46
Pinch strip LH signal	OFF → ON	BL-180
Pinch strip RH signal	OFF → ON	BL-180

*Back door warning chime should sound as soon as vehicle moves. Turn ignition switch OFF to end input signal check mode.

OPERATING CHECK MODE

Operating check mode allows self-diagnosis of the automatic back door system. To activate operating check mode on the automatic back door, perform the following steps:

1. Turn ignition switch OFF.
2. Turn automatic door main switch OFF (system cancelled).

AUTOMATIC BACK DOOR SYSTEM

3. Place A/T selector lever in P position.
4. Using the inside emergency release lever, open the back door.
5. Have an assistant press and hold the back door close switch.
6. While the assistant continues to hold the back door close switch, turn ignition switch ON (DO NOT start engine).
7. After approximately 5 seconds, the back door warning chime will sound for 0.5 seconds.
8. Release the back door close switch.
9. Within 8 seconds of the back door warning chime sounding, press the automatic door main back door open/close switch 5 times in rapid succession.
10. After approximately 5 seconds, the back door warning chime will sound for 1 second.
11. Release the automatic door main back door open/close switch.
12. Immediately close the back door manually.
13. Turn automatic door main switch ON.
14. Open and close the back door with the automatic door main back door open/close switch to activate operating check mode.

Self-diagnosis results are indicated by the back door warning chime.

Back door warning chime order	Back door warning chime length	
Start self-diagnosis	1.5 seconds	
	OK	NG
1. Operating conditions diagnosis	0.5 seconds	0.2 seconds
2. Back door encoder diagnosis	0.5 seconds	0.2 seconds
3. Back door clutch diagnosis	0.5 seconds	0.2 seconds
4. Back door motor diagnosis	0.5 seconds	0.2 seconds
5. Cinch latch motor diagnosis	0.5 seconds	0.2 seconds
Restart self-diagnosis	1.5 seconds	

Item	NG Result	Refer to
1. Operating conditions diagnosis result	One of the following operating conditions no longer met: ignition switch ON, automatic door main switch ON, A/T selector lever in P position	—
2. Back door encoder diagnosis result	Sensor diagnosis/short, pulse signal, pulse signal direction	BL-177
3. Back door clutch diagnosis result	Back door clutch does not operate	BL-182
4. Back door motor diagnosis result	Back door motor does not operate (no operating current)	BL-177
5. Cinch latch motor diagnosis result	Cinch latch motor does not operate (no operating current)	BL-186

Turn ignition switch OFF to end input signal check mode.

AUTOMATIC BACK DOOR SYSTEM

Diagnosis Chart

EIS00215

Symptom	Suspect systems	Refer to
Automatic operations are not executed from the back door fully closed or fully open position. (Auto closure operates normally.)	Automatic door main switch system inspection	BL-178
	A/T device (park position switch)	—
	Pinch strip system inspection	BL-180
Automatic operations are not carried out together with open/close operations. (Manual operations are normal.)	Automatic door main switch system inspection	BL-178
	Back door close switch system inspection	BL-179
	Back door control unit power supply and ground circuit system inspection.	BL-177
The auto closure function does not operate. (Stops at the halfway position for auto closing operations.)	Pinch strip system inspection	BL-180
During auto closing operations, if obstruction is detected, the door does not operate in reverse.	Back door motor assembly	—
During close or cinch operations, the door does not operate in reverse if the back door handle is operated.	Handle switch system	BL-185
When the keyfob is operated, the back door does not operate automatically.	Remote keyless entry system inspection	BL-54
	Power window serial link	BL-174
	Pinch strip system inspection	BL-180
Auto closure does not operate.	Half-latch switch system	BL-182
	Cinch latch motor system	BL-186
	Handle switch system	BL-185
The back door does not open. (Closure motor rotation is not reversed.)	Open switch system	BL-183
	Handle switch system	BL-185
Warning chime does not sound.	Back door warning chime system	BL-181
Auto closure operation works, but the back door is not fully closed.	Close switch system	BL-184
	Handle switch system	BL-185
	Cinch latch motor system	BL-186
	Back door latch assembly mechanism damaged or worn.	—

Back Door Control Unit Power Supply and Ground Circuit Inspection

EIS00216

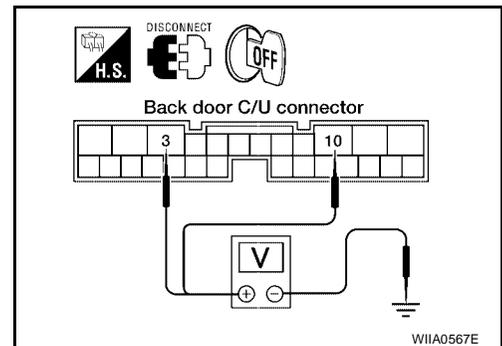
1. BACK DOOR POWER SUPPLY CIRCUIT INSPECTION

- Turn ignition switch OFF.
- Disconnect back door control unit.
- Check voltage between back door control unit connector B55 terminals 3, 10 and ground.

3 (Y/R) - Ground :Approx. battery voltage
10 (W) - Ground :Approx. battery voltage

OK or NG

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



AUTOMATIC BACK DOOR SYSTEM

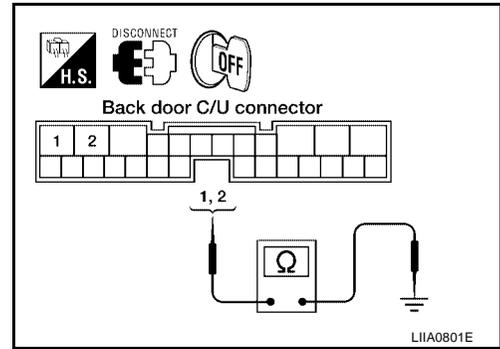
2. BACK DOOR CONTROL UNIT GROUND CIRCUIT INSPECTION

Check continuity between back door control unit connector B55 terminals 1, 2 and ground.

- 1 (B) - Ground : Continuity should exist.**
- 2 (B) - Ground : Continuity should exist.**

OK or NG

- OK >> Circuit is OK.
- NG >> Repair or replace harness.



EIS00217

Automatic Door Main Switch System Inspection

1. AUTOMATIC DOOR MAIN SWITCH FUNCTION INSPECTION

Check automatic door main switch using switch operation.

OK or NG

- OK >> Automatic door main switch is OK.
- NG >> GO TO 2.

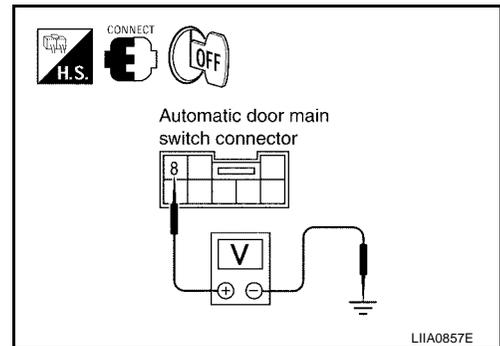
2. AUTOMATIC DOOR MAIN SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition switch OFF.
2. Check voltage between automatic door main switch connector R10 terminal 8 and ground.

- 8 (W/L) - Ground : Approx. battery voltage**

OK or NG

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



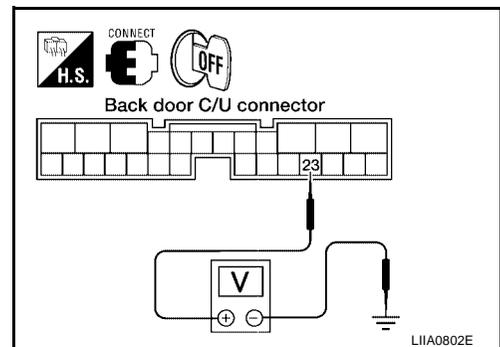
3. AUTOMATIC DOOR MAIN SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the automatic door main switch, check voltage between back door control unit connector B55 terminal 23 and ground.

Connector terminal (Wire color)		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
23 (G/R)	Ground	Automatic door main switch ON	0
		Automatic door main switch OFF	5

OK or NG

- OK >> Switch is OK.
- NG >> GO TO 4.



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AUTOMATIC BACK DOOR SYSTEM

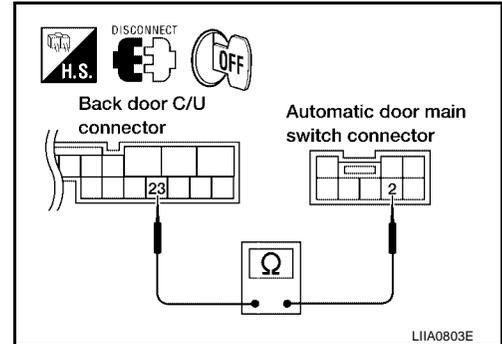
4. AUTOMATIC DOOR MAIN SWITCH CIRCUIT INSPECTION

1. Disconnect automatic door main switch and back door control unit.
2. Check continuity between automatic door main switch connector R10 terminal 2 and back door control unit connector B55 terminal 23.

2 (G/R) - 23 (G/R) : Continuity should exist.

OK or NG

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



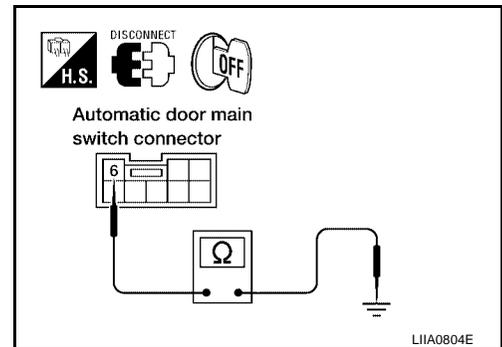
5. AUTOMATIC DOOR MAIN SWITCH GROUND INSPECTION

Check continuity between automatic door main switch connector terminal 6 and ground.

6 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the automatic door main switch.
 NG >> Repair or replace harness.



Back Door Close Switch System Inspection

1. BACK DOOR CLOSE SWITCH FUNCTION INSPECTION

Check back door close switch using switch operation.

OK or NG

- OK >> Back door close switch is OK.
 NG >> GO TO 2.

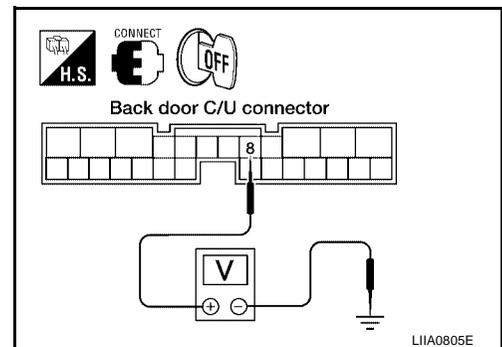
2. BACK DOOR CLOSE SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the back door close switch, check voltage between back door control unit connector B55 terminal 8 and ground.

Connector terminal (Wire color)		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
8 (GR/B)	Ground	Back door close switch ON	0
		Back door close switch OFF	5

OK or NG

- OK >> Switch is OK.
 NG >> GO TO 3.



AUTOMATIC BACK DOOR SYSTEM

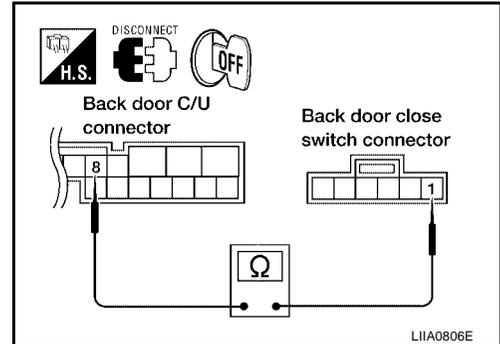
3. BACK DOOR CLOSE SWITCH CIRCUIT INSPECTION

1. Disconnect back door close switch and back door control unit.
2. Check continuity between back door close switch connector B63 terminal 1 and back door control unit connector B55 terminal 8.

1 (GR/B) - 8 (GR/B) : Continuity should exist.

OK or NG

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



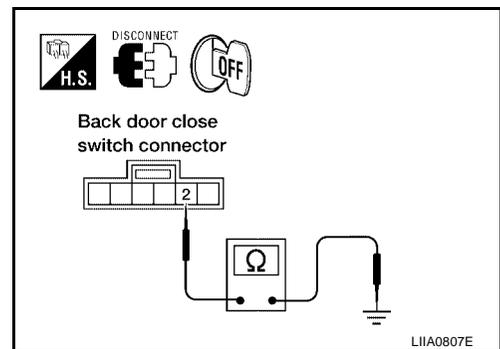
4. BACK DOOR CLOSE SWITCH GROUND INSPECTION

Check continuity between back door close switch connector B63 terminal 2 and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the back door close switch.
 NG >> Repair or replace harness.



Pinch Strip System Inspection

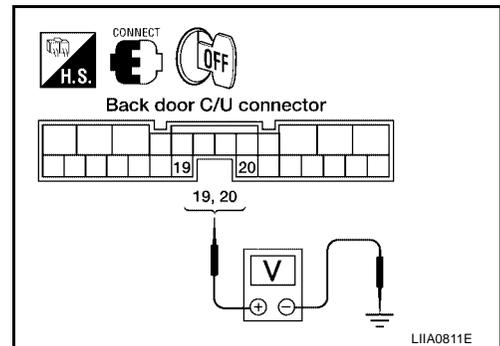
1. PINCH STRIP SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the pinch strip, check voltage between back door control unit connector B55 terminals 19 (RH), 20 (LH) and ground.

Connector terminal (Wire color)		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
19 (BR/W) 20 (L/Y)	Ground	Pinch strip operation	0
		Other	4

OK or NG

- OK >> Switch is OK.
 NG >> GO TO 2.



AUTOMATIC BACK DOOR SYSTEM

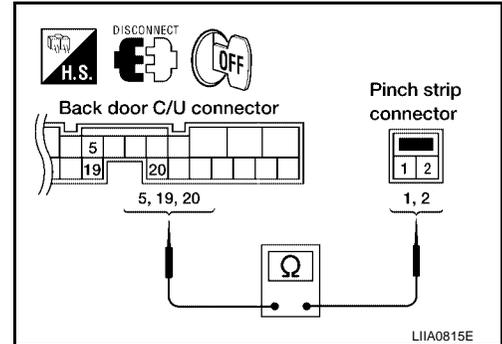
2. PINCH STRIP CIRCUIT INSPECTION

1. Disconnect pinch strip and back door control unit.
2. Check continuity between pinch strip connector D505 (RH), D517 (LH) terminals 1, 2 and back door control unit connector B55 terminals 5, 19 (RH), 20 (LH).

- 1 (BR/W) - 19 (BR/W) : Continuity should exist.**
1 (L/Y) - 20 (L/Y) : Continuity should exist.
2 (LG/W) - 5 (LG/W) : Continuity should exist.

OK or NG

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



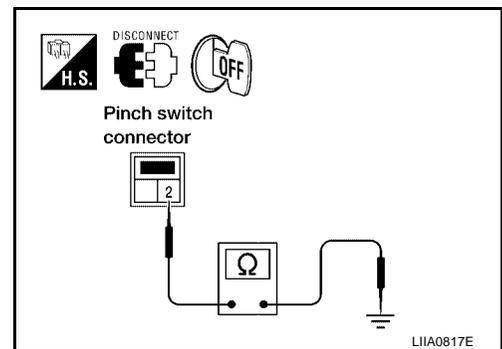
3. PINCH STRIP GROUND INSPECTION

Check continuity between pinch strip connector terminal 2 and ground.

- 2 (LG/W) - Ground : Continuity should exist.**

OK or NG

- OK >> Replace the pinch strip.
NG >> Repair or replace harness.



Back Door Warning Chime System Inspection

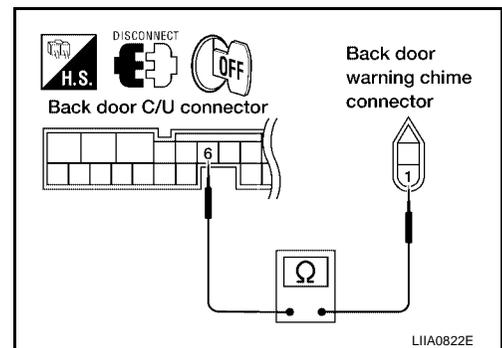
1. BACK DOOR WARNING CHIME CIRCUIT INSPECTION

1. Disconnect back door warning chime and back door control unit.
2. Check continuity between back door warning chime connector D514 terminal 1 and back door control unit connector B55 terminal 6.

- 1 (P/L) - 6 (P/L) : Continuity should exist.**

OK or NG

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



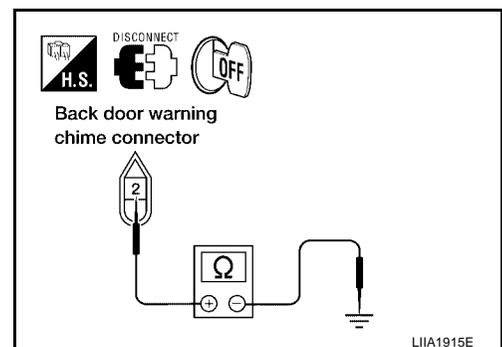
2. WARNING CHIME CIRCUIT INSPECTION

Check continuity between warning chime connector D514 terminal 2 and ground.

- 2 (G/R) - Ground : Continuity should exist.**

OK or NG

- OK >> Replace warning chime.
NG >> Repair or replace harness.



AUTOMATIC BACK DOOR SYSTEM

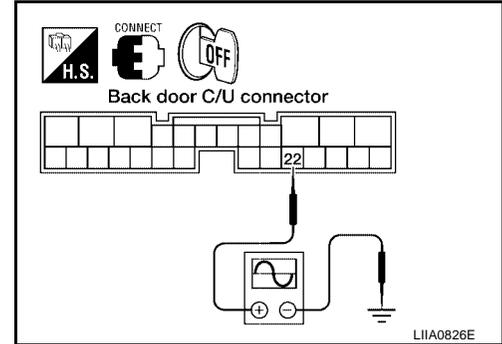
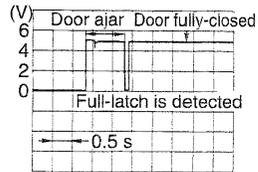
EIS0021B

Half-Latch Switch System Inspection

1. HALF-LATCH SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully opening and closing the sliding door, check voltage waveform between back door control unit connector B55 terminal 22 and ground using an oscilloscope.

22 (BR) - Ground



OK or NG

- OK >> Half-latch switch is OK.
- NG >> GO TO 2.

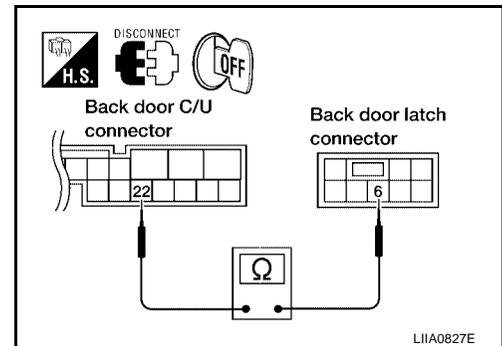
2. HALF-LATCH SWITCH CIRCUIT INSPECTION

1. Disconnect back door latch switch and back control unit.
2. Check continuity between back door latch (half-latch switch) connector D511 terminal 6 and back control unit connector B55 terminal 22.

6 (BR) - 22 (BR) : Continuity should exist.

OK or NG

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



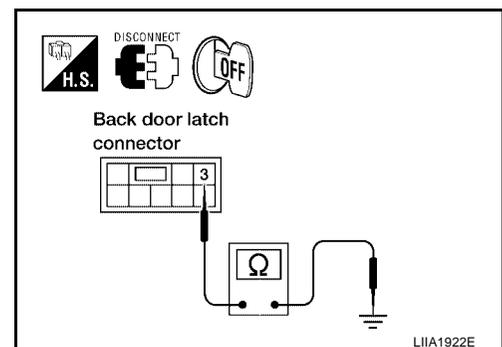
3. HALF-LATCH SWITCH GROUND INSPECTION

Check continuity between back door latch (half-latch switch) connector D511 terminal 3 and ground.

3 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the back door latch. Refer to [BL-201, "BACK DOOR LOCK"](#).
- NG >> Repair or replace harness.



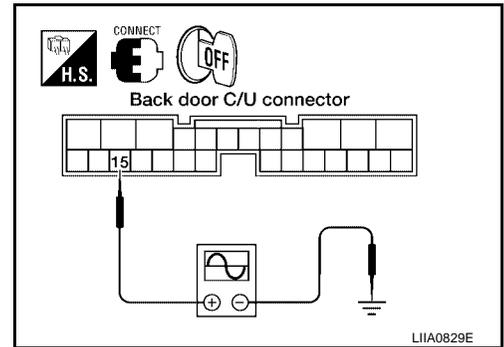
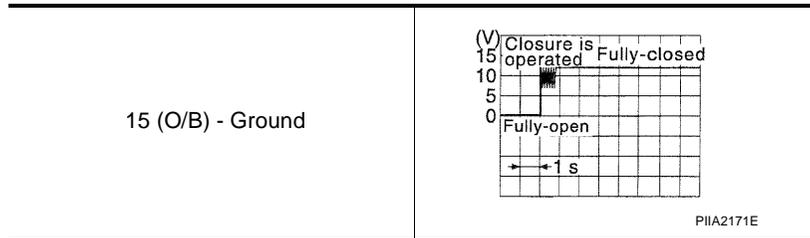
AUTOMATIC BACK DOOR SYSTEM

EIS0021C

Open Switch System Inspection

1. OPEN SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully closing and opening the back door, check voltage waveform between back door control unit connector B55 terminal 15 and ground using an oscilloscope.



OK or NG

- OK >> Open switch is OK.
NG >> GO TO 2.

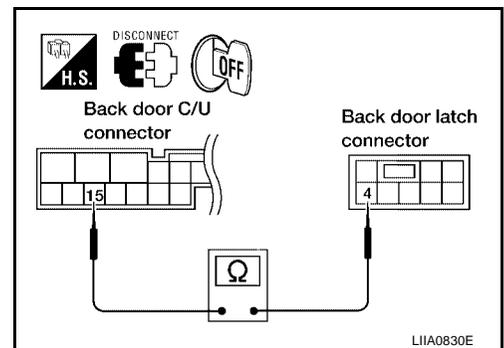
2. OPEN SWITCH CIRCUIT INSPECTION

1. Disconnect back door latch and back door control unit.
2. Check continuity between back door latch (open switch) connector D511 terminal 4 and back door control unit connector B55 terminal 15.

4 (O/B) - 15 (O/B) : Continuity should exist.

OK or NG

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



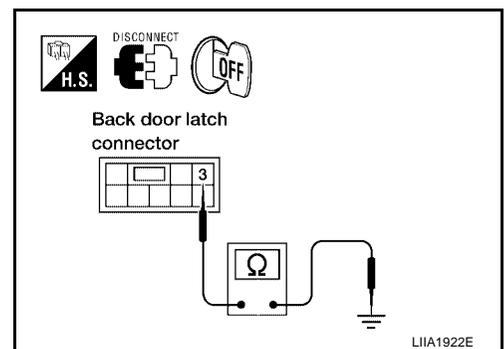
3. OPEN SWITCH GROUND INSPECTION

Check continuity between back door latch (open switch) connector D511 terminal 3 and ground.

3 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the back door latch.
NG >> Repair or replace harness.



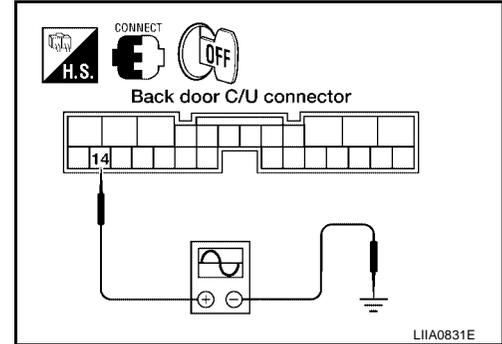
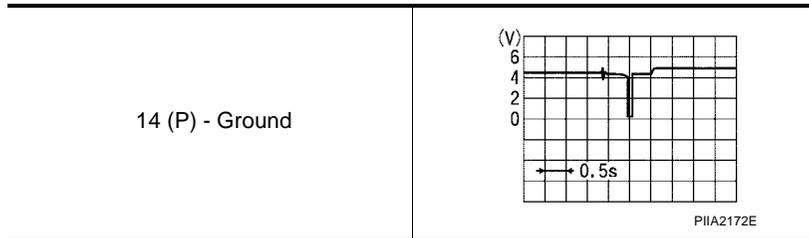
AUTOMATIC BACK DOOR SYSTEM

EIS0021D

Close Switch System Inspection

1. CLOSE SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully opening and closing the back door, check voltage waveform between back door control unit connector B55 terminal 14 and ground using an oscilloscope.



OK or NG

- OK >> Close switch is OK.
NG >> GO TO 2.

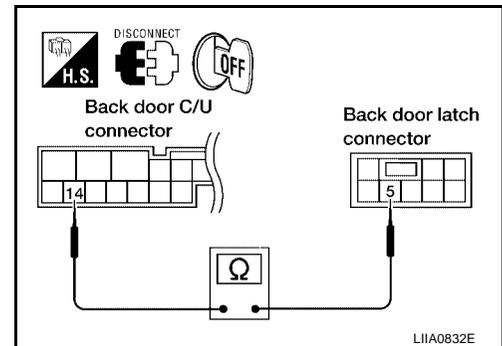
2. CLOSE SWITCH CIRCUIT INSPECTION

1. Disconnect back door latch and back door control unit.
2. Check continuity between back door latch (close switch) connector D511 terminal 5 and back door control unit connector B55 terminal 14.

5 (P) - 14 (P) : Continuity should exist.

OK or NG

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



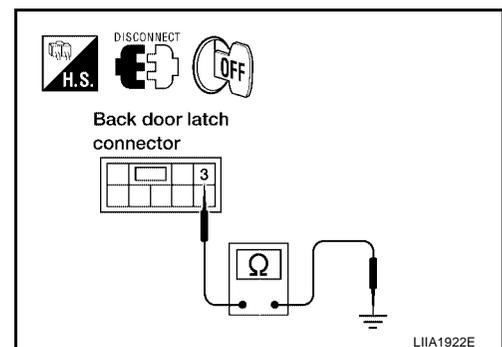
3. CLOSE SWITCH GROUND INSPECTION

Check continuity between back door latch (close switch) connector D511 terminal 3 and ground.

3 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the back door latch.
NG >> Repair or replace harness.



AUTOMATIC BACK DOOR SYSTEM

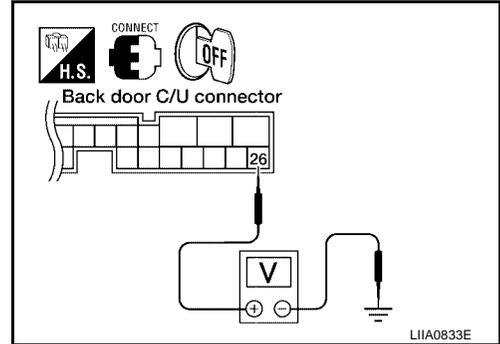
EIS0021E

Back Door Handle Switch System Inspection

1. BACK DOOR HANDLE SWITCH SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While operating the back door handle switch, check voltage between back door control unit connector B55 terminal 26 and ground.

Connector terminal (Wire color)		Measuring condition	Voltage (V) (Approx.)
(+)	(-)		
26 (V/W)	Ground	Pull the back door handle switch (ON)	0
		Other (OFF)	5



OK or NG

- OK >> Switch is OK.
- NG >> GO TO 2.

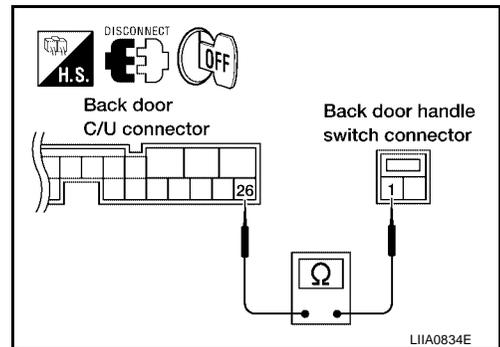
2. BACK DOOR HANDLE SWITCH CIRCUIT INSPECTION

1. Disconnect back door handle switch and back door control unit.
2. Check continuity between back door handle switch connector D510 terminal 1 and back door control unit connector B55 terminal 26.

1 (V/W) - 26 (V/W) : Continuity should exist.

OK or NG

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



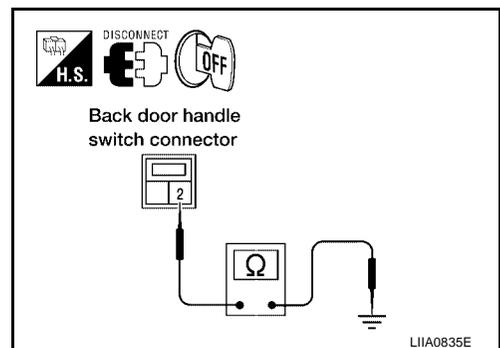
3. BACK DOOR HANDLE SWITCH GROUND INSPECTION

Check continuity between back door handle switch connector D510 terminal 2 and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

- OK >> Replace the back door handle switch.
- NG >> Repair or replace harness.



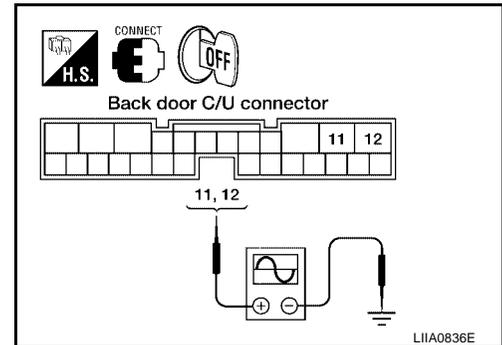
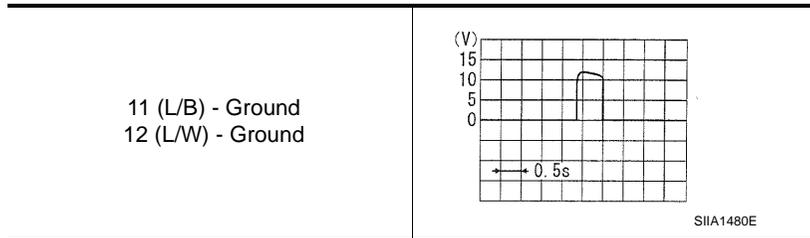
AUTOMATIC BACK DOOR SYSTEM

EIS0021F

Cinch Latch Motor System Inspection

1. CINCH LATCH MOTOR SIGNAL INSPECTION

1. Turn ignition switch OFF.
2. While fully opening and closing the back door, check voltage waveform between back door control unit connector B55 terminals 11, 12 and ground using an oscilloscope.



OK or NG

- OK >> GO TO 2.
NG >> Replace the back door control unit.

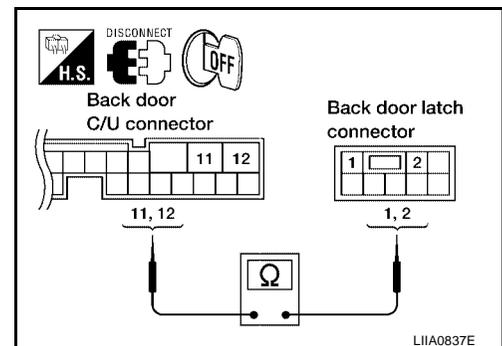
2. CINCH LATCH MOTOR CIRCUIT INSPECTION

1. Disconnect back door latch and back door control unit.
2. Check continuity between back door latch (cinch latch motor) connector D511 terminals 1, 2 and back door control unit connector B55 terminals 11, 12.

- 1 (L/W) - 12 (L/W) : Continuity should exist.**
2 (L/B) - 11 (L/B) : Continuity should exist.

OK or NG

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



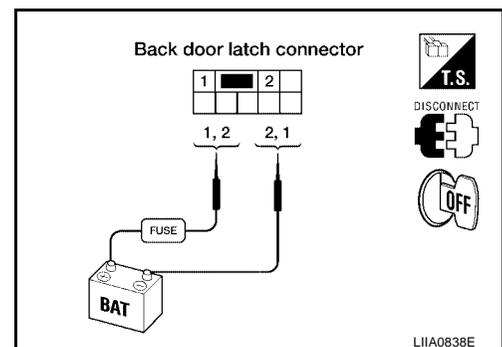
3. CINCH LATCH MOTOR OPERATION INSPECTION

Connect battery power to terminals 1 and 2 on the back door latch connector and check motor operation.

- 1 (+) - 2 (-) : It operates.**
1 (-) - 2 (+) : It operates. (Reverse rotation)

OK or NG

- OK >> Motor is OK.
NG >> Replace the back door latch.



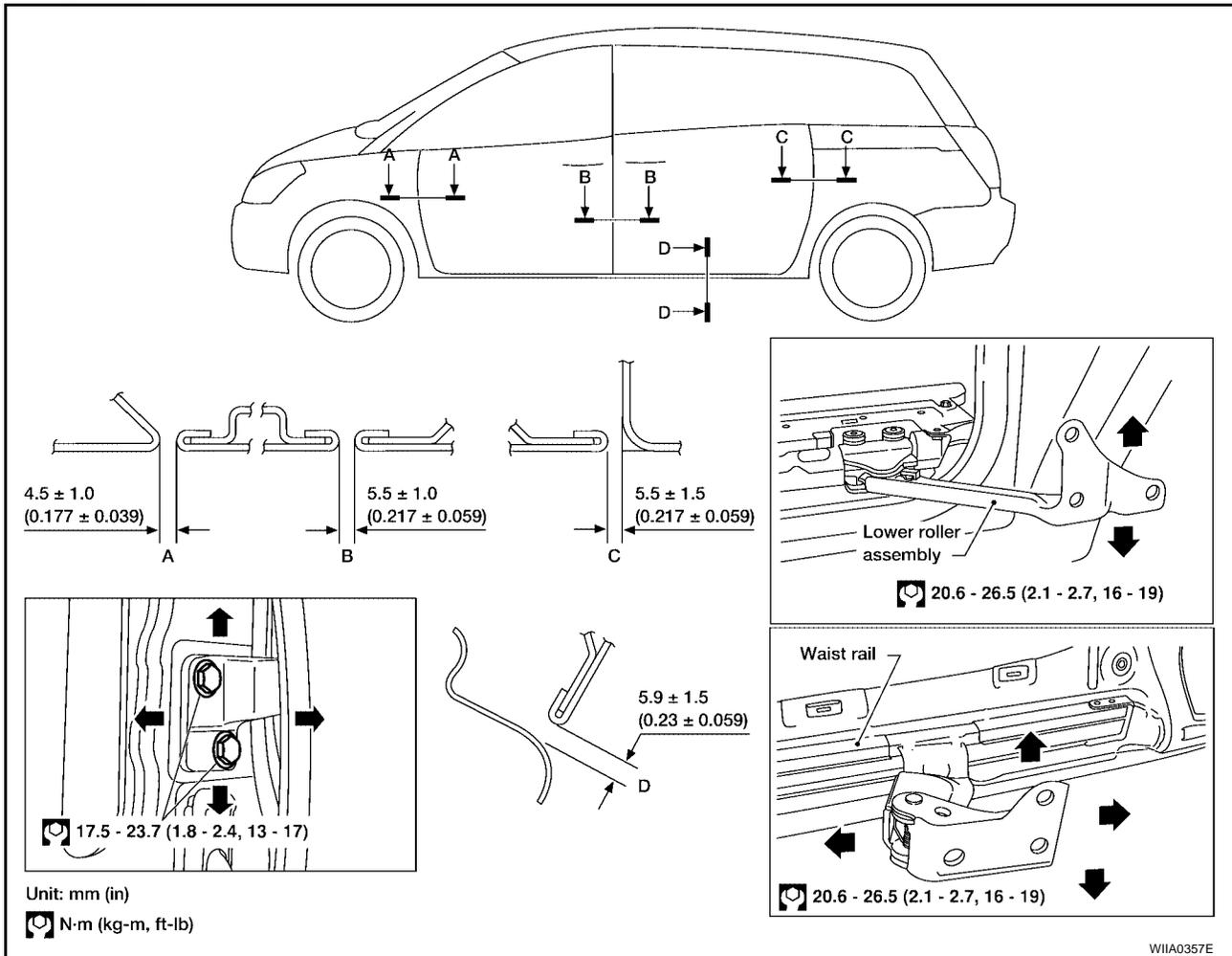
DOOR

DOOR

Fitting Adjustment

PF:80100

EIS001QU



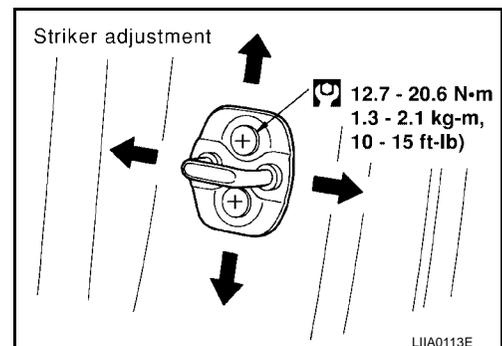
FRONT DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove the fender. Refer to [EI-21, "FRONT FENDER"](#).
2. Loosen the hinge nuts or bolts and adjust as needed.

Striker Adjustment

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



DOOR

SLIDE DOOR

Longitudinal clearance, surface height and outboard adjustment at front end

1. Remove the sliding door trim panel. Refer to [EI-31, "Sliding Door"](#) .
2. Accessing from inside the vehicle, loosen the nuts. Open the sliding door and adjust as needed.

Striker Adjustment

NOTE:

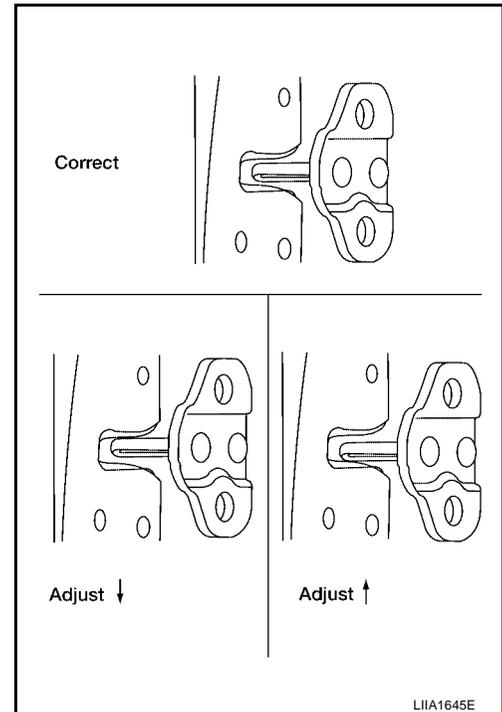
Turn OFF automatic sliding door system, if equipped.

1. Inspect the door latch-to-striker clearance for the front and rear strikers.
 - Slowly open and close the sliding door.
 - Confirm the strikers meet the latches correctly.
 - Adjust striker height up or down as needed.
2. Slightly loosen the door strikers, upper and lower dovetails, and contact switch.

NOTE:

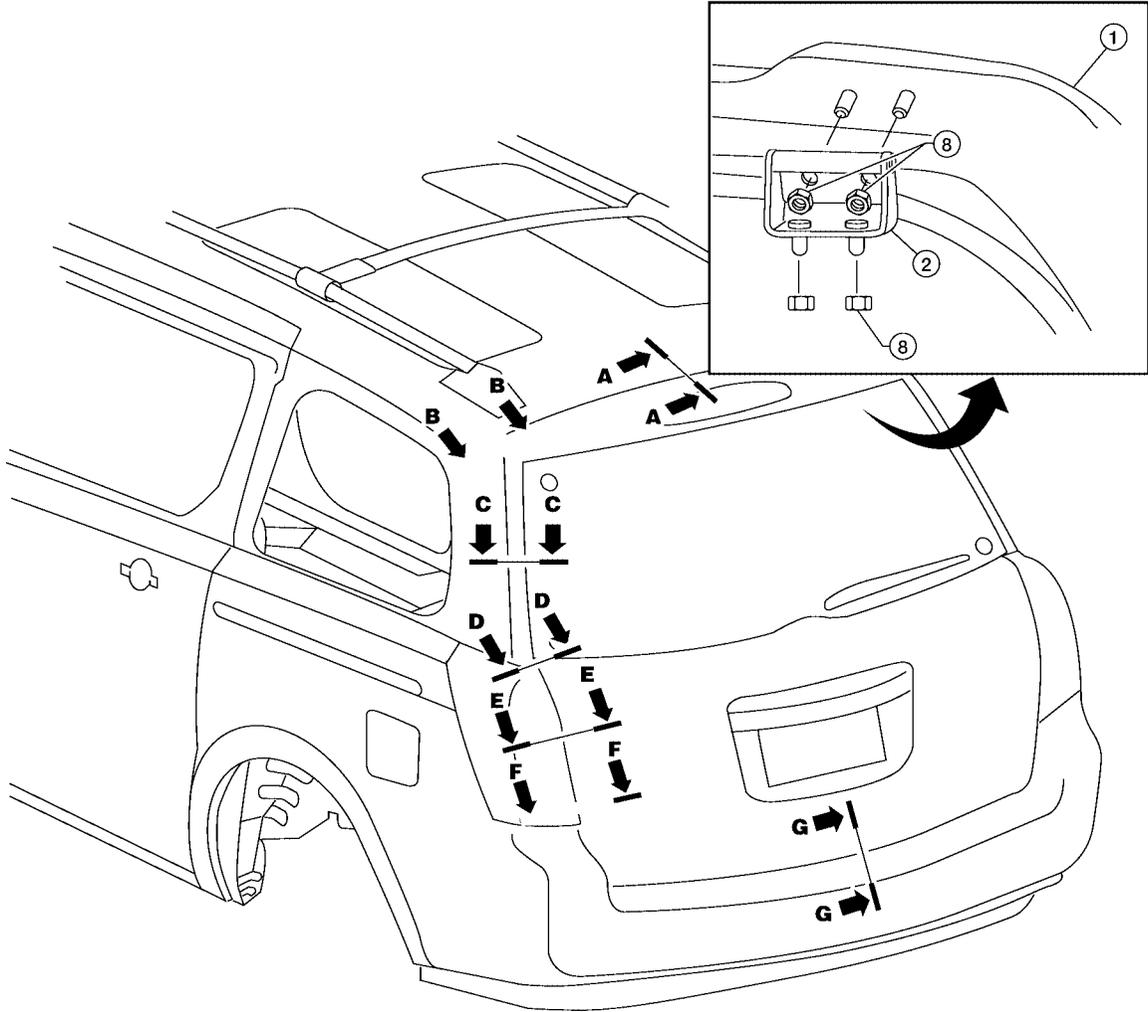
Loosened parts should not move on their own.

3. Open and close the door three or four times to allow the strikers and contact switch to align themselves.
4. Carefully tighten all loosened parts using care not to move the parts .
5. Open and close door three or four times to confirm smooth latching.

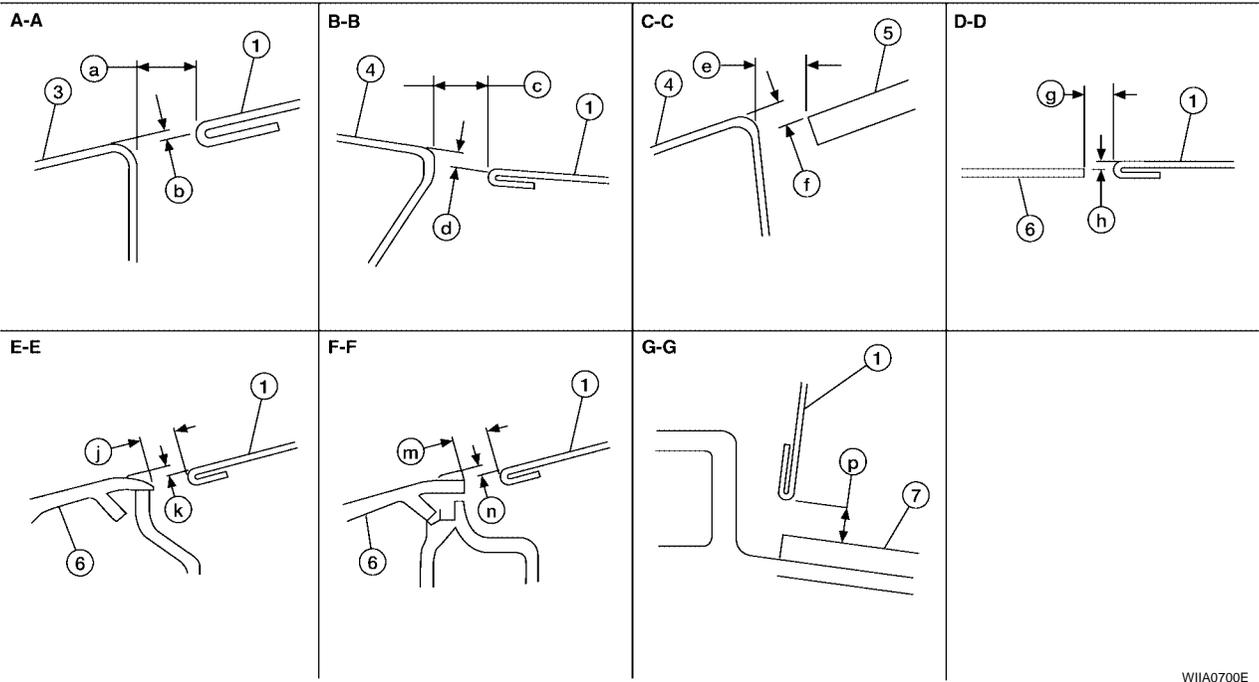


DOOR

BACK DOOR



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- 1. Back door
- 2. Back door hinge RH & LH
- 3. Roof
- 4. Body side outer
- 5. Back door glass
- 6. Rear combination lamp
- 7. [Component not explicitly named in legend]
- 8. [Component not explicitly named in legend]

W1A0700E

DOOR

- | | | |
|-----------------------|--------------------------------|---------------------|
| 7. Rear bumper fascia | 8. 17 N·m (1.7 Kg-m, 13 ft-lb) | a. 10.0 mm (0.4in) |
| b. 2.5 mm (0.10 in) | c. 6.8 mm (0.27 in) | d. 0.8 mm (0.03 in) |
| e. 6.5 mm (0.26 in) | f. 2.8 mm (0.11 in) | g. 6.7 mm (0.26 in) |
| h. 1.4 mm (0.06 in) | j. 6.2 mm (0.24 in) | k. 0.4 mm (0.02 in) |
| m. 6.2 mm (0.24 in) | n. 0.4 mm (0.02 in) | p. 6.1 mm (0.24 in) |

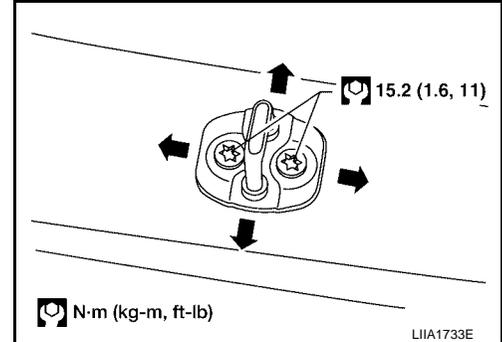
DOOR

Longitudinal clearance, surface height and outboard adjustment at front end

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

Striker Adjustment

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

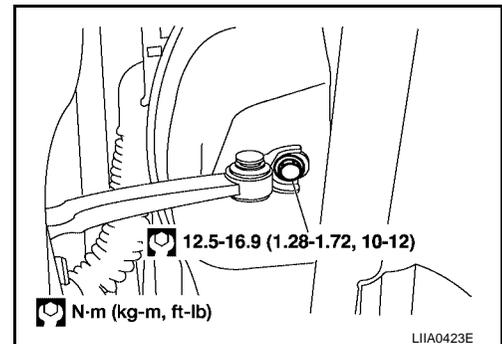


EIS001QV

Removal and Installation FRONT DOOR

CAUTION:

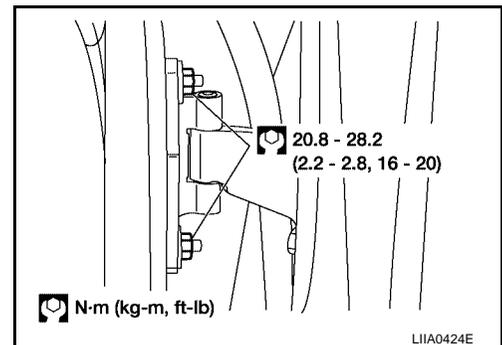
- When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.
 - When removing and installing door assembly, be sure to carry out the fitting adjustment.
 - Check the hinge rotating part for poor lubrication. If necessary, apply "body grease".
1. Remove the door window and module assembly. Refer to [GW-74, "Removal and Installation"](#).
 2. Remove the door harness.
 3. Remove the check link cover.
 4. Remove the check link bolt from the vehicle.



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-187, "Longitudinal clearance and surface height adjustment at front end"](#).

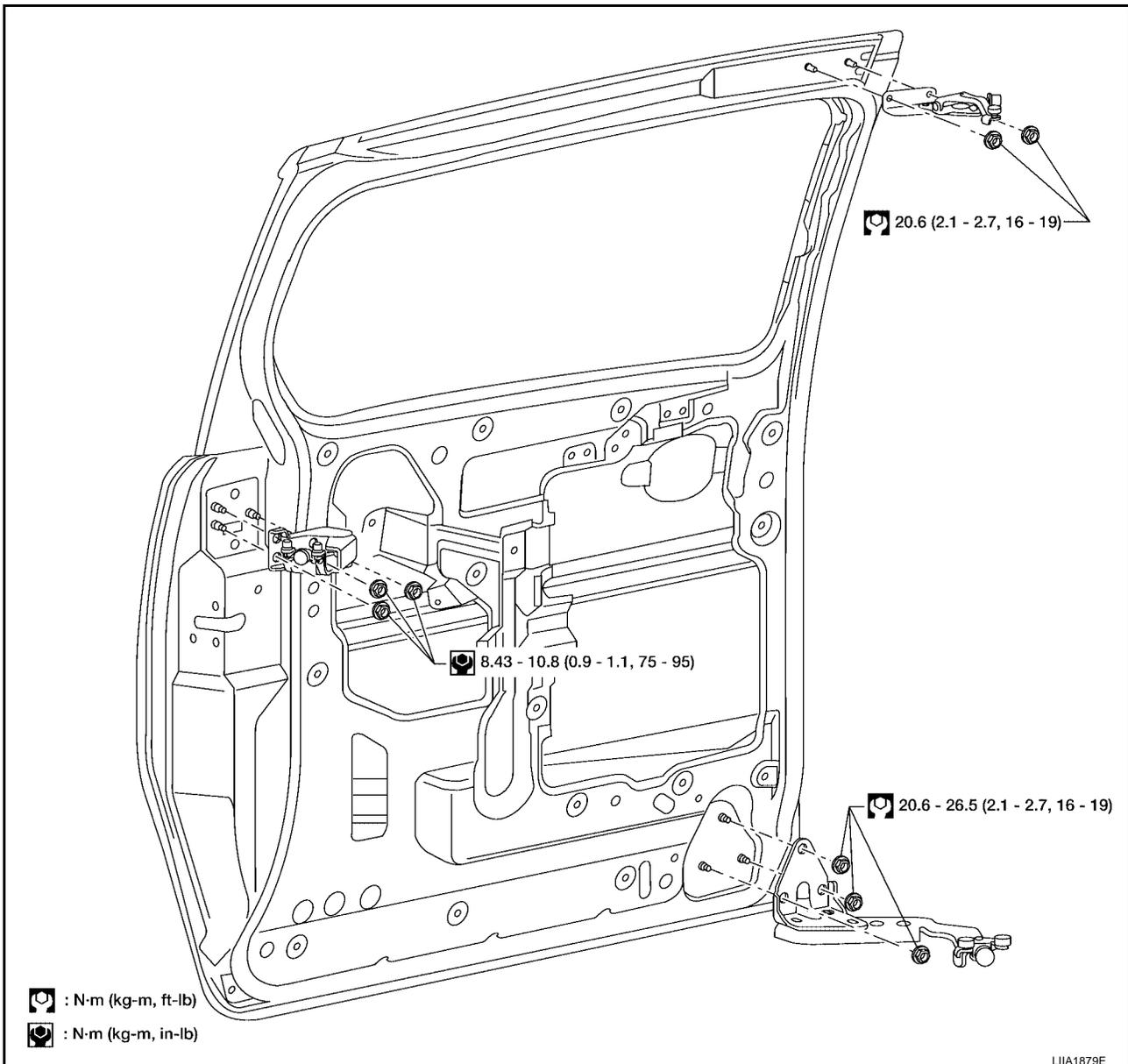


DOOR

SLIDE 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 upper and lower door finishers. Refer to [EI-31, "Sliding Door"](#) .
 2. Remove the door glass. Refer to [GW-76, "SLIDE DOOR GLASS"](#) .
 3. Remove the door lock and handle assemblies. Refer to [BL-197, "SLIDE DOOR LOCK"](#) .
 4. Remove the upper and lower male dovetail assemblies.
 5. Remove the door wiring harness.
 6. Remove the door.
 - Disconnect the rear slide door guide.
 - Remove the lower hinge bracket.
 - Remove the upper hinge bracket.



Installation is in the reverse order of removal.

- Align the front door. Refer to [BL-187, "Longitudinal clearance and surface height adjustment at front end"](#) .

DOOR

BACK DOOR

WARNING:

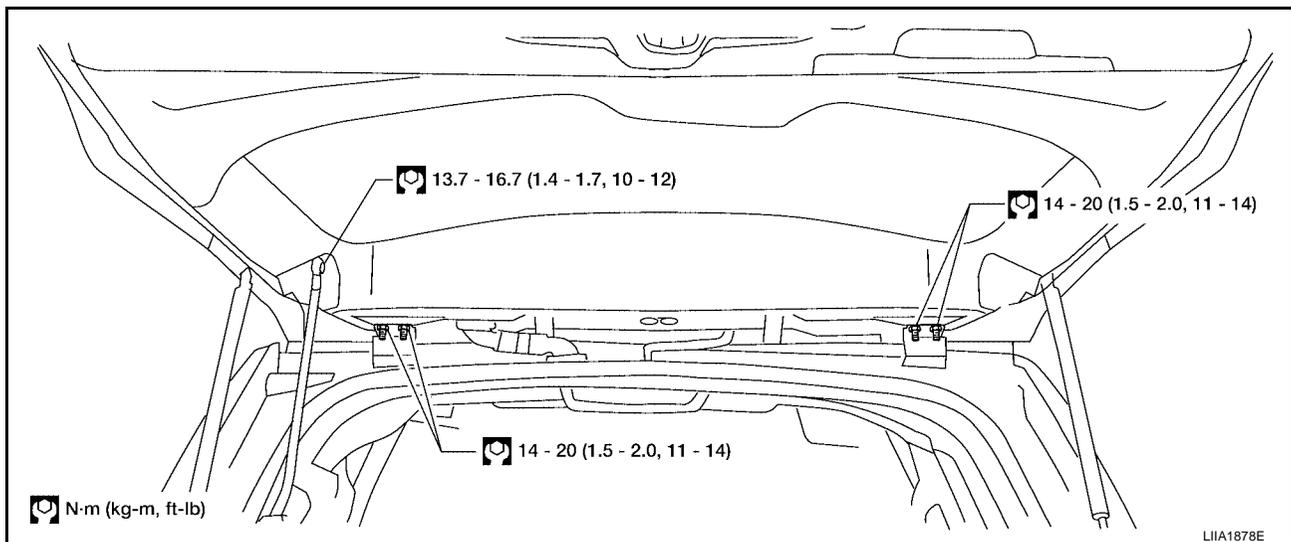
Always support back door when removing or replacing back door stays. Power back door opener will not support back door with stays removed.

1. Remove the back door glass. Refer to [GW-13, "REAR WINDOW GLASS AND MOLDING"](#) .
2. Remove the license lamp finisher. Refer to [EI-24, "LICENSE LAMP FINISHER"](#) .
3. Remove the back door lock assembly. Refer to [BL-201, "BACK DOOR LOCK"](#) .
4. Remove the rear wiper motor. Refer to [WW-51, "Removal and Installation of Washer Motor"](#) .
5. Remove the back door wire harness.
6. Remove the rear washer nozzle and hose from the back door. Refer to [WW-50, "Removal and Installation of Rear Washer Nozzle"](#) .

CAUTION:

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

7. Support the back door.
8. Disconnect the power back door lift arm from the door.
9. Remove the back door stays.
10. Remove the door side nuts and the back door assembly.



Installation is in the reverse order of removal.

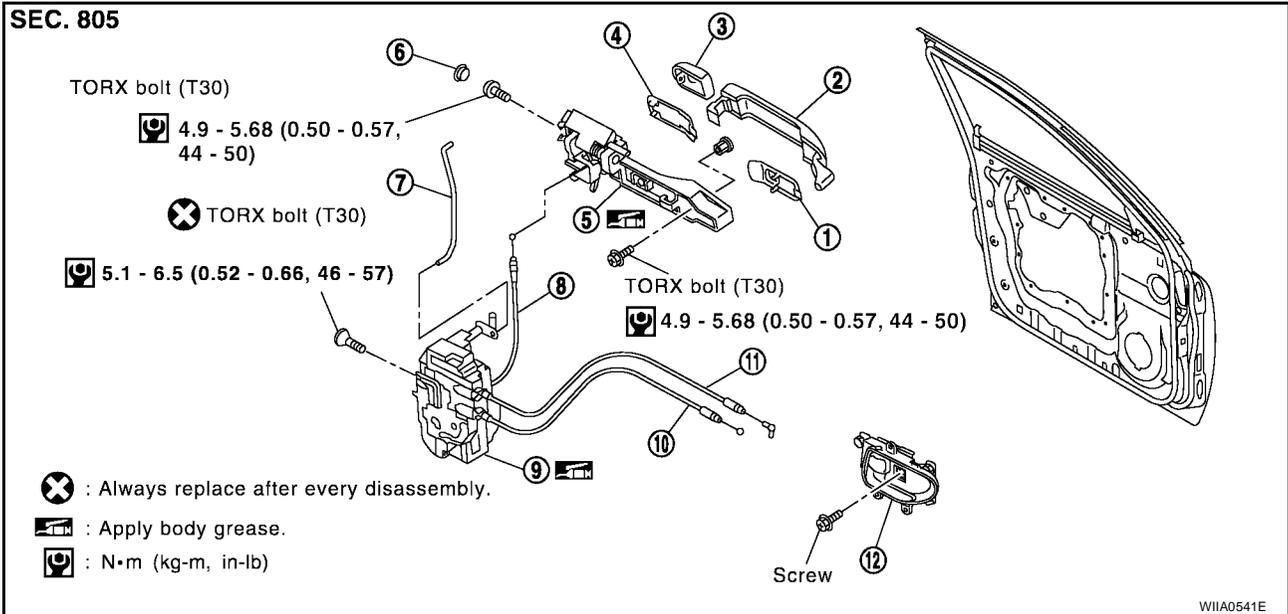
- Align the back door. Refer to [BL-189, "BACK DOOR"](#) .

FRONT DOOR LOCK

PFP:80502

EIS001QX

FRONT DOOR LOCK Component Structure



- | | | |
|--|---------------------------|---|
| 1. Front gasket | 2. Outside handle | 3. Door key cylinder assembly (Driver side)
Outside handle escutcheon (Passenger side) |
| 4. Rear gasket | 5. Outside handle bracket | 6. Grommet |
| 7. Key cylinder rod (Driver side only) | 8. Outside handle cable | 9. Door lock assembly |
| 10. Inside handle cable | 11. Lock knob cable | 12. Inside handle |

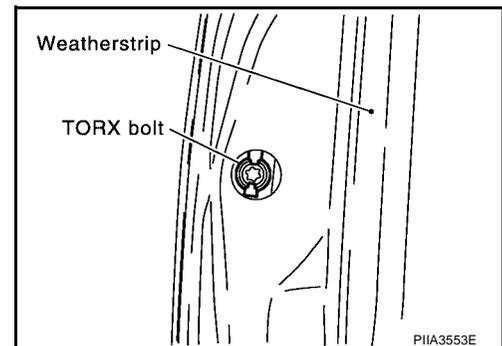
Removal and Installation

EIS001QY

1. Remove the front door window and front door regulator assembly. Refer to [GW-74, "Removal and Installation"](#).
2. Remove door side grommet, and remove door key cylinder assembly (driver side) and outside handle escutcheon (passenger side) bolts (TORX T30) from grommet hole.

CAUTION:

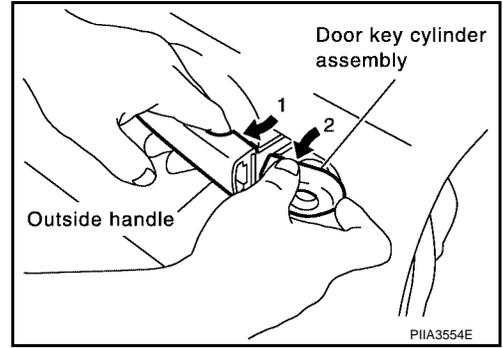
Do not forcibly remove the TORX bolts (T30).



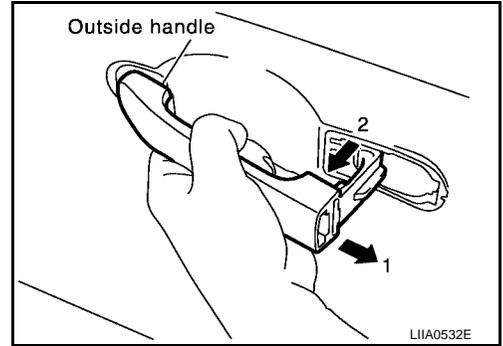
3. Separate the key cylinder rod and outside handle rod connection (on the handle). If no door key cylinder is found, GO TO 6.

FRONT DOOR LOCK

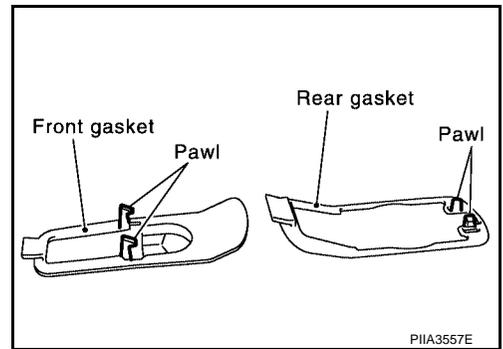
4. While pulling the outside handle, remove door key cylinder assembly.



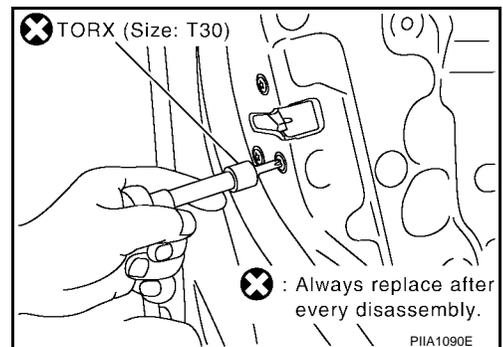
5. While pulling outside handle, slide toward rear of vehicle to remove outside handle.



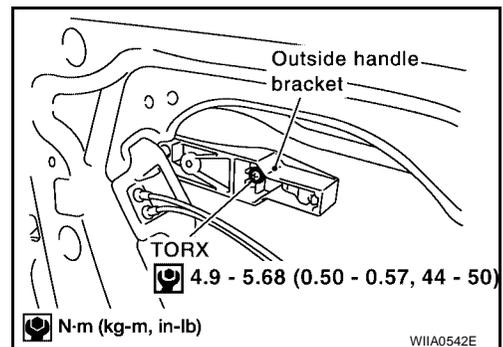
6. Remove the front and rear gaskets.



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



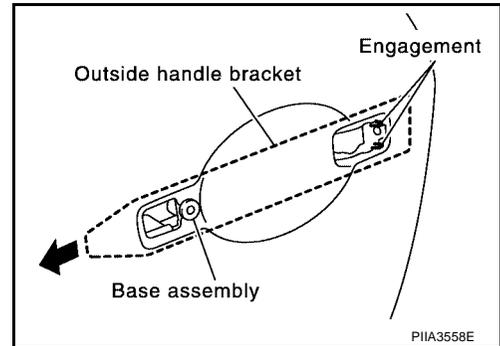
8. Remove the TORX bolt (T30) of the outside handle bracket.



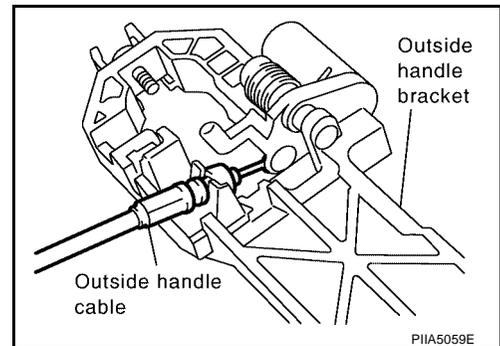
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FRONT DOOR LOCK

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



10. Disconnect the door lock actuator connector.
11. Reach to separate the key cylinder rod and outside handle rod connection.



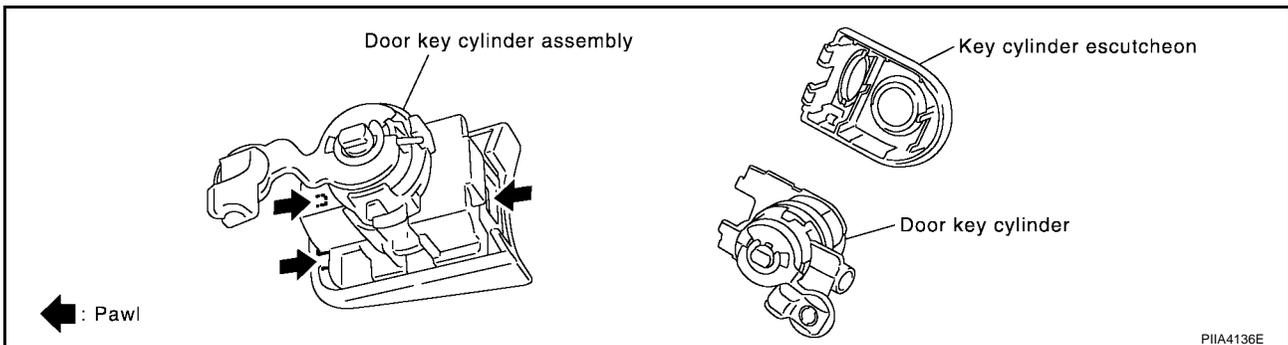
Installation is in the reverse order of removal.

CAUTION:

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

Disassembly and Assembly DOOR KEY CYLINDER ASSEMBLY

EIS001QZ



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

SLIDE DOOR LOCK

PFP:82504

SLIDE DOOR LOCK

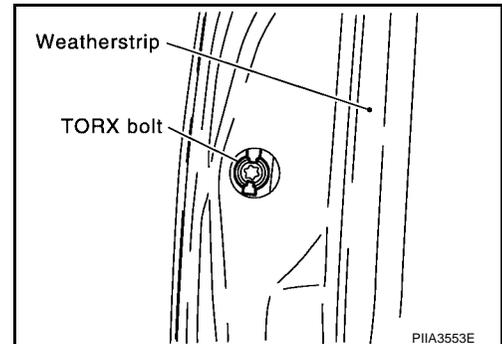
Removal and Installation OUTSIDE HANDLE

EIS0021P

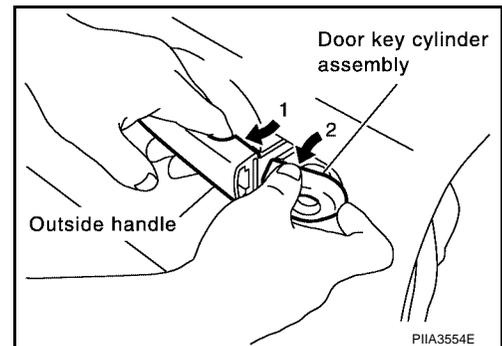
1. Remove the sliding door finisher. Refer to [EI-30, "Removal and Installation"](#).
2. Remove door side grommet, and remove outside handle escutcheon bolt (TORX T30) from grommet hole.

CAUTION:

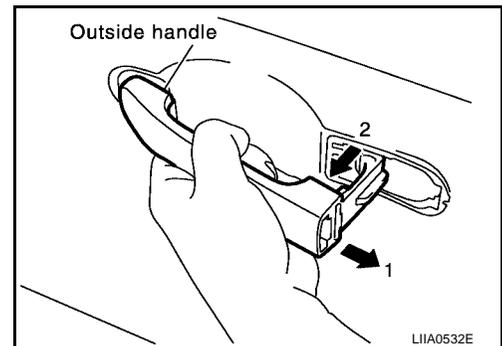
Do not forcibly remove the TORX bolts (T30).



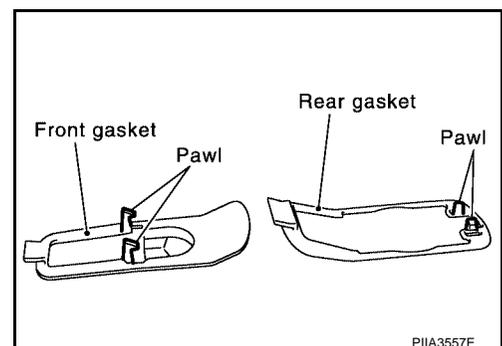
3. While pulling the outside handle, remove outside handle escutcheon.



4. While pulling outside handle, slide toward rear of vehicle to remove outside handle.



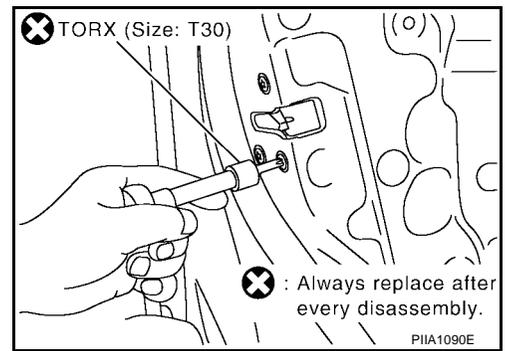
5. Remove the front gasket and rear gasket.



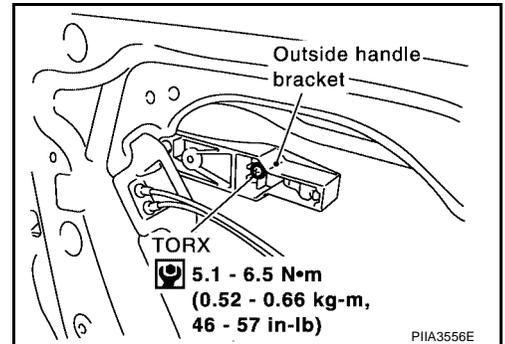
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SLIDE DOOR LOCK

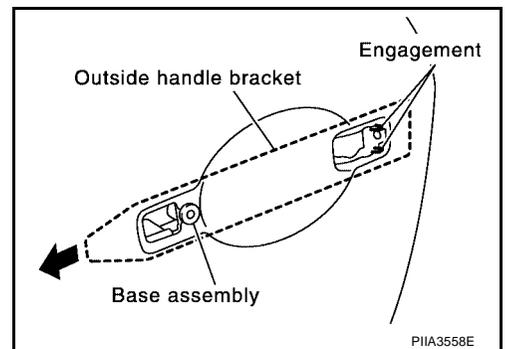
6. Remove the TORX bolts (T30), remove the door lock assembly.



7. Remove the TORX bolt (T30), and remove the outside handle bracket.

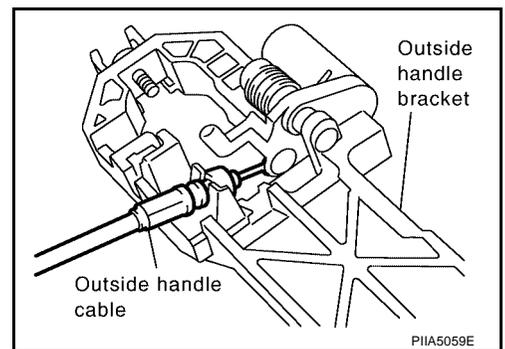


8. While pulling outside handle, slide toward rear of vehicle to remove outside handle and door lock assembly.



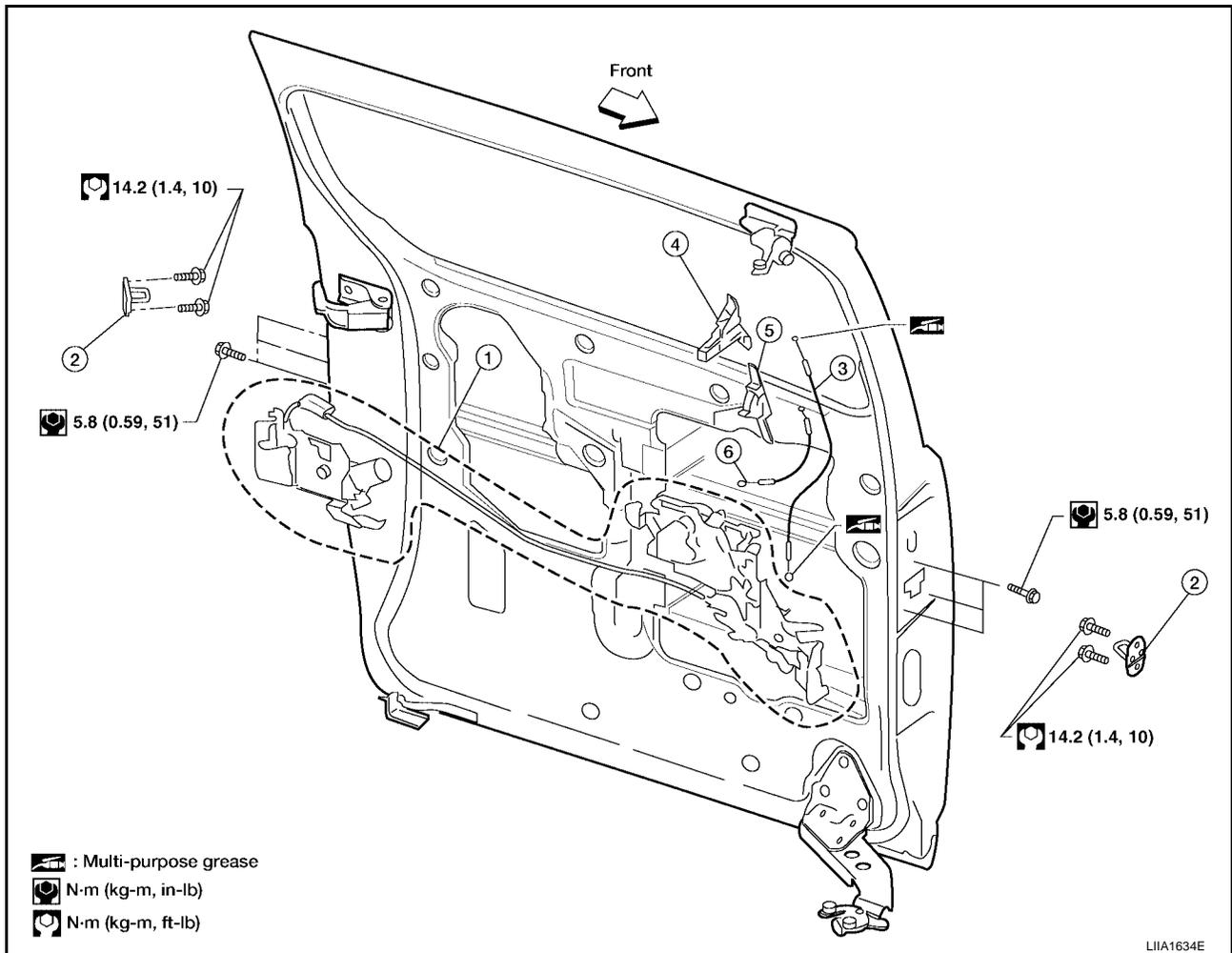
9. Disconnect the door lock actuator connector.

10. Reach to separate outside handle rod connection.
Installation is in the reverse order of removal.



SLIDE DOOR LOCK

SLIDING DOOR LOCK ASSEMBLY



- | | | |
|-------------------------------|-----------------------------|-------------------------------------|
| 1. Sliding door lock assembly | 2. Striker | 3. Sliding door inside handle cable |
| 4. Sliding door inside handle | 5. Sliding door inside lock | 6. Sliding door inside lock cable |

1. Remove sliding door finisher. Refer to [EI-31, "Sliding Door"](#).
2. Remove exterior door handle. Refer to [BL-197, "OUTSIDE HANDLE"](#).
3. Disconnect sliding door lock assembly electrical connectors.
4. Remove sliding door lock assembly.
 - Remove screws from front and rear latches.

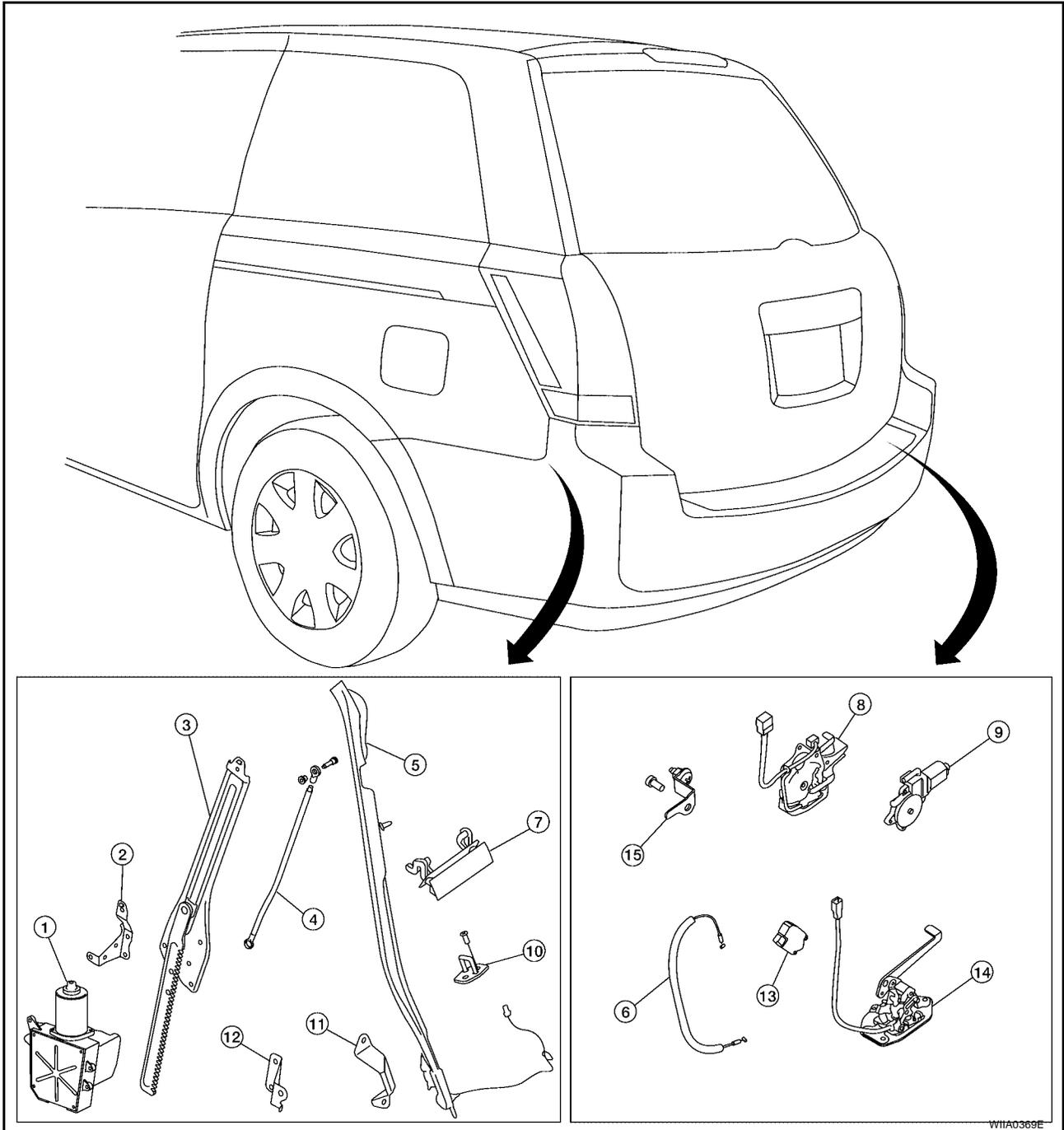
Installation is in the reverse order of removal.

BACK DOOR LOCK

PFP:90504

EIS0021Q

BACK DOOR LOCK Component Structure



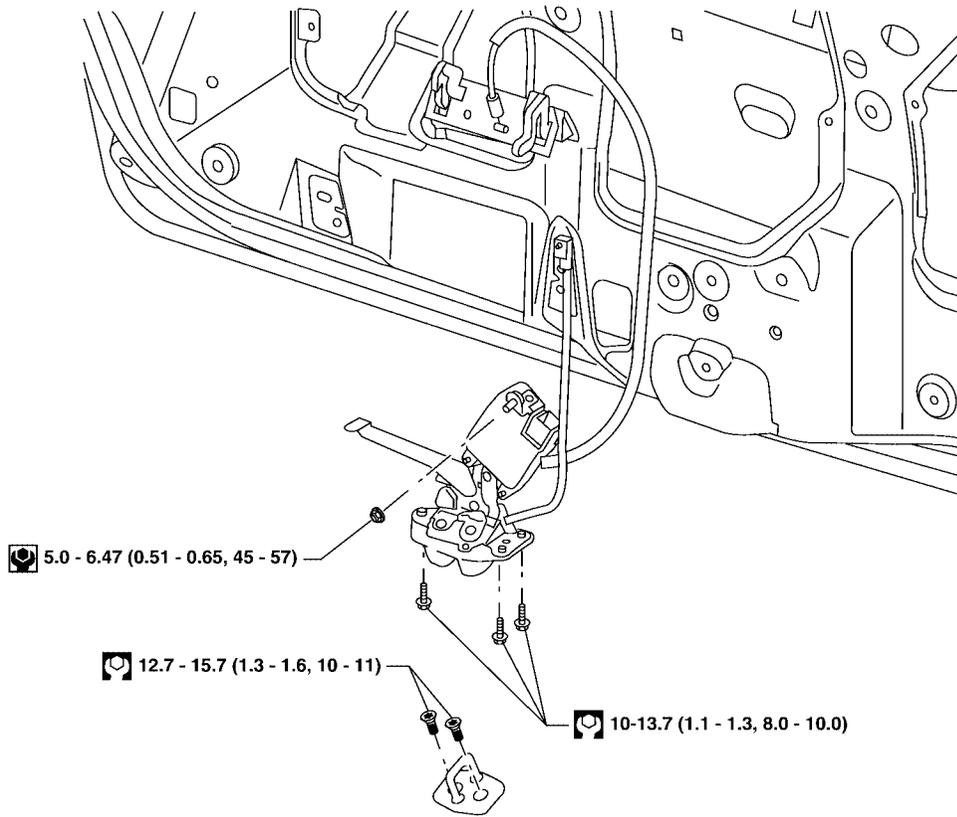
- | | | |
|--|-------------------------------------|--------------------------------------|
| 1. Back door motor assembly | 2. Back door motor assembly bracket | 3. Back door motor gear assembly |
| 4. Back door closure rod | 5. Pinch strip | 6. Back door latch release cable |
| 7. Back door handle | 8. Power back door latch assembly | 9. Power back door latch cinch motor |
| 10. Back door striker | 11. Dovetail (door side) | 12. Dovetail (body side) |
| 13. Back door opener actuator assembly | 14. Lower back door lock assembly | 15. Back door lock bracket |

BACK DOOR LOCK

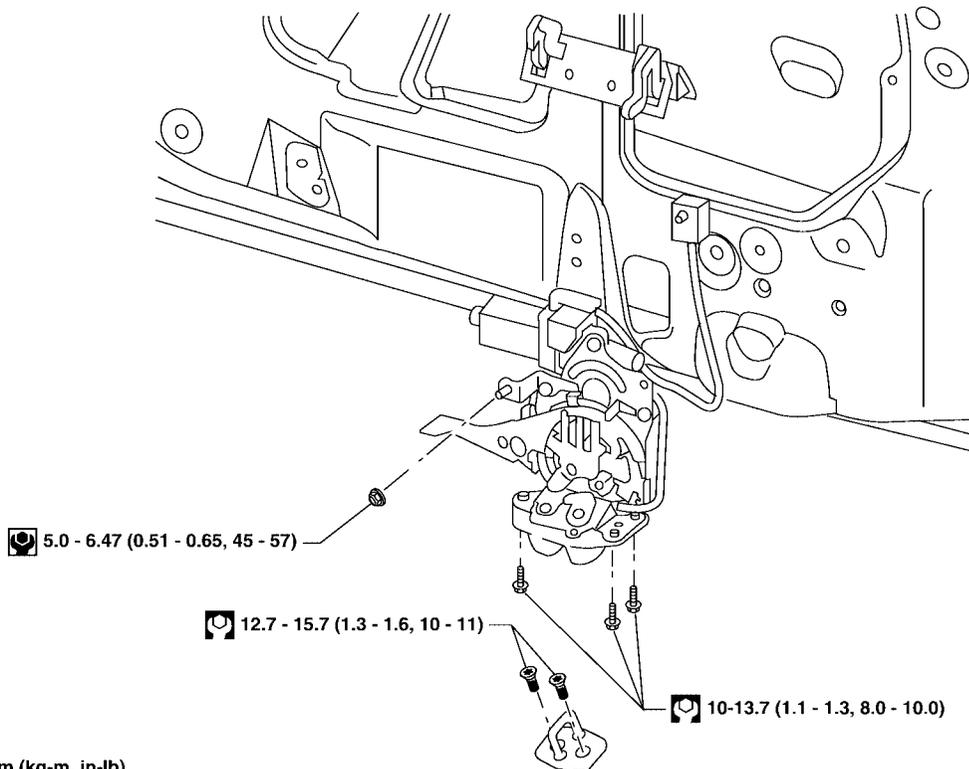
EIS005BE

Back Door Latch

Manual



Power



N-m (kg-m, in-lb)

N-m (kg-m, ft-lb)

LIA1867E

BACK DOOR LOCK

REMOVAL

1. Remove the back door lower finisher. Refer to [EI-36, "BACK DOOR LOWER FINISHER"](#)
2. Remove the weather seal.
3. On manual doors, disconnect the back door latch release cable.
4. For power doors, disconnect the cinch motor electrical connector.
5. Remove the back door latch assembly (power door) or the back door lock assembly (manual door).

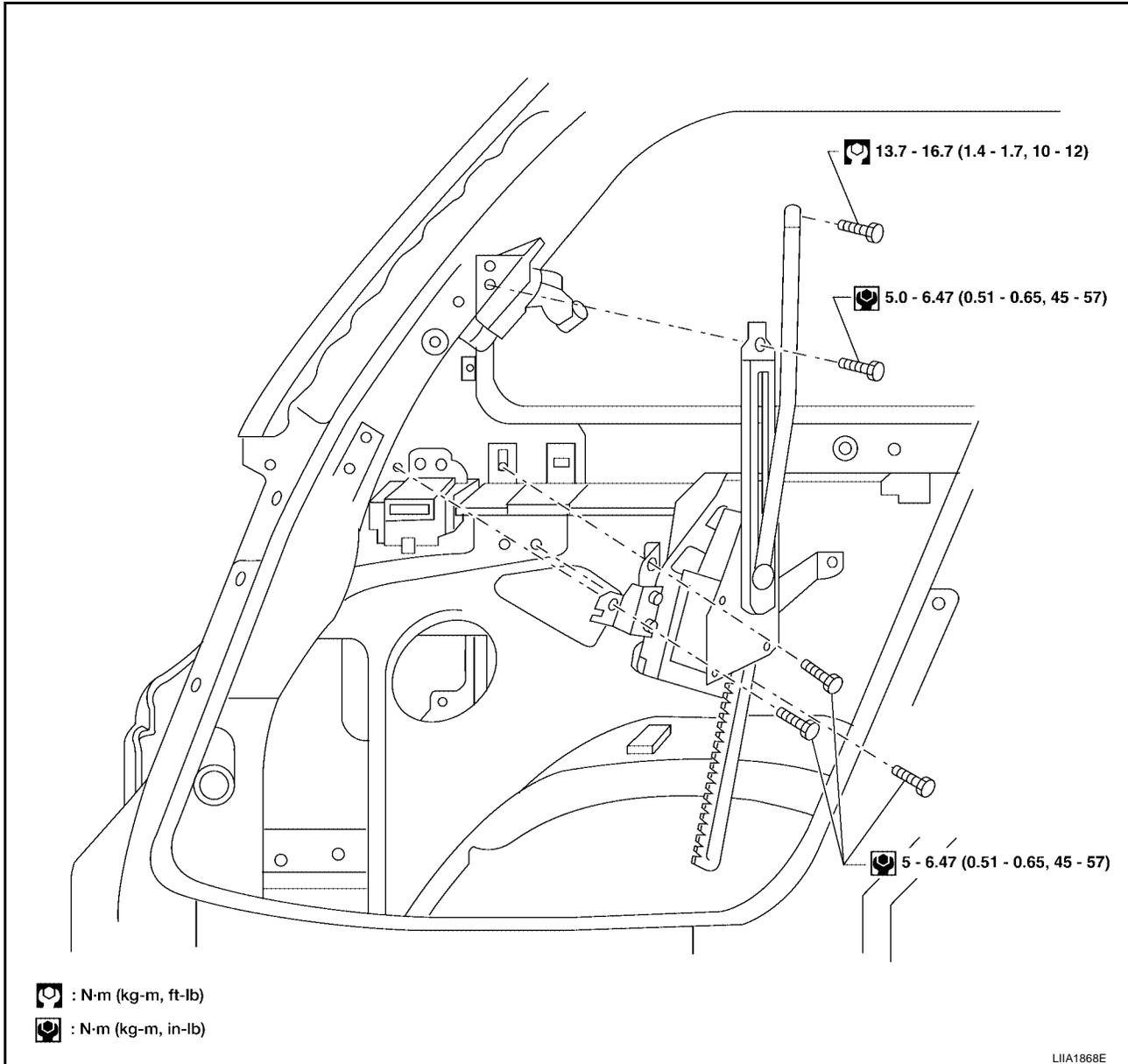
INSTALLATION

Installation is in the reverse order of removal.

- Align the back door latch. Refer to [BL-189, "BACK DOOR"](#) .

Back Door Power Lift Assembly

EIS005BF



REMOVAL

1. Remove the LH rear pillar upper finisher. Refer to [EI-36, "REAR PILLAR UPPER FINISHER"](#) .
2. Remove the closure rod to door bolt.
3. Remove the back door motor gear assembly.
4. Remove the back door motor.
 - Disconnect the electrical connector.

BACK DOOR LOCK

INSTALLATION

Installation is in the reverse order of removal.

FUEL FILLER LID OPENER

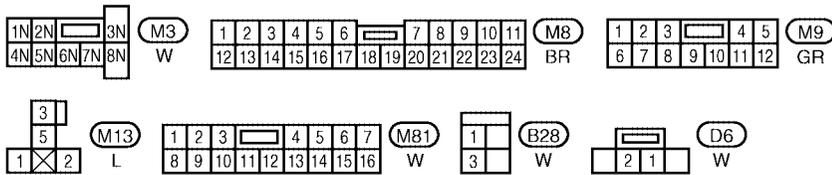
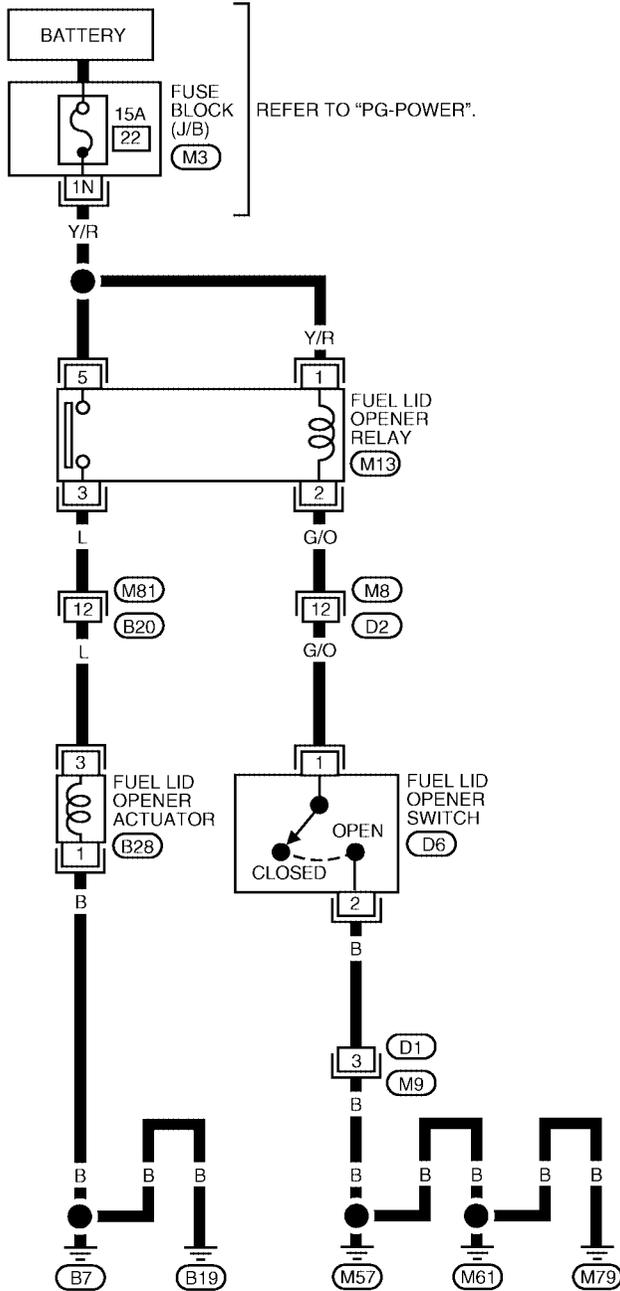
PF-P:78820

FUEL FILLER LID OPENER

Wiring Diagram — F/LID —

E/S0020J

BL-F/LID-01



WIWA0516E

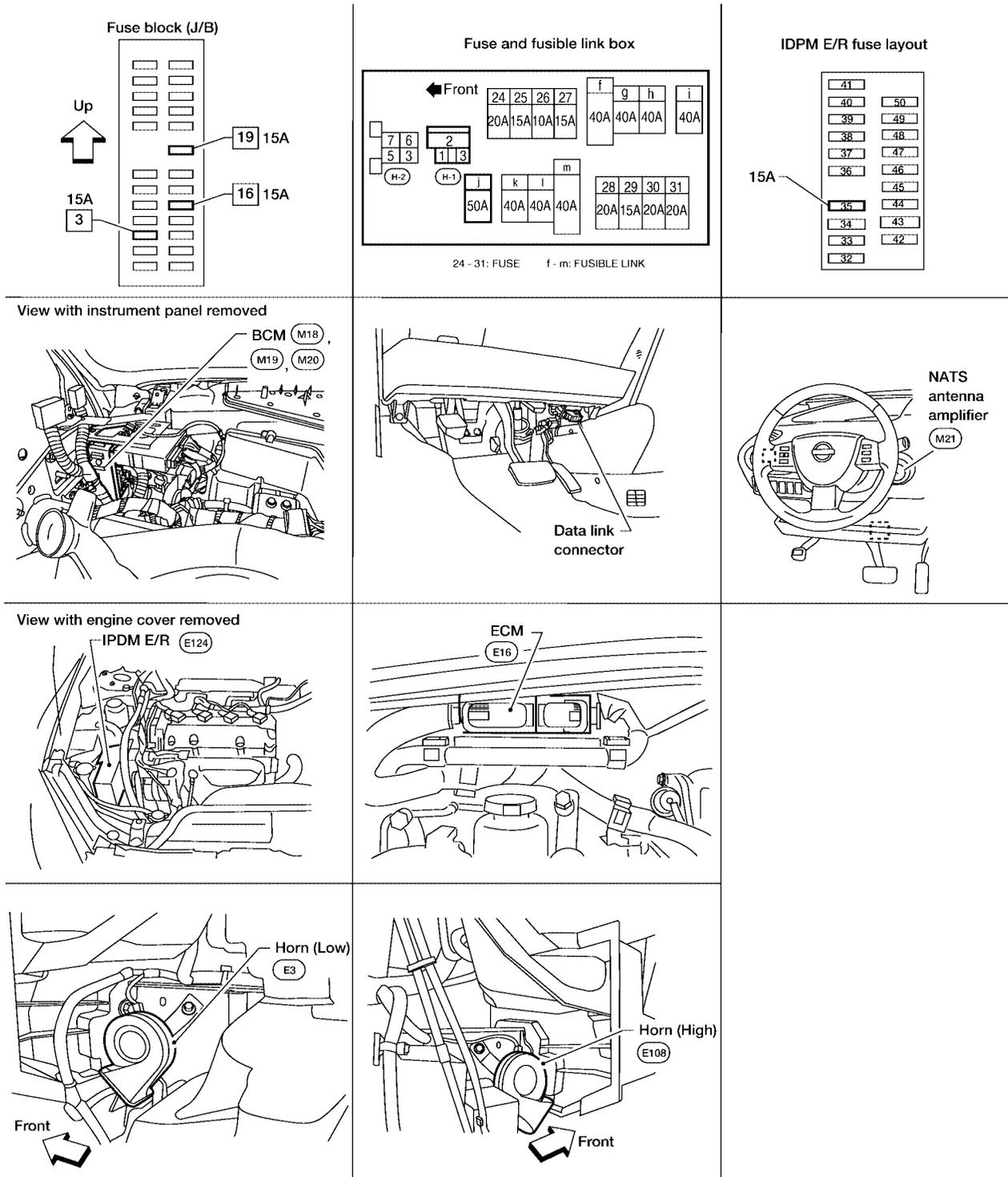
NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

PF2:28591

Component Parts and Harness Connector Location

EIS001RN



LIA1916E

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RO

System Description

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 trouble, 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

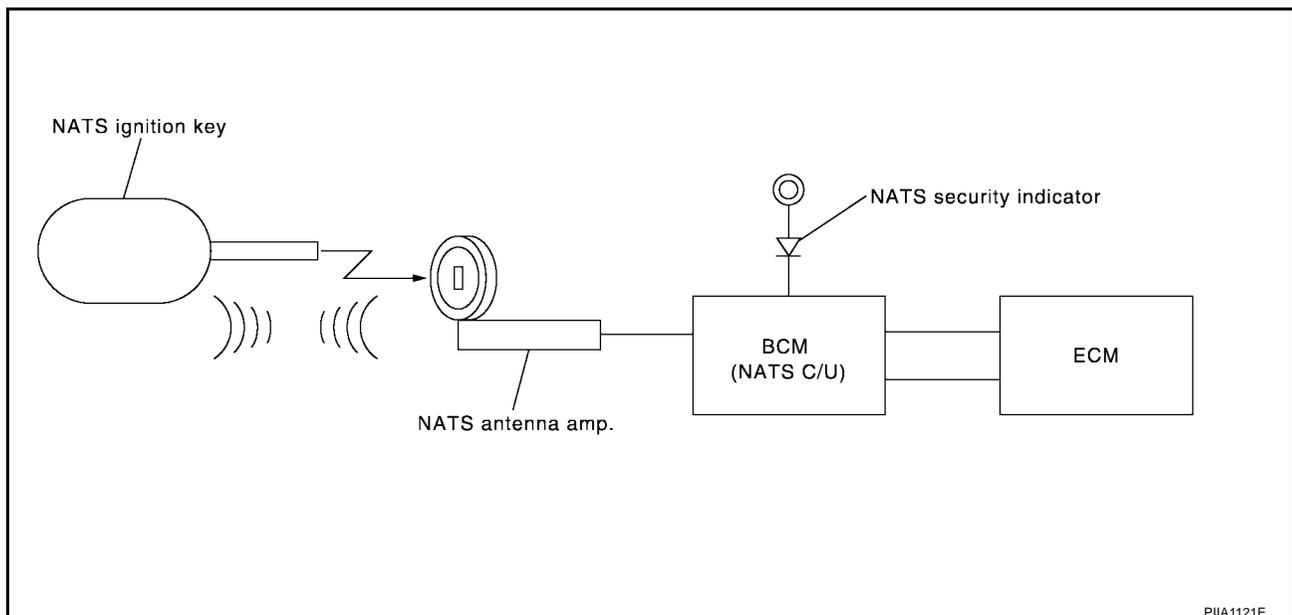
EIS001RP

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.



NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RQ

ECM Re-communicating Function

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.

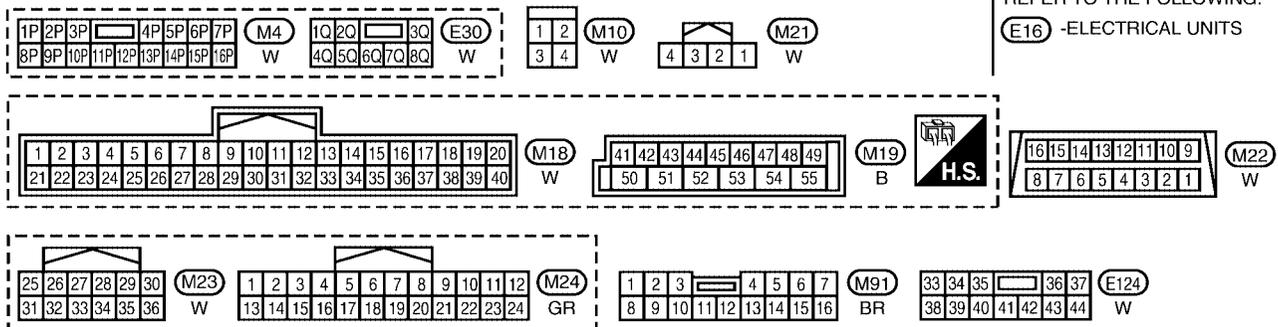
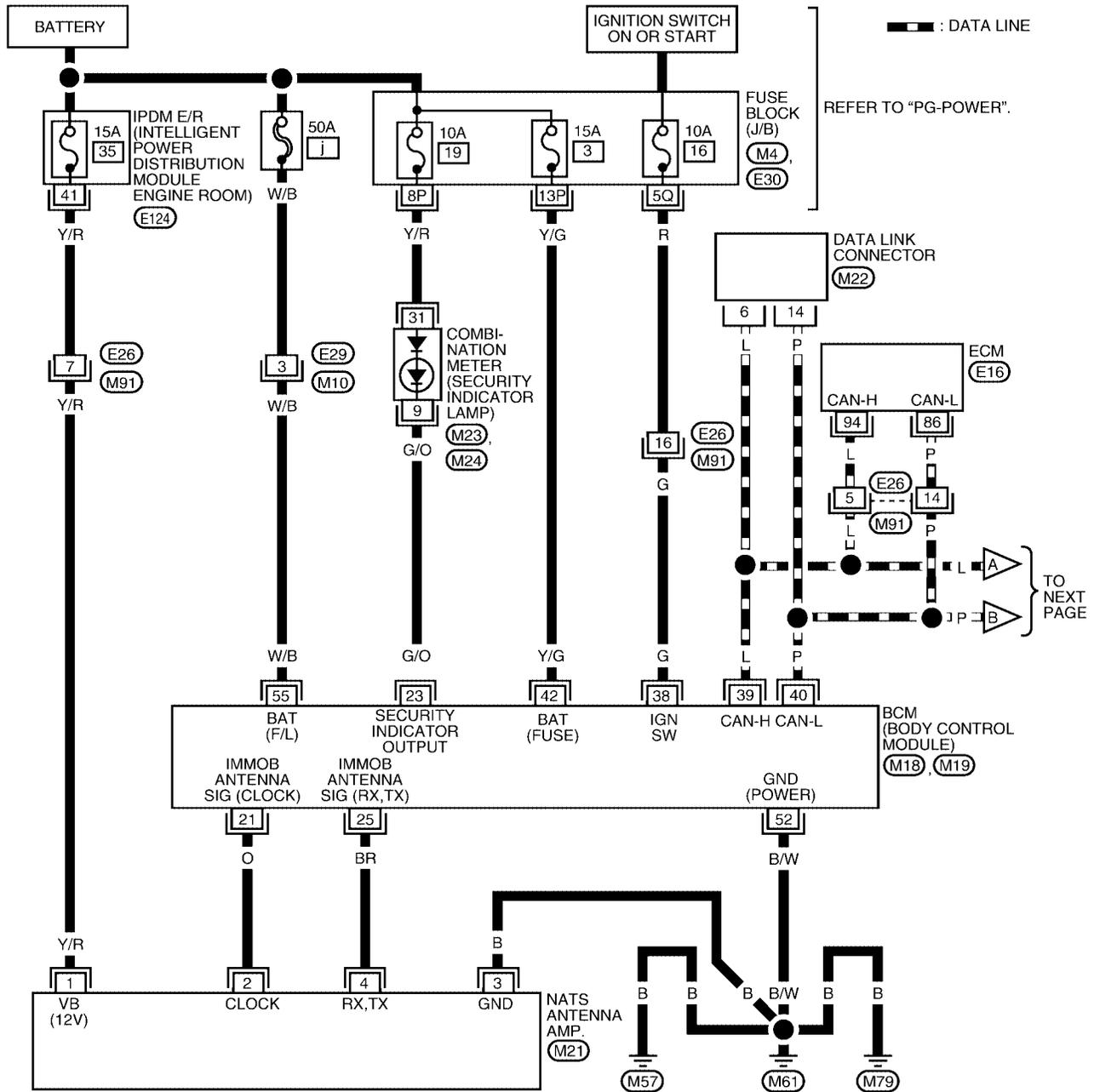
If engine cannot be started, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS and initialize control unit.

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RR

Wiring Diagram — NATS —

BL-NATS-01

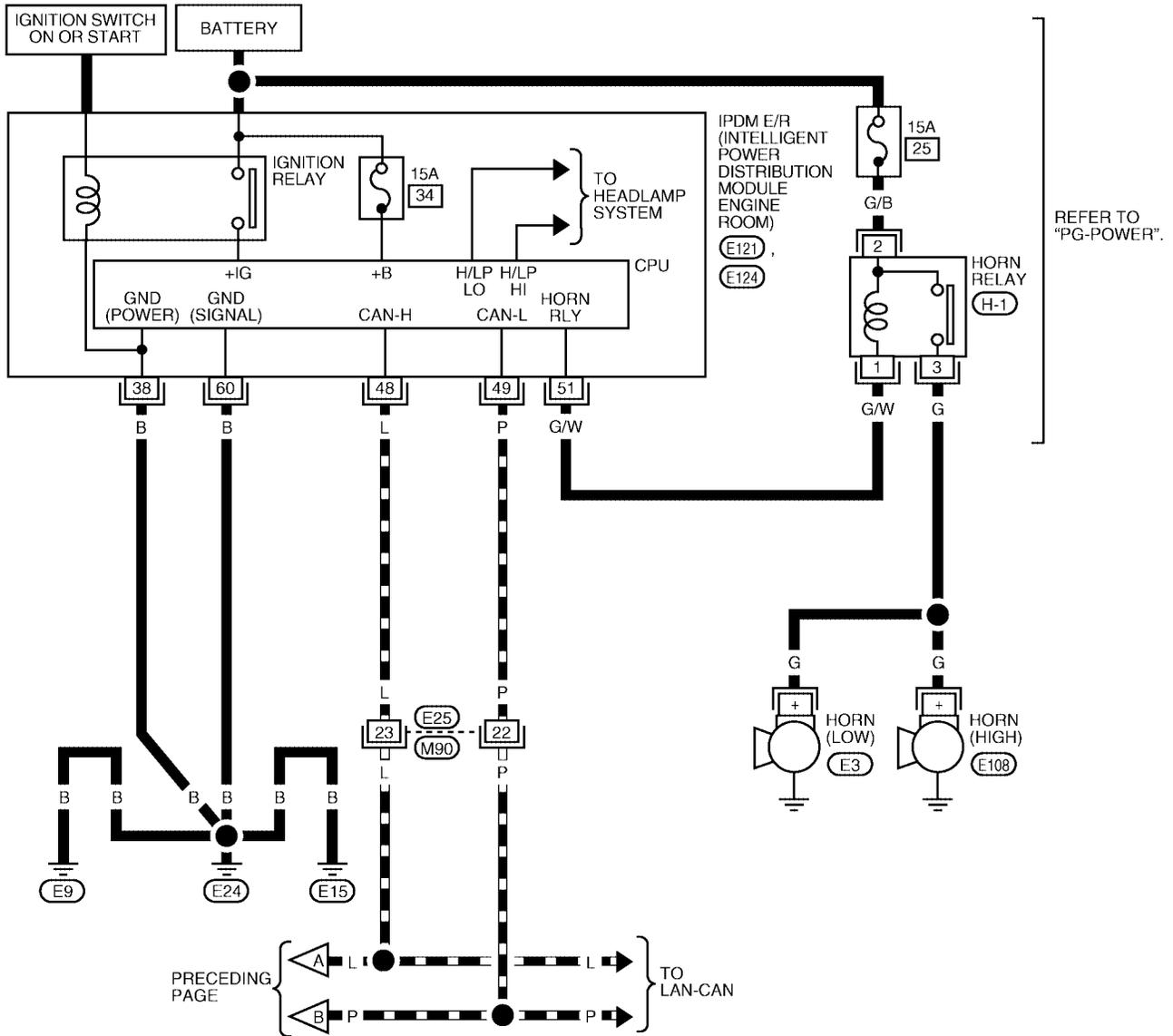


WIWA1423E

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

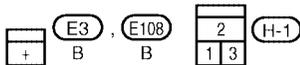
BL-NATS-02

— : DATA LINE



1	2	3	4	5	6	7	8	9	10	11	(M90)		
12	13	14	15	16	17	18	19	20	21	22	23	24	W

45	46	47	48	49	50	51	52	(E121)	33	34	35	36	37	(E124)		
53	54	55	56	57	58	59	60	W	38	39	40	41	42	43	44	W



WIVA0518E

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

Terminals and Reference Value for BCM

EIS001RS

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
21	O	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	G	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
39	L	CAN-H	—	—
40	P	CAN-L	—	—
42	Y/G	Power source (Fuse)	—	Battery voltage
52	B/W	Ground	—	0
55	W/B	Battery power supply	—	Battery voltage

CONSULT-II

CONSULT-II INSPECTION PROCEDURE

EIS001RT

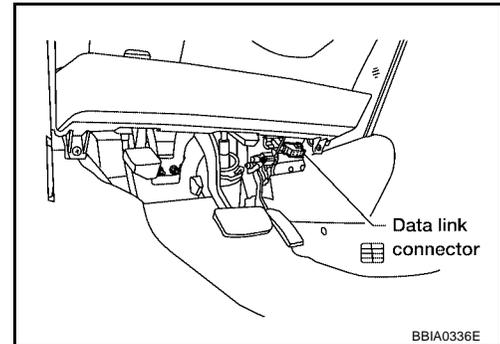
CAUTION:

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.

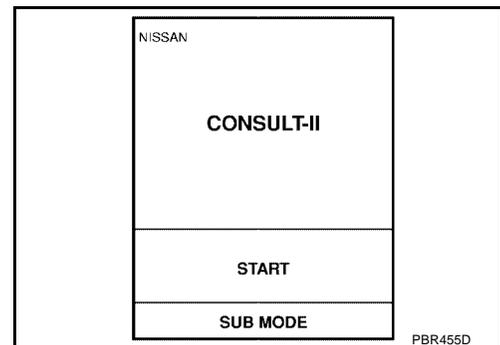
1. Turn ignition switch OFF.
2. Insert NVIS (NATS) program card into CONSULT-II.

Program card : NATS (AEN02C-1) or later

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



4. Turn ignition switch ON.
5. Touch "START".

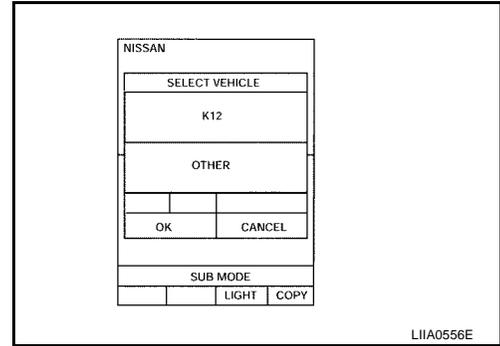


NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

6. Touch "OTHER".

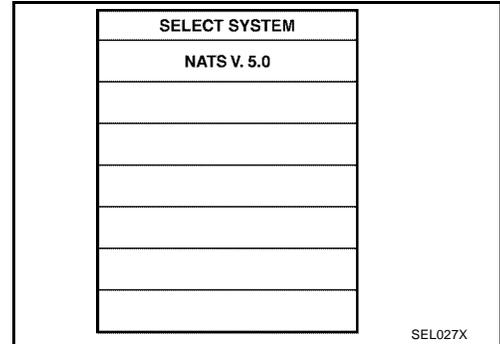
NOTE:

Confirm vehicle model on IDENTIFICATION PLATE. Refer to [GI-44, "Model Variation"](#) in GI section.



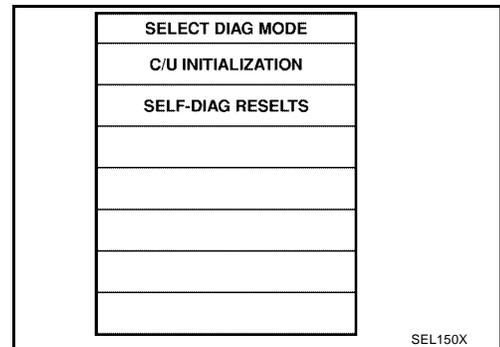
7. Select "NATS V.5.0".

If "NATS V5.0" is not indicated, go to [GI-37, "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-213, "NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART" .

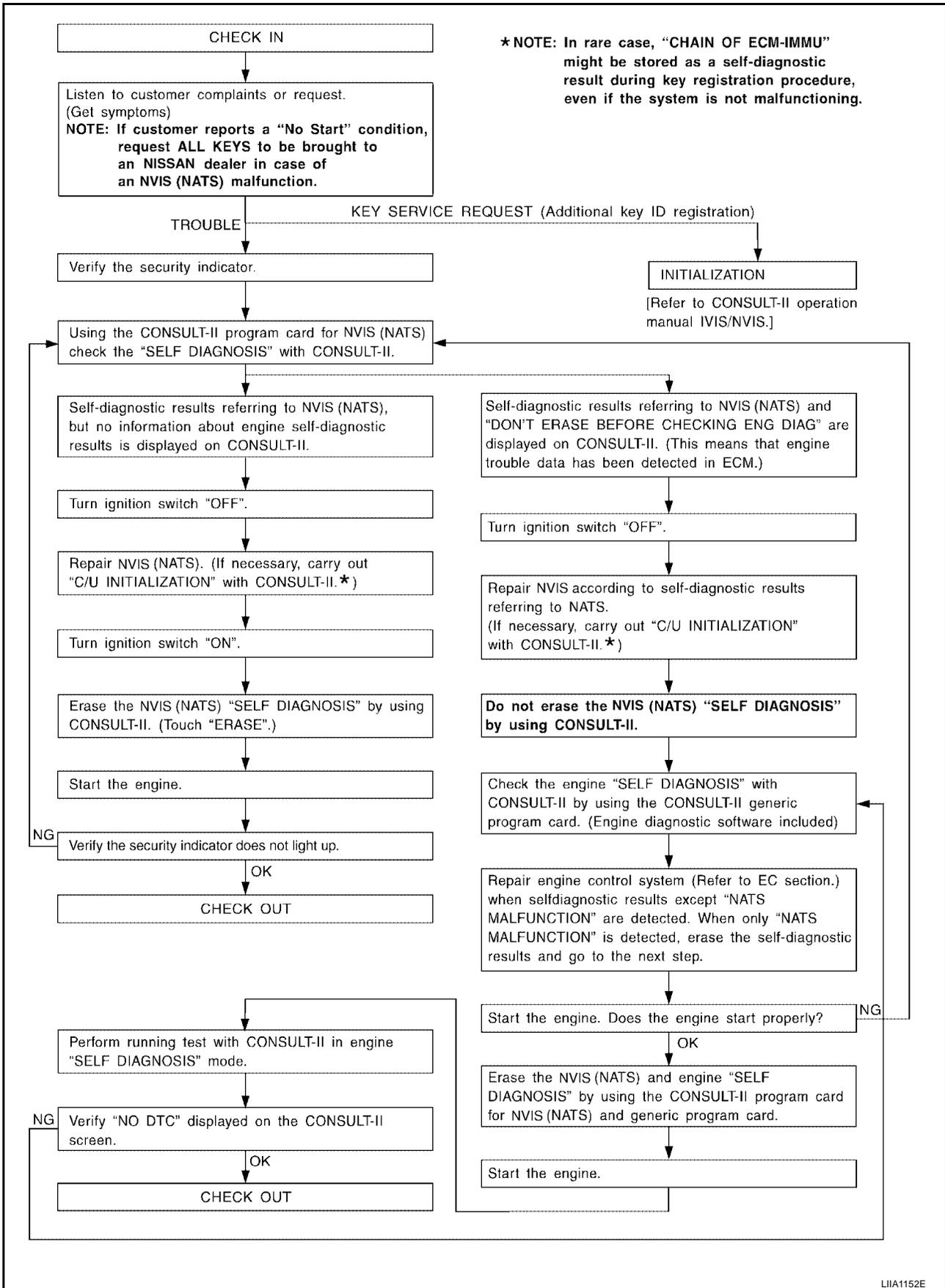
NOTE:

- 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.

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RU

Work Flow



LIA1152E

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RV

Trouble Diagnoses 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
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine cannot be started 	CHAIN OF ECM-IMMU [P1612]	PROCEDURE 1 (BL-217)	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-218)	Unregistered key	D
			BCM	A
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 5 (BL-221)	Malfunction of key ID chip	E5
			Communication line between ANT/ AMP and BCM:	E1
			Open circuit or short circuit of battery voltage line or ground line	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-219)	System initialization has not yet been completed.	F
			ECM	B
LOCK MODE [P1610]	PROCEDURE 4 (BL-220)	LOCK MODE	D	
Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-214)	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

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

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

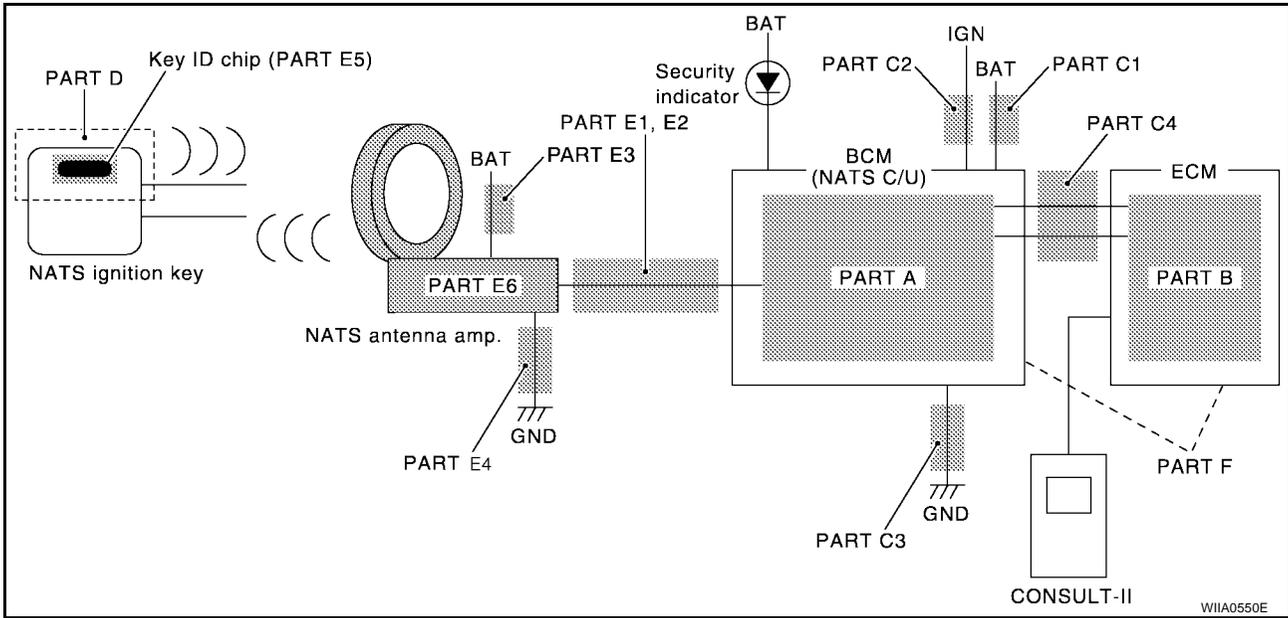
SYMPTOM MATRIX CHART 2

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-224)	Combination meter (security indicator lamp)	—
		Open circuit between Fuse and BCM	—
		BCM	A

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

DIAGNOSTIC SYSTEM DIAGRAM



NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RW

Diagnostic Procedure 1

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-211, "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 above?

Yes >> GO TO 2.

No >> GO TO [BL-215, "SYMPTOM MATRIX CHART 1"](#).

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

PIIA1260E

2. CHECK POWER SUPPLY CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check voltage between BCM connector M19 terminal 55 and ground.

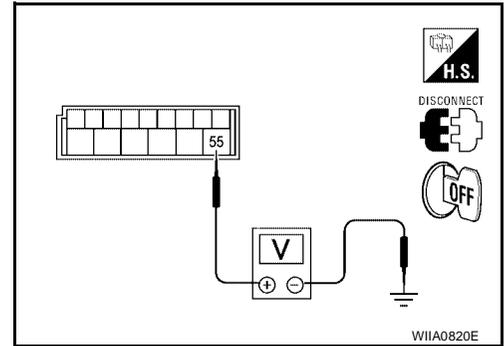
55 (W/B) – Ground : Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check the following.

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



3. CHECK IGN SW. ON SIGNAL

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

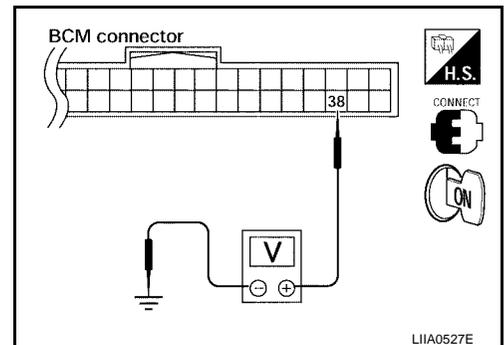
38 (G) – Ground : Battery voltage

OK or NG

OK >> GO TO 4.

NG >> Check the following.

- 10A fuse [No. 16, located in the fuse block (J/B)]
- Harness for open or short between fuse and BCM connector
Ref. part No. C2



NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

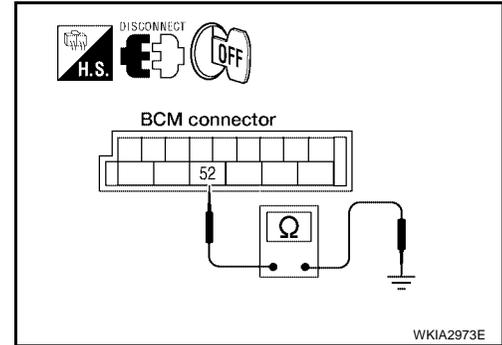
4. CHECK GROUND CIRCUIT FOR BCM

1. Turn ignition OFF.
2. Check continuity between BCM connector M18 terminal 52 and ground.

52 (B/W) – 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-208. "ECM Re-communicating Function"](#).

Diagnostic Procedure 2

EIS001RX

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 above?

- Yes >> GO TO 2.
No >> GO TO [BL-215. "SYMPTOM MATRIX CHART 1"](#).

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

PIA1261E

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.

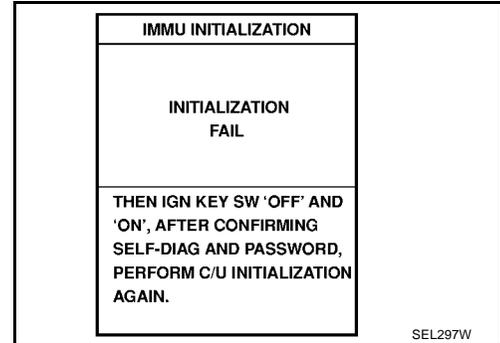
For initialization and registration of NATS ignition key IDs, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

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. **Ref. part No. A**
 - Perform initialization with CONSULT-II.
 - For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".



Diagnostic Procedure 3

EIS001RY

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-215, "SYMPTOM MATRIX CHART 1"](#) .

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

PIIA1262E

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.

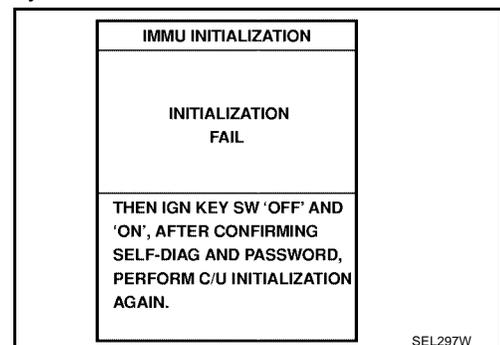
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

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".



NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001RZ

Diagnostic Procedure 4

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-215, "SYMPTOM MATRIX CHART 1"](#).

SELF DIAG RESULTS	
DTC RESULTS	TIME
LOCK MODE [P1610]	0

PIA1264E

2. ESCAPE FROM LOCK MODE

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

Does engine start?

Yes >> System is OK (Now system is escaped from “LOCK MODE”).

No >> GO TO 3.

3. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.

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

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

SEL297W

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

4. PERFORM INITIALIZATION WITH CONSULT-II AGAIN

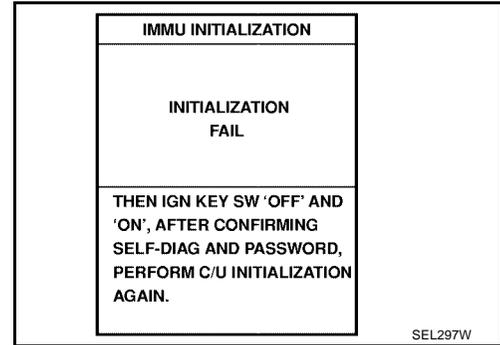
1. Replace BCM.
2. Perform initialization with CONSULT-II.
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

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

EIS001S0

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-215, "SYMPTOM MATRIX CHART 1"](#) .

The screenshot shows a CONSULT-II screen with the following table:

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

PIIA1263E

2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [BL-225, "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.

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

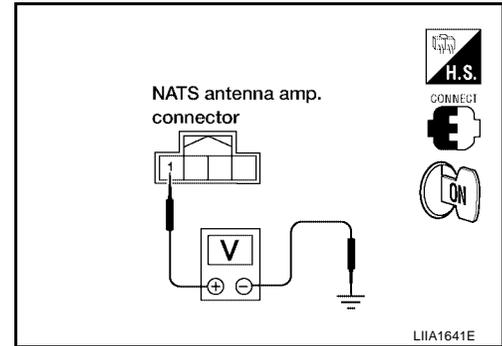
4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch ON.
2. Check voltage between NATS antenna amp. connector M21 terminal 1 and ground.

1 (Y/R) – Ground : Battery voltage

OK or NG

- OK >> GO TO 5.
NG >> Repair or replace fuse or harness. Ref. part No. E3.



5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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

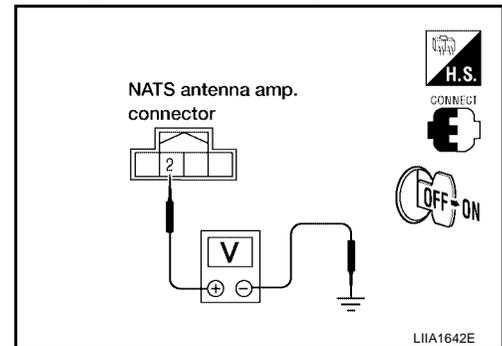
Before inserting key into ignition key cylinder

Voltage: Battery voltage

After inserting key into ignition key cylinder

2 (O) – Ground : Pointer of tester should move for 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".

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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

Before inserting key into ignition key cylinder

Voltage: Battery voltage

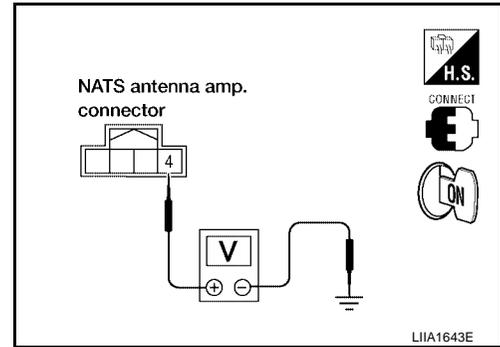
After inserting key into ignition key cylinder

**4 (BR) –
Ground**

: Pointer of tester should move for 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. Check continuity between NATS antenna amp. connector M21 terminal 3 and ground.

3 (B) – Ground : Continuity should exist.

OK or NG

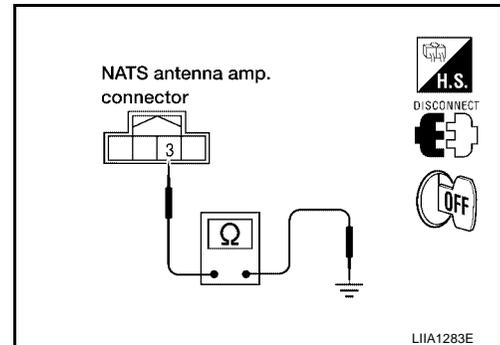
OK >> ● NATS antenna amp. is malfunctioning.

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".



NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS001S1

Diagnostic Procedure 6

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

1. CHECK FUSE

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

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 SECURITY INDICATOR LAMP

1. Start engine and turn ignition switch OFF.
2. Check the 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

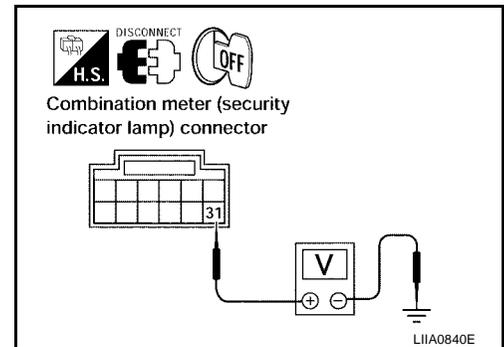
1. Disconnect combination meter (security indicator lamp).
2. Check voltage between security indicator lamp connector M23 terminal 31 and ground.

31 (Y/R) – Ground : Battery voltage

OK or NG

OK >> GO TO 4

NG >> Repair or replace harness.



4. CHECK BCM (NATS CONTROL UNIT) FUNCTION

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

23 (G/O) – Ground : Battery voltage

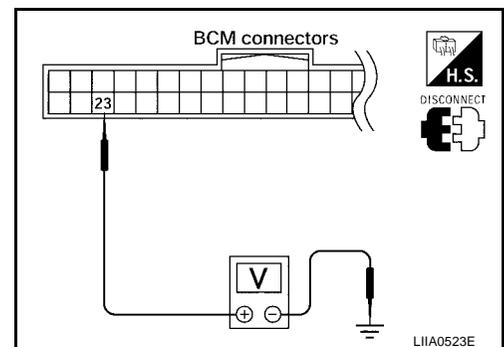
OK or NG

OK >> BCM is malfunctioning.

- Replace 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 security indicator lamp and BCM (NATS control unit).
- Indicator lamp condition



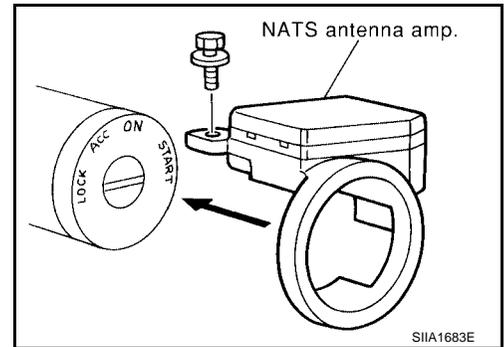
NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

How to Replace NATS Antenna Amp.

EIS001S2

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 only when NATS antenna amp. is replaced with a new one.



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HOMELINK UNIVERSAL TRANSCEIVER

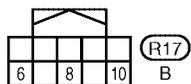
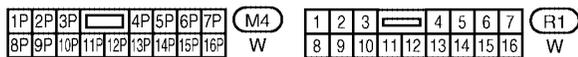
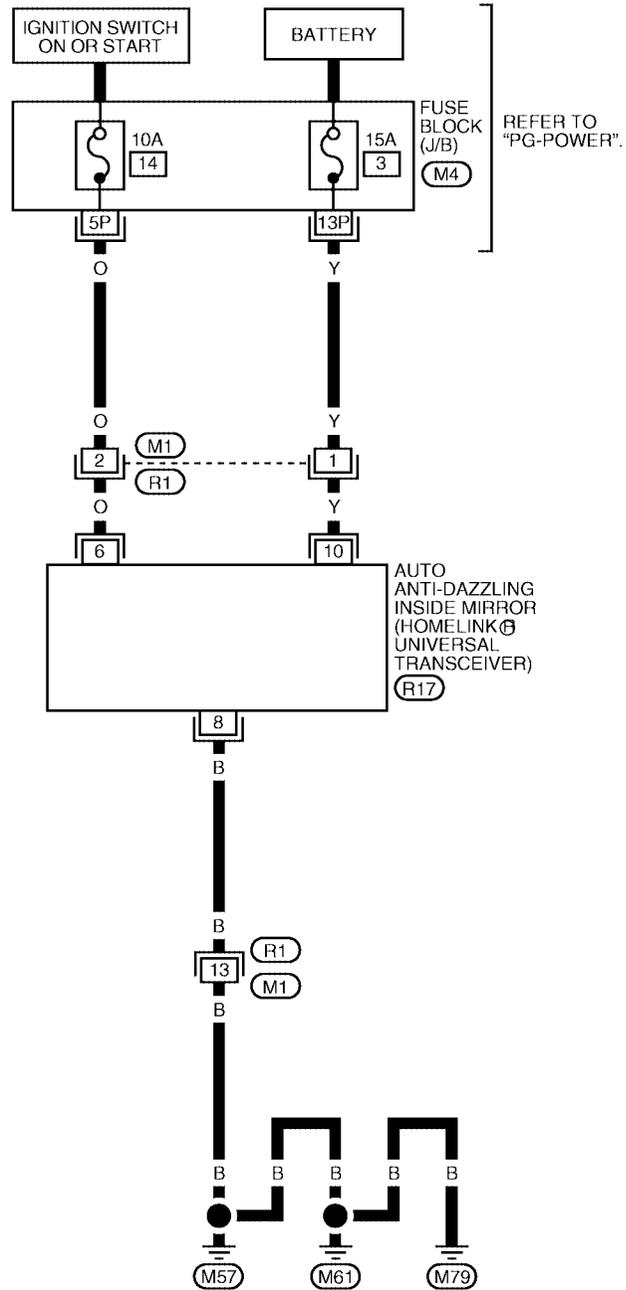
PF9:96401

EIS001S3

HOMELINK UNIVERSAL TRANSCEIVER

Wiring Diagram — TRNSCV —

BL-TRNSCV-01



WIWA0519E

HOMELINK UNIVERSAL TRANSCEIVER

EIS001S4

Trouble Diagnoses DIAGNOSTIC PROCEDURE

SYMPTOM: Transmitter does not activate receiver.

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

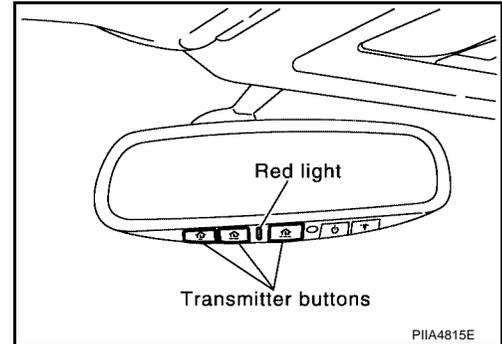
1. ILLUMINATION CHECK

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

YES or NO

YES >> GO TO 2.

NO >> GO TO 3.



2. TRANSMITTER CHECK

Check transmitter with Tool*.

*:For details, refer to Technical Service Bulletin.

OK or NG

OK >> Receiver or handheld transmitter malfunction, not vehicle related.

NG >> Replace transmitter with sun visor assembly.

3. CHECK BCM OUTPUT POWER SUPPLY

Does room lamp come on when driver side door is opened? Refer to [LT-130, "INTERIOR ROOM LAMP"](#).

Yes or No?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning part.

4. POWER SUPPLY CHECK

1. Disconnect transmitter.
2. Check voltage between auto anti-dazzling inside mirror (integrated homelink transmitter) connector R17 terminal 10 and ground.

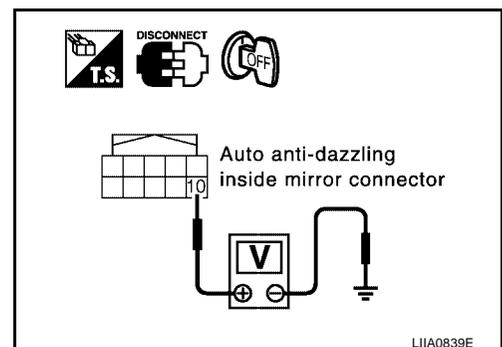
10 (Y) – Ground

: Battery voltage

OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness.



HOMELINK UNIVERSAL TRANSCEIVER

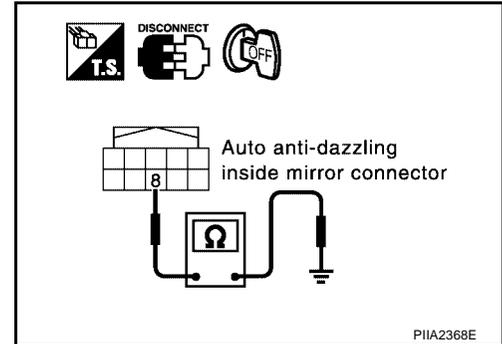
5. GROUND CIRCUIT CHECK

Check continuity between auto anti-dazzling inside mirror (integrated homelink transmitter) connector R17 terminal 8 (B) and body ground.

8 (B) – Ground : Continuity should exist.

OK or NG

- OK >> Replace inside mirror assembly.
- NG >> Repair or replace harness.



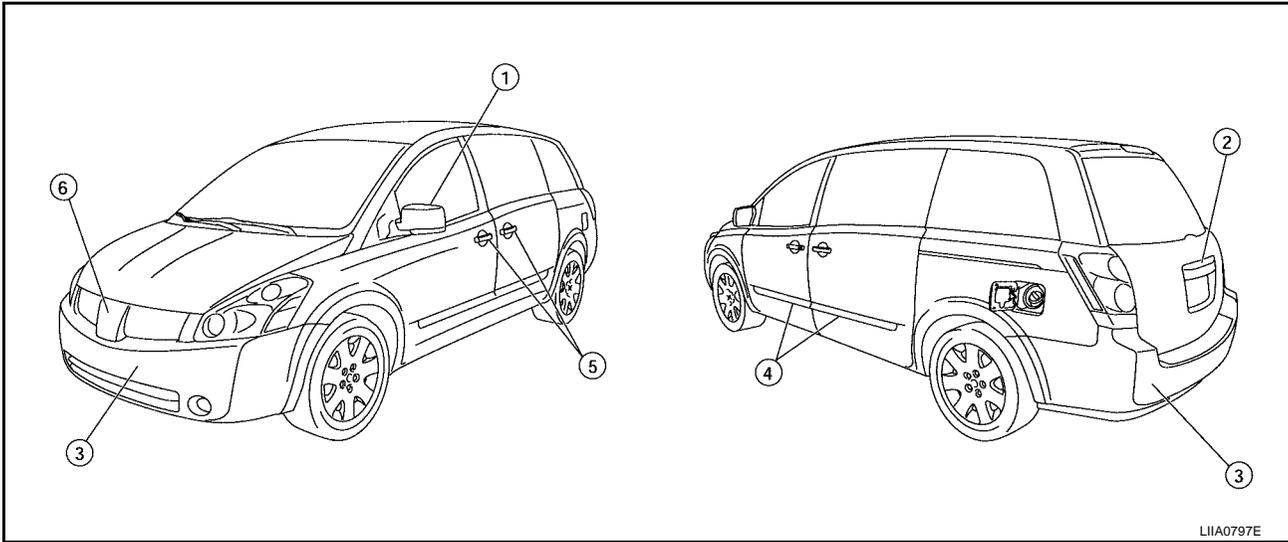
BODY REPAIR

BODY REPAIR

PFP:60100

Body Exterior Paint Color

EIS001S5



LIA0797E

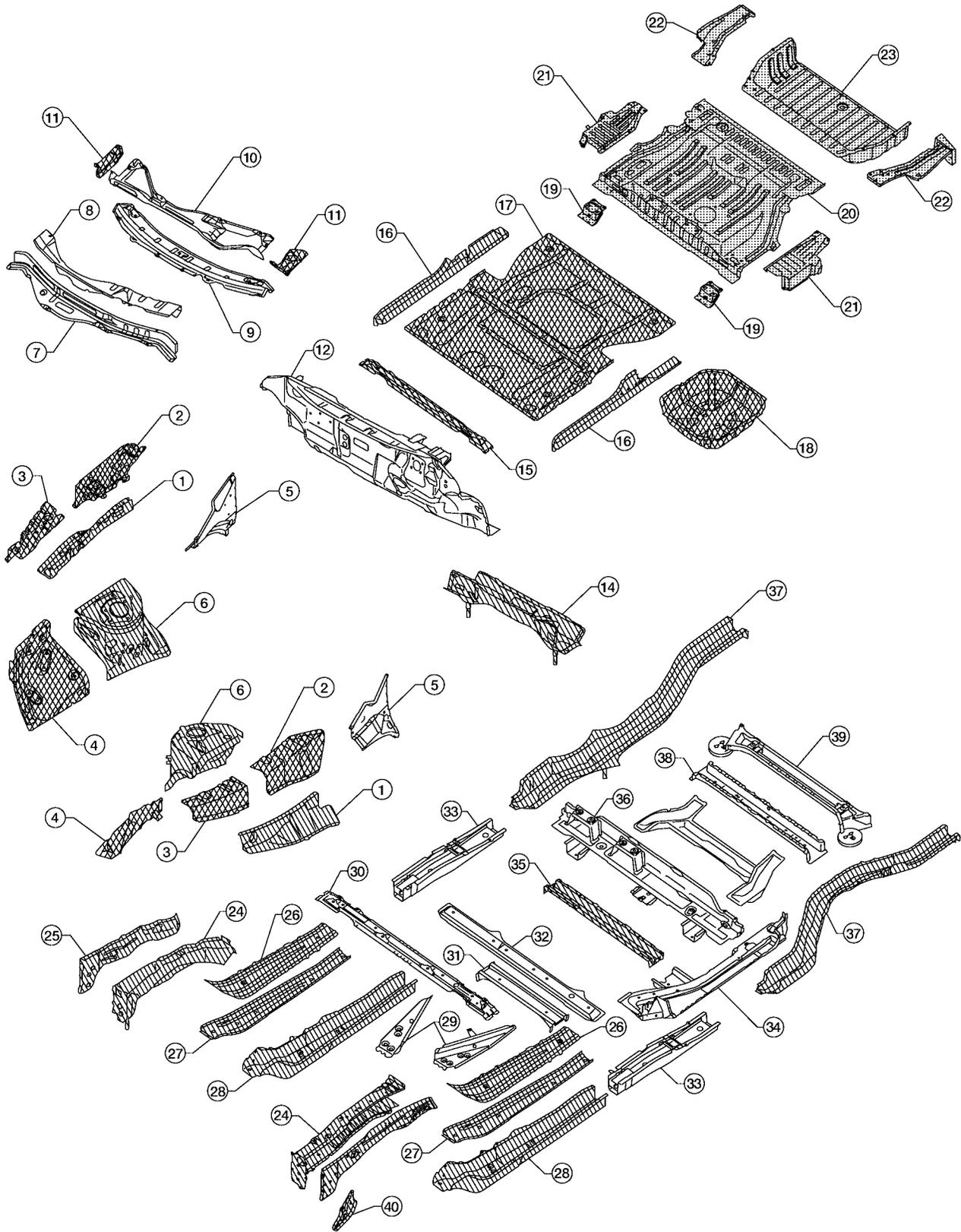
Component			Color code	A14	BW9	C12	D11	G10	K11	K12	J20	Q11	
			Description	Autumn Red	Majestic Blue	Coral Sand	Green Tea	Galaxy Black	Smoke	Silver Mist	Jade	Nordic White Pearl	
			Paint type	M	M	M	M	M	M	M	M	M	3P
			Clear coat	t	t	t	t	t	t	t	t	t	t
1	Outside mirror	Body	Body color	A14	BW9	C12	D11	G10	K11	K12	J20	Q11	
		Base	Black	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	
2	Lift gate Finisher		Body color	A14	BW9	C12	D11	G10	K11	K12	J20	Q11	
3	Bumper fascia	Body	Body color	A14	BW9	C12	D11	G10	K11	K12	J20	Q11	
4	Side guard molding	Body	Body color	A14	BW9	C12	D11	G10	K11	K12	J20	Q11	
5	Outside handle		Body color	A14	BW9	C12	D11	G10	K11	K12	J20	Q11	
6	Radiator grille	Center	Chromium-plate +Smoke Clear	Cr+HF M09	Cr+HFM 09	Cr+HF M 09	Cr+H FM09	Cr+HF M 09	Cr+HF M 09	Cr+HFM 09	Cr+HF M 09	Cr+HF M09	

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

BODY REPAIR

Body Component Parts UNDERBODY COMPONENT PARTS

EIS001S6



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

W11A0535E

BODY REPAIR

1. Hoodledge upper RH/LH	21. Rear side floor rear RH/LH	A
2. Rear hoodledge reinforcement RH/LH	22. Rear floor rear	
3. Hoodledge reinforcement	23. Front side member RH/LH	
4. Lower front hoodledge RH/LH	24. Front side member closing plate RH/LH	B
5. Side cowl top RH/LH	25. Front side member extension reinforcement RH/LH	
6. Rear lower hoodledge RH/LH	26. Front side member reinforcement RH/LH	
7. Upper dash	27. Front side member front extension RH/LH	C
8. Front cowl top	28. Inner front side member assembly RH/LH	
9. Center cowl top	29. Floor center member assembly	
10. Cowl top extension	30. Outer 3rd seat mounting bracket	D
11. Cowl top extension bracket RH/LH	31. Center 1st cross member assembly	
12. Lower dash	32. Front side member rear extension RH/LH	
13. Dash lower cross member	33. Lower guide rail assembly RH/LH	E
14. 2nd cross member assembly	34. 4th cab moulting cross member	
15. Inner sill RH/LH	35. Rear seat cross member	
16. Front floor	36. Rear side member RH/LH	F
17. Center front floor	37. Center rear seat cross member	
18. 2nd seat mounting bracket assembly RH/LH	38. 2nd rear cross member	
19. Front floor rear	39. Front hook RH/LH	G
20. Rear floor step RH/LH		

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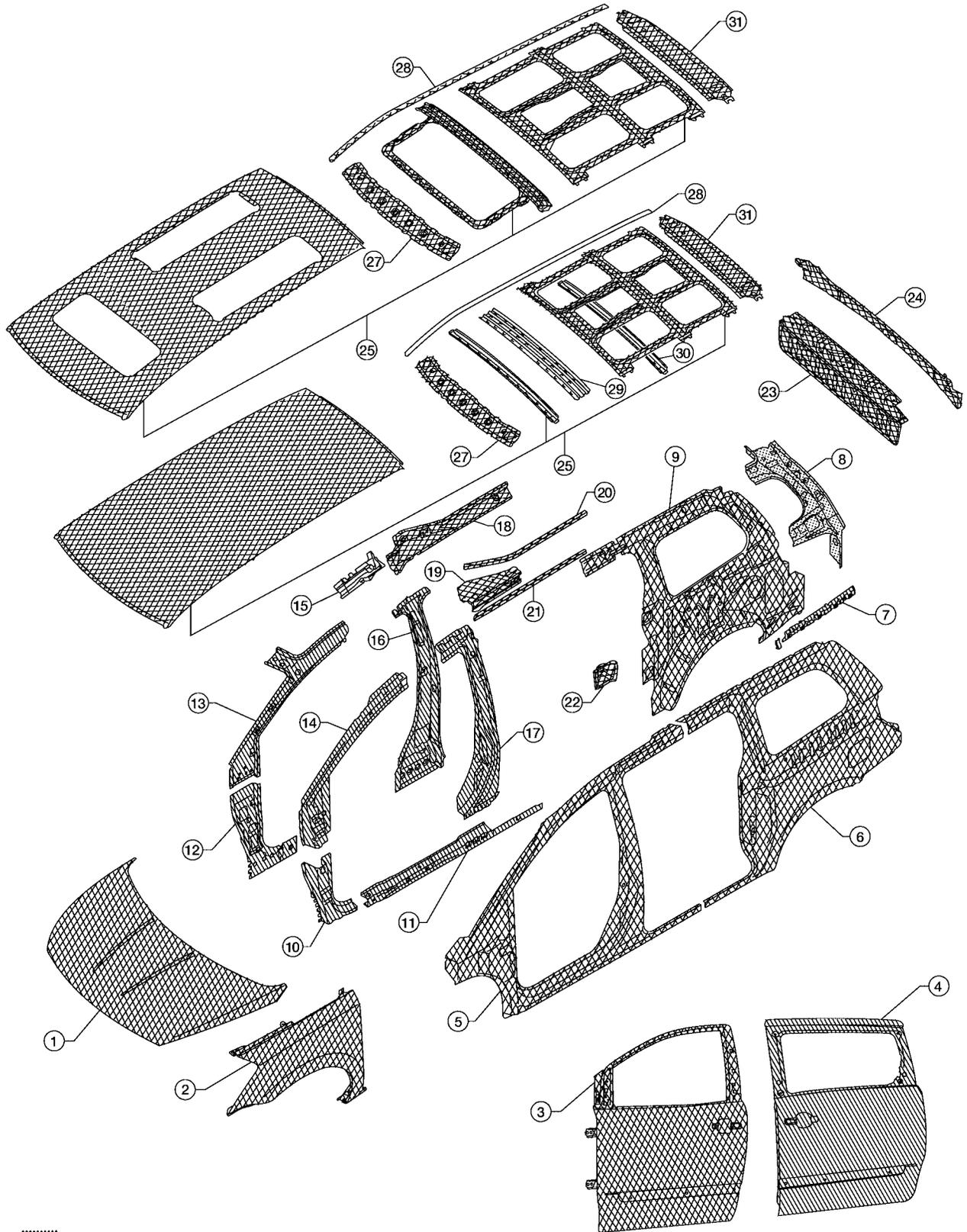
K

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BODY REPAIR

BODY COMPONENT PARTS



-  : Indicates both-side anti-corrosive pre-coated steel and HSS portions
-  : Indicates both-side anticorrosive pre-coated steel portions
-  : Indicates high strength steel (HSS) portions

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BODY REPAIR

- | | | |
|---------------------------------------|---------------------------------|---|
| 1. Hood | 17. Center pillar reinforcement | A |
| 2. Front fender (RH&LH) | 18. Inner roof side rail | |
| 3. Front door assembly | 19. Upper guide rail | |
| 4. Slide door assembly | 20. Upper guide rail | B |
| 5. Body side outer | 21. Roof drip rail | |
| 6. Rear fender | 22. Waist rail guide | |
| 7. Body side outer reinforcement | 23. Back panel assembly | C |
| 8. Back pillar reinforcement | 24. Back panel assembly | |
| 9. Inner side panel | 25. Standard roof assembly | |
| 10. Front pillar lower hinge brace | 26. Roof assembly with sunroof | D |
| 11. Outer sill reinforcement | 27. Front roof rail | |
| 12. Inner lower front pillar | 28. Roof side molding assembly | |
| 13. Inner upper front pillar | 29. Roof bow No. 2 | E |
| 14. Upper hinge pillar brace assembly | 30. Rear roof bow | |
| 15. Inner roof rail reinforcement | 31. Rear roof rail | F |
| 16. Inner center pillar | | |

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BODY REPAIR

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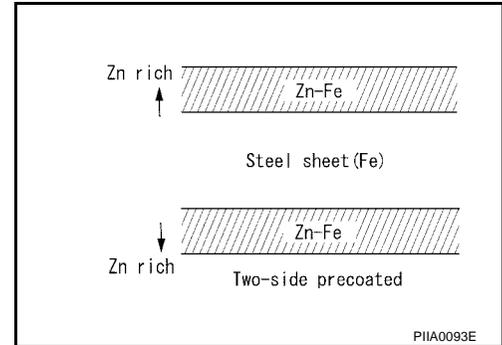
Corrosion Protection DESCRIPTION

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.



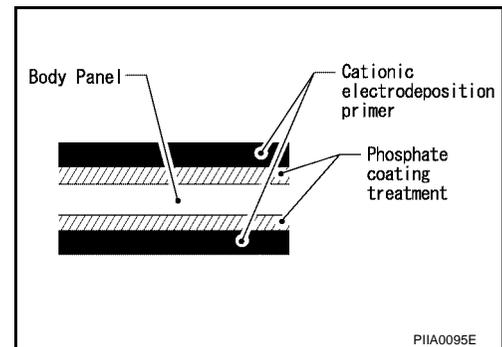
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

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.

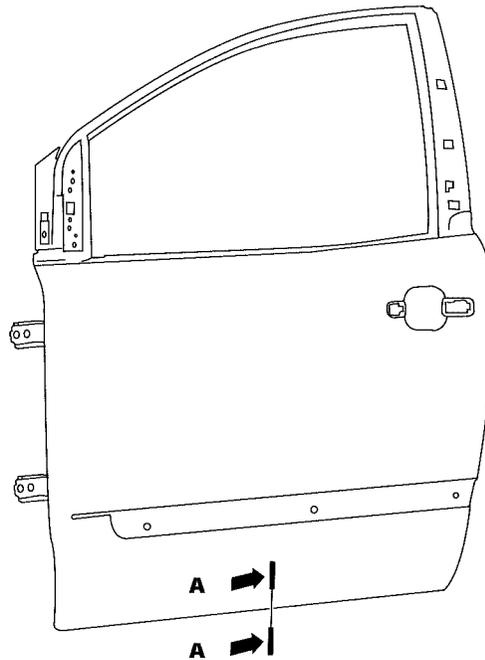


Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

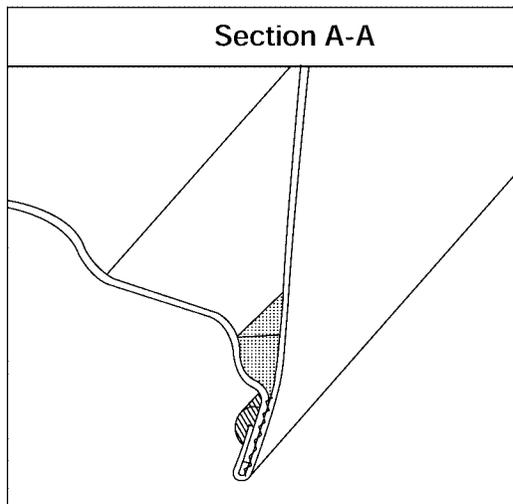
BODY REPAIR

ANTI-CORROSIVE WAX

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



-  : indicates outside body sealant
-  : Indicates anti-corrosive wax coated portions



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BODY REPAIR

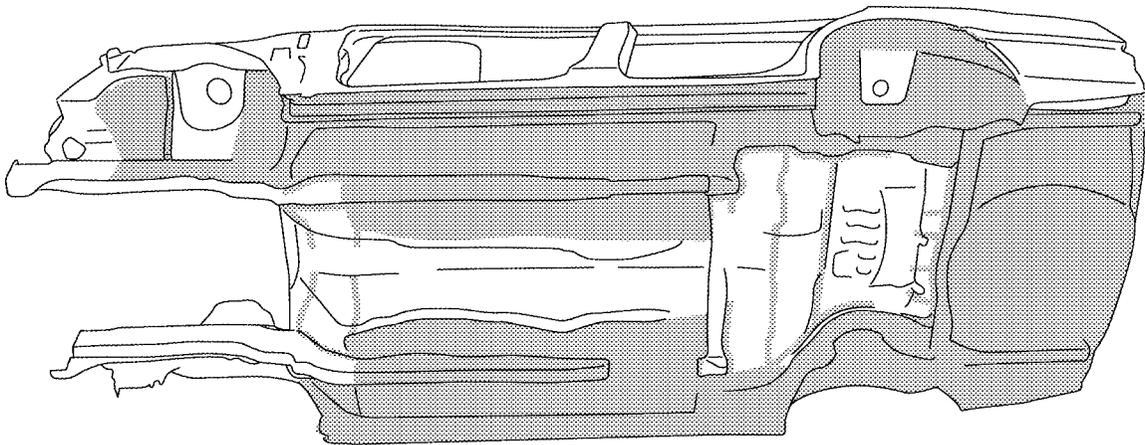
UNDERCOATING

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

Precautions in undercoating

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

 : Indicates undercoated portions.



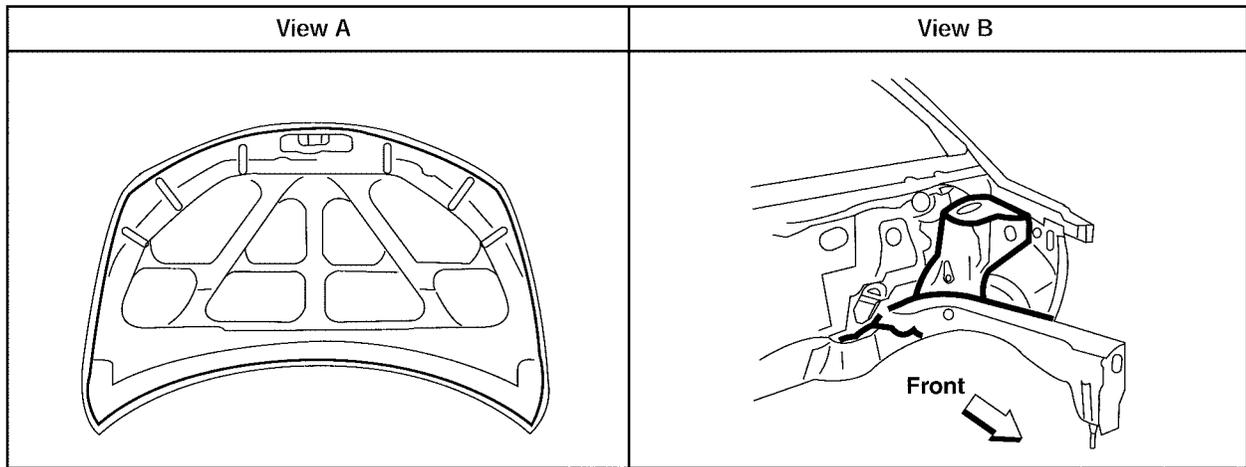
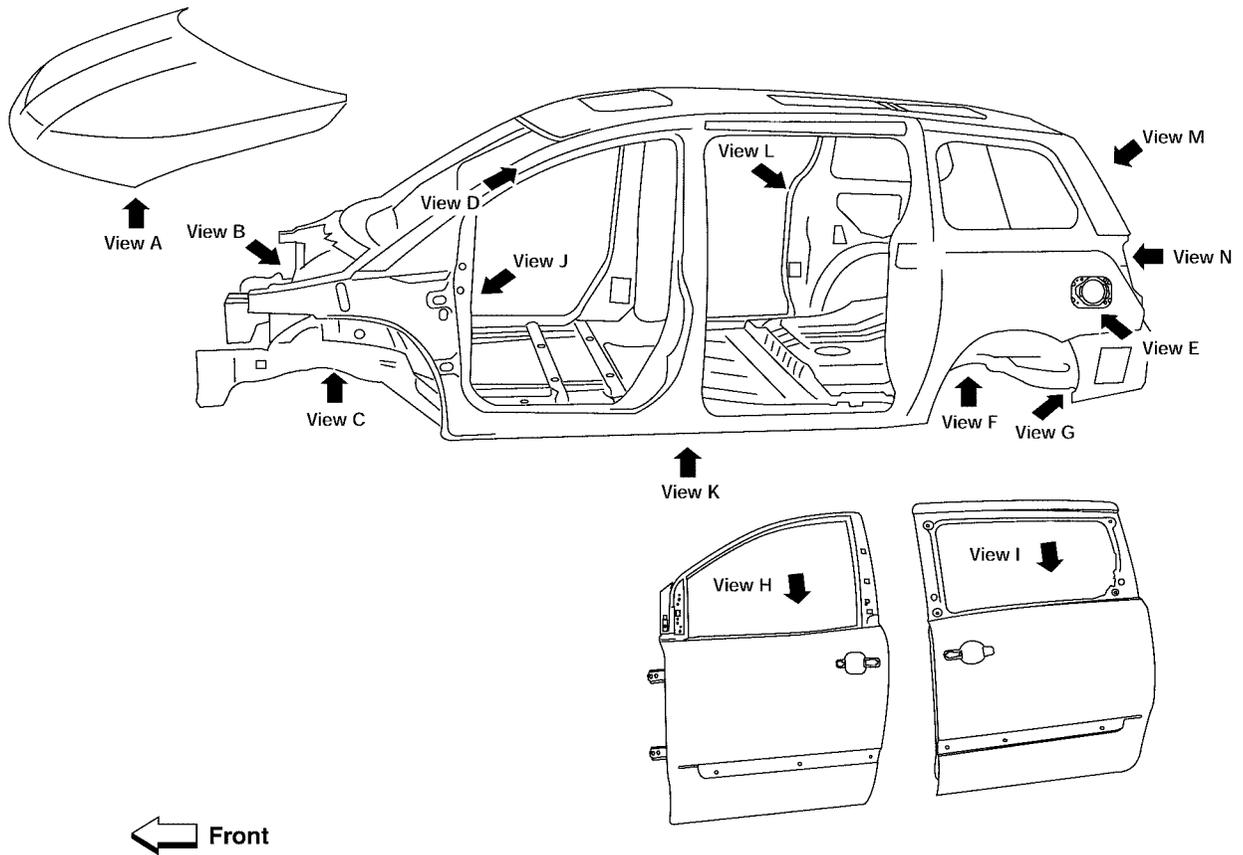
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BODY REPAIR

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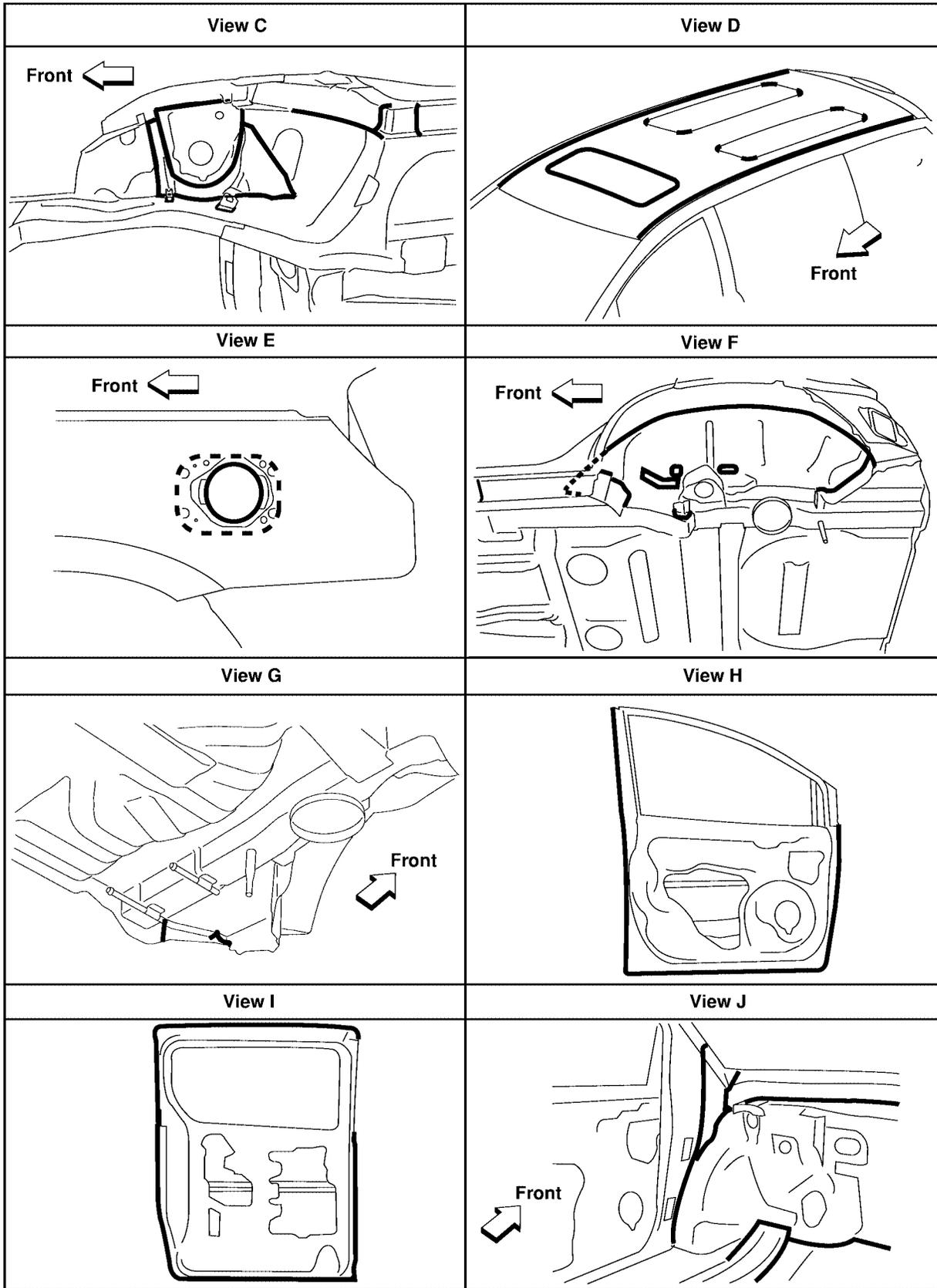
Body Sealing DESCRIPTION

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.



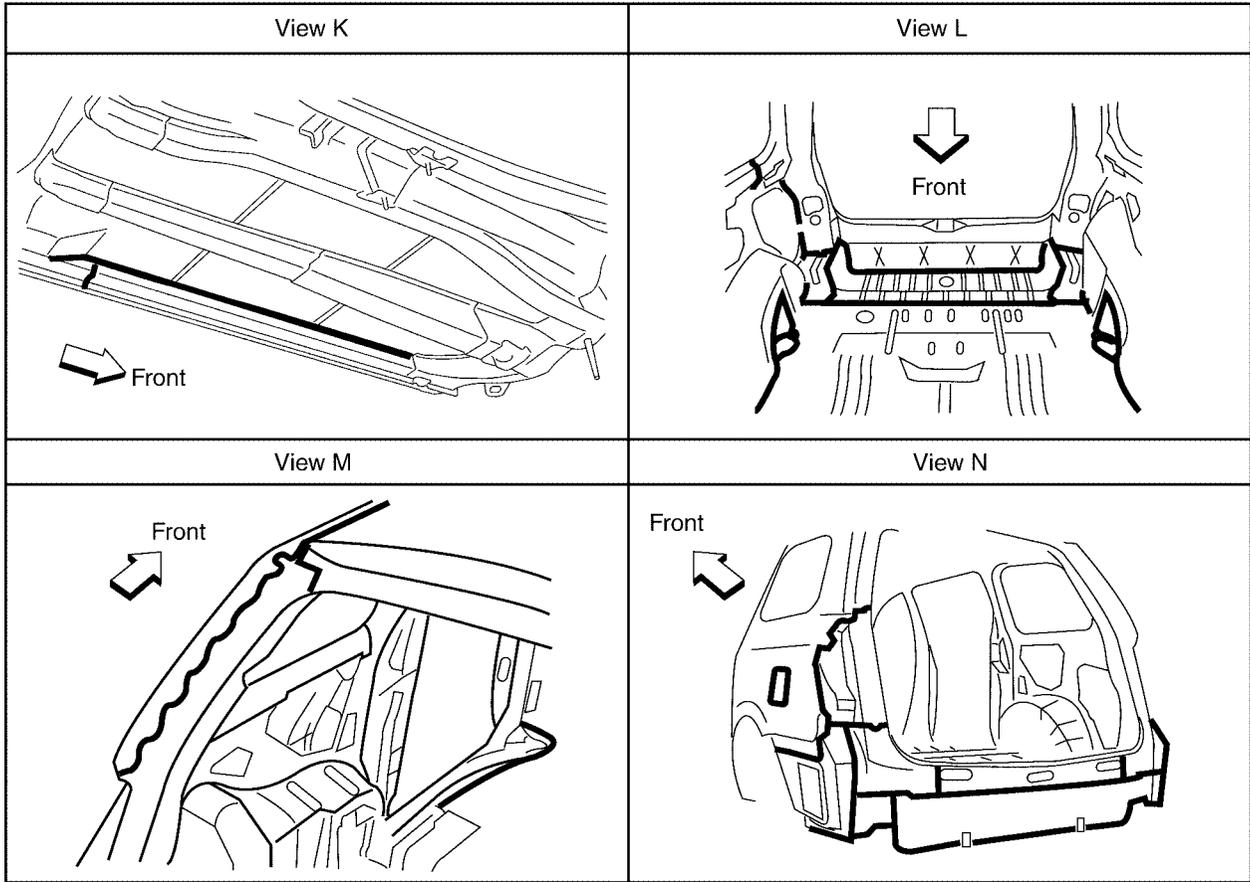
LIIA0812E

BODY REPAIR



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BODY REPAIR



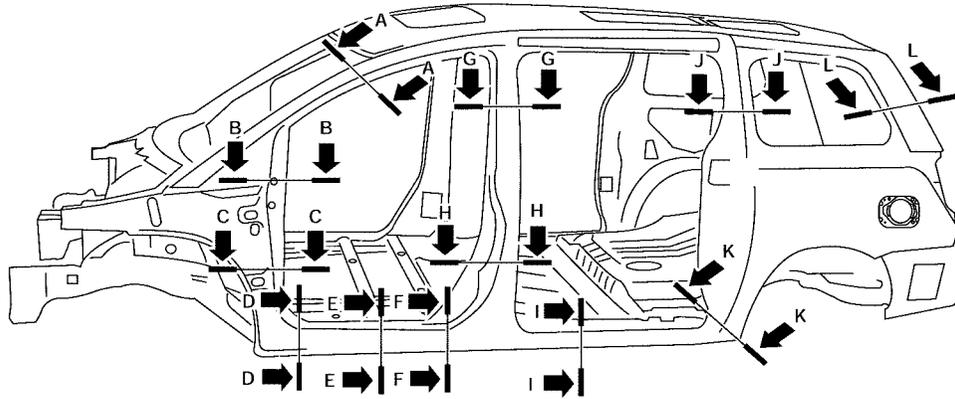
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BODY REPAIR

Body Construction BODY CONSTRUCTION

EIS001S9



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	Section L-L

LIIA0818E

BODY REPAIR

Body Alignment BODY CENTER MARKS

EIS001SA

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.

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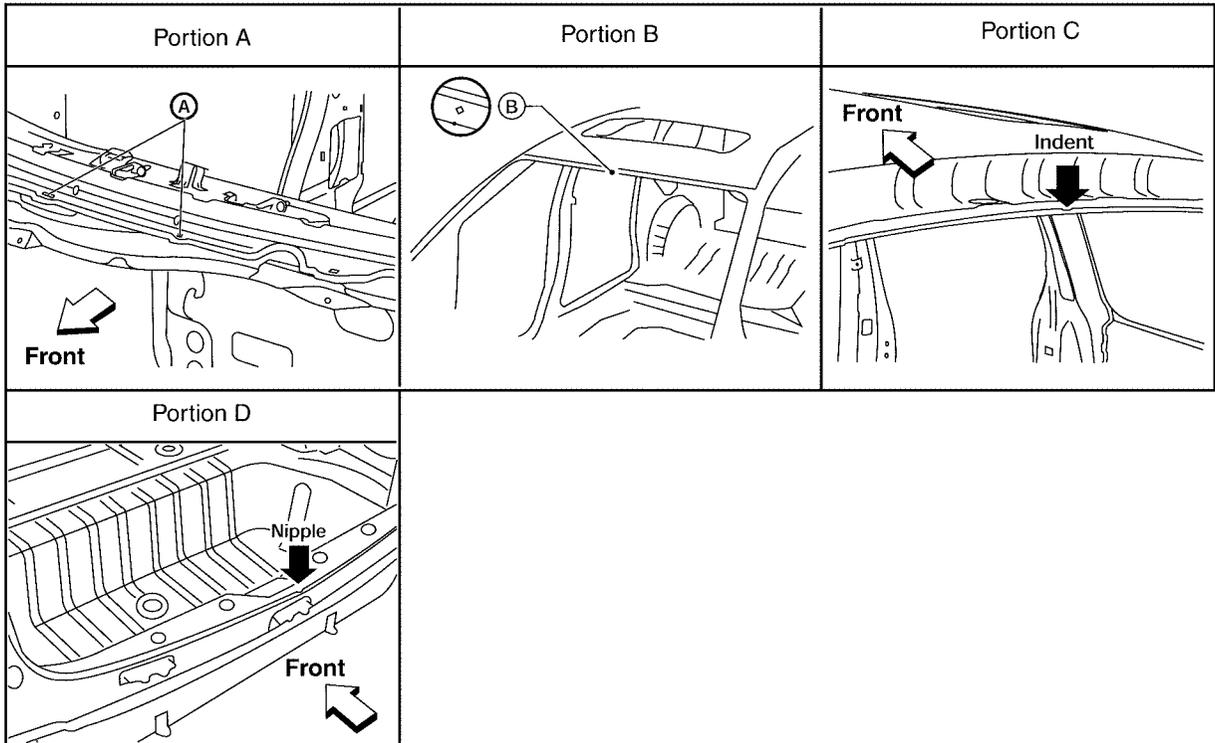
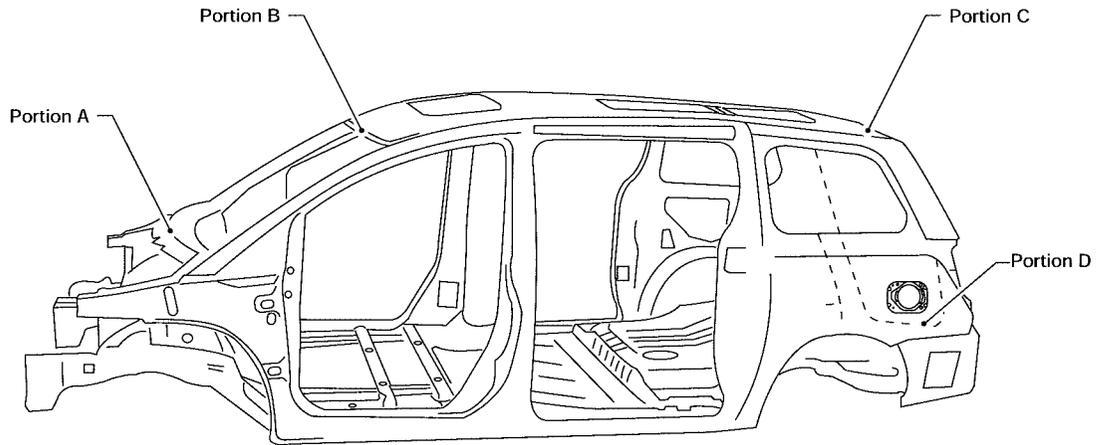
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BODY REPAIR



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BODY REPAIR

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.

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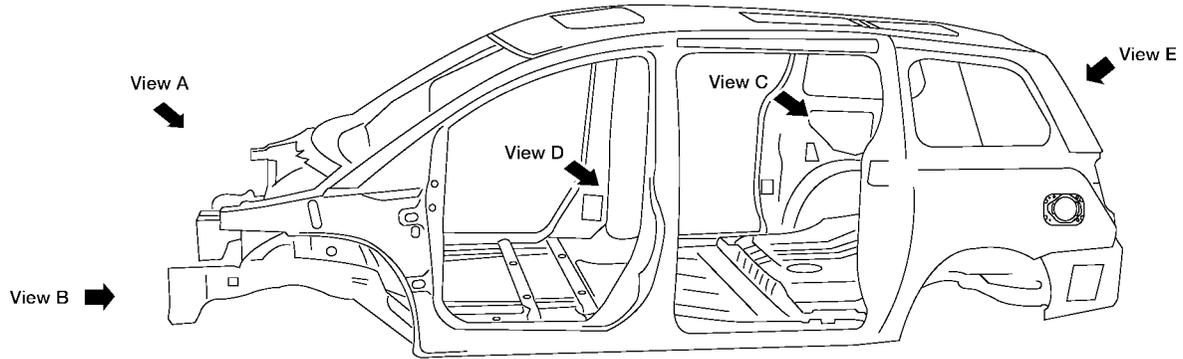
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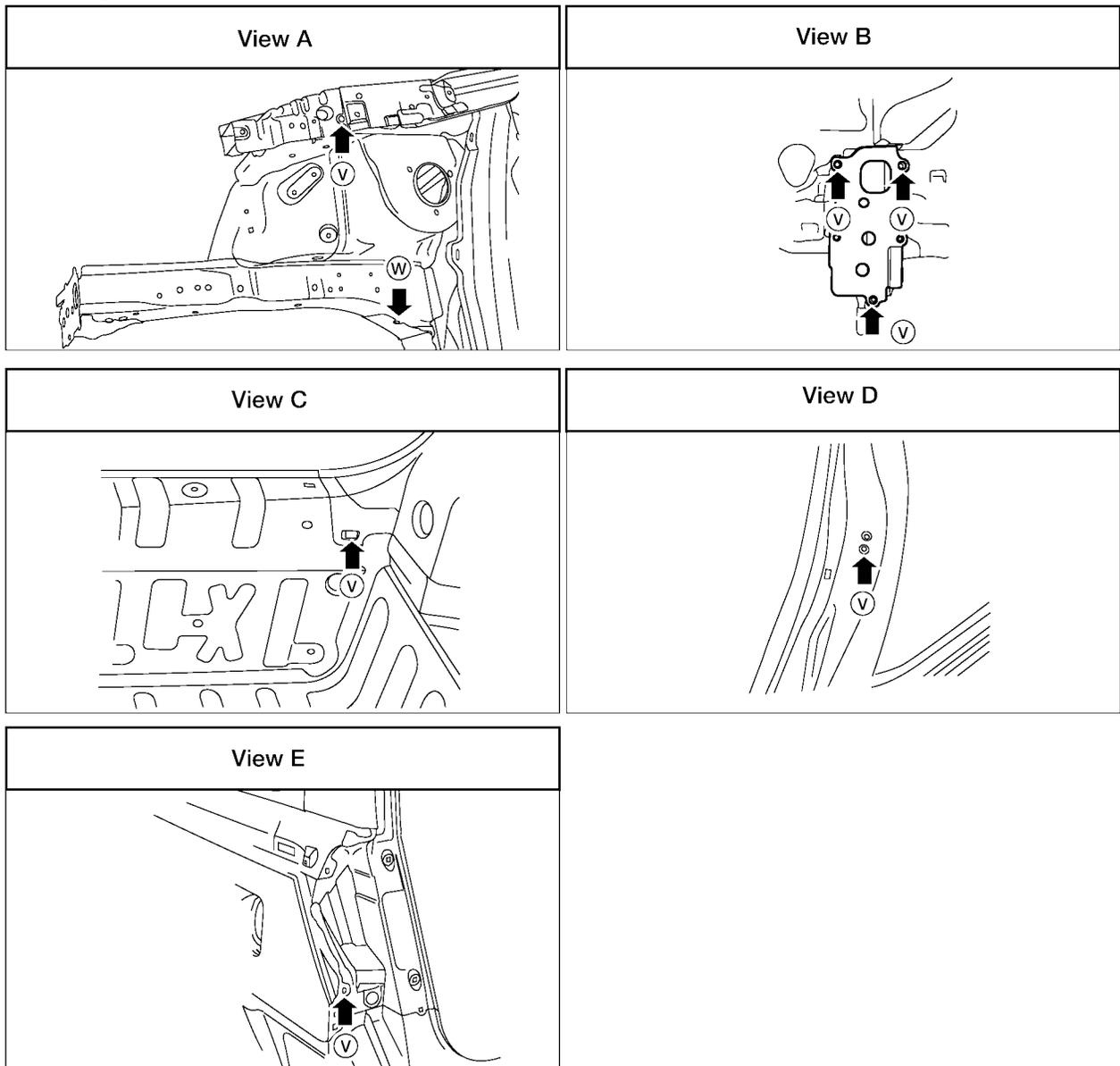
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BODY REPAIR



Type V: Type W:

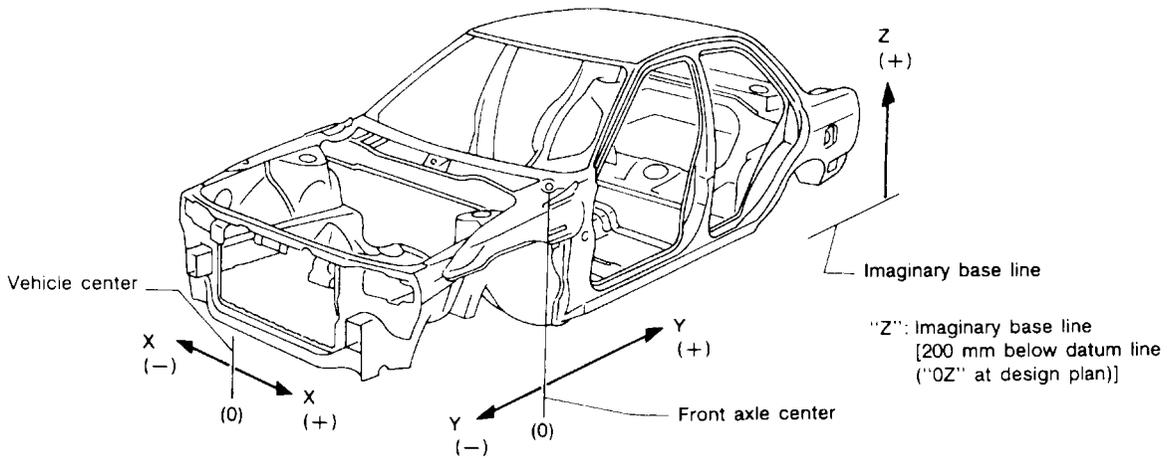


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BODY REPAIR

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".



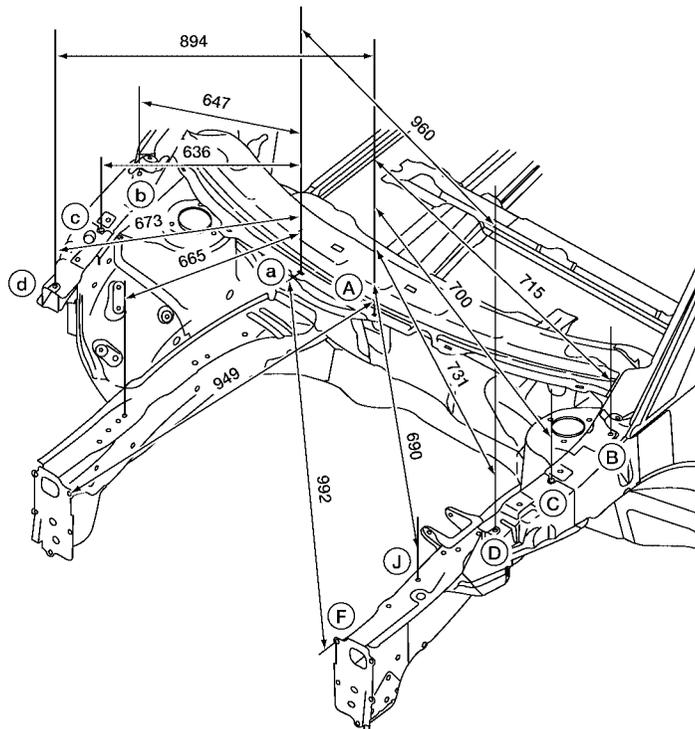
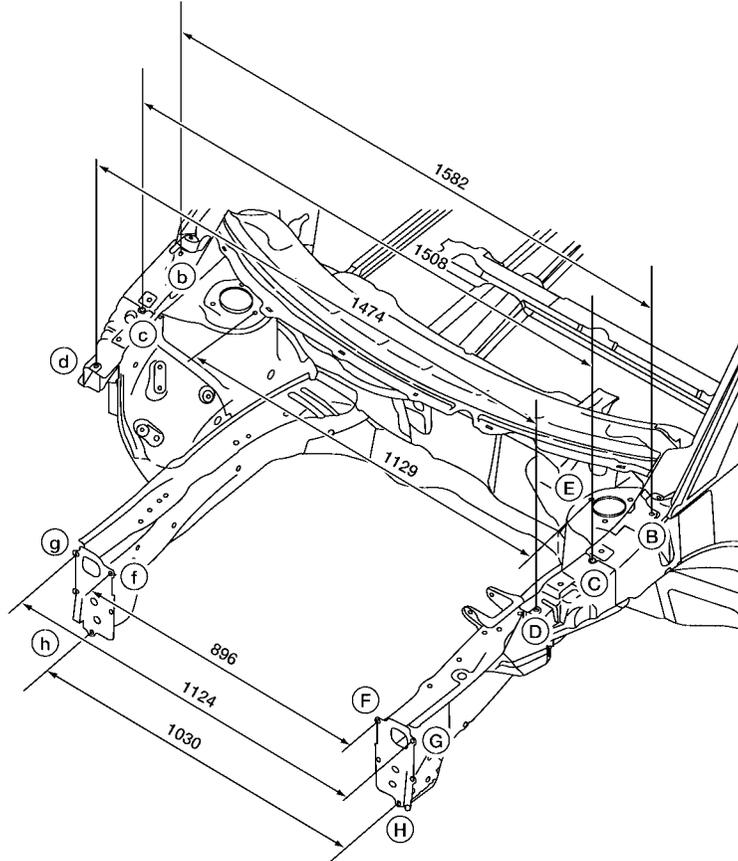
PIIA0104E

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BODY REPAIR

ENGINE COMPARTMENT MEASUREMENT

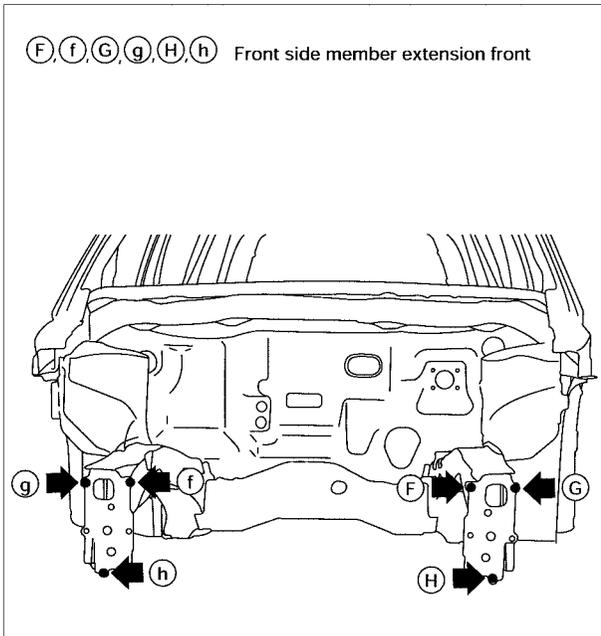
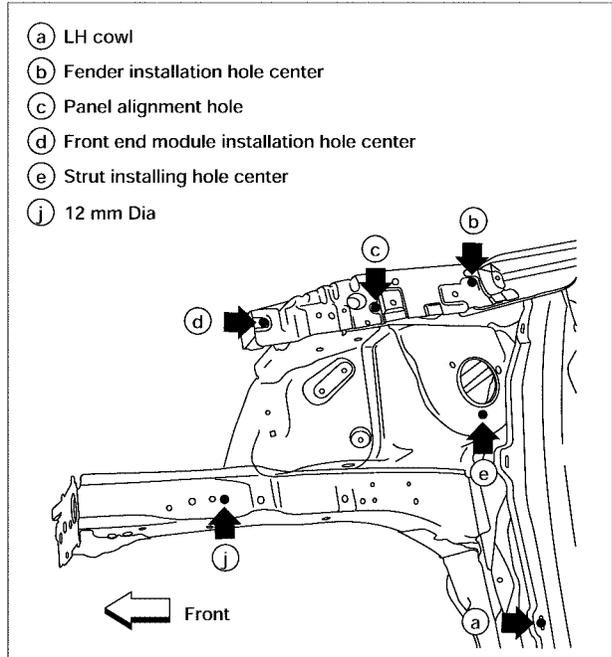
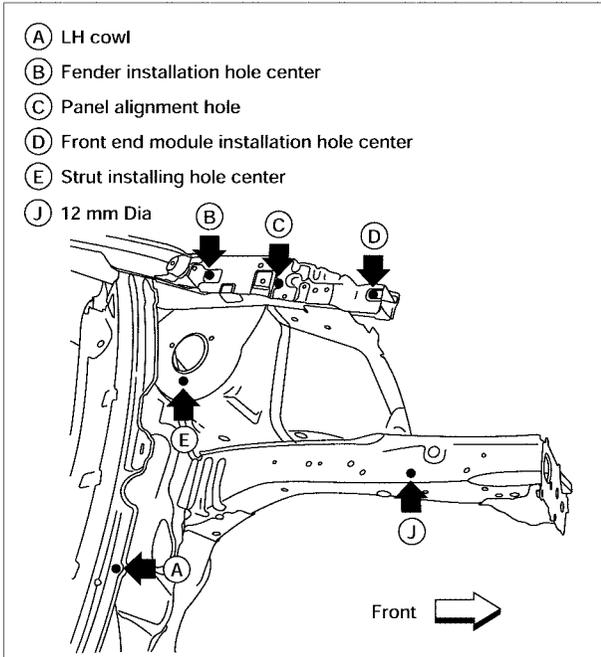


Unit: mm

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BODY REPAIR

MEASUREMENT POINTS



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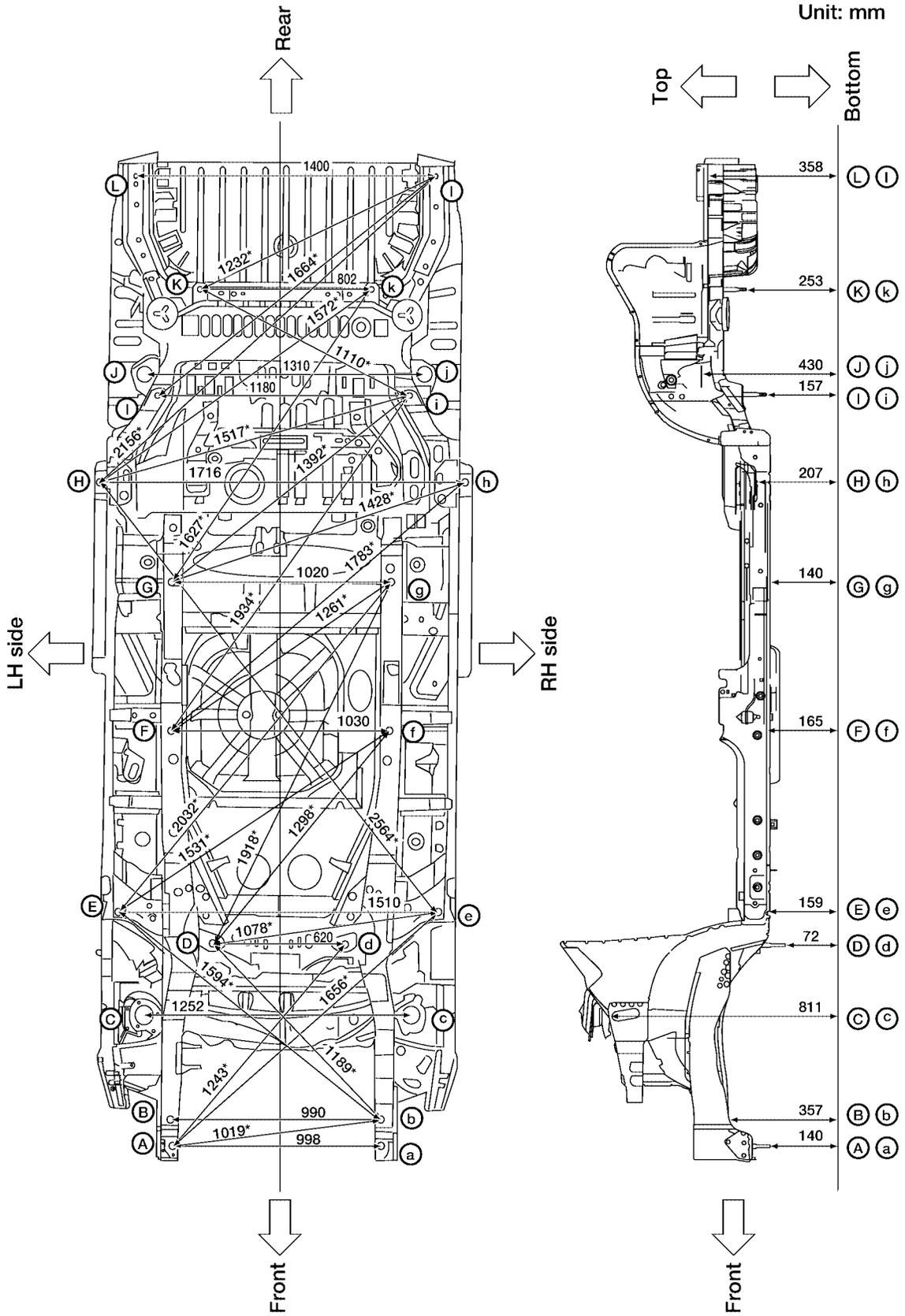
BODY REPAIR

UNDERBODY MEASUREMENT

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

As viewed from underside.

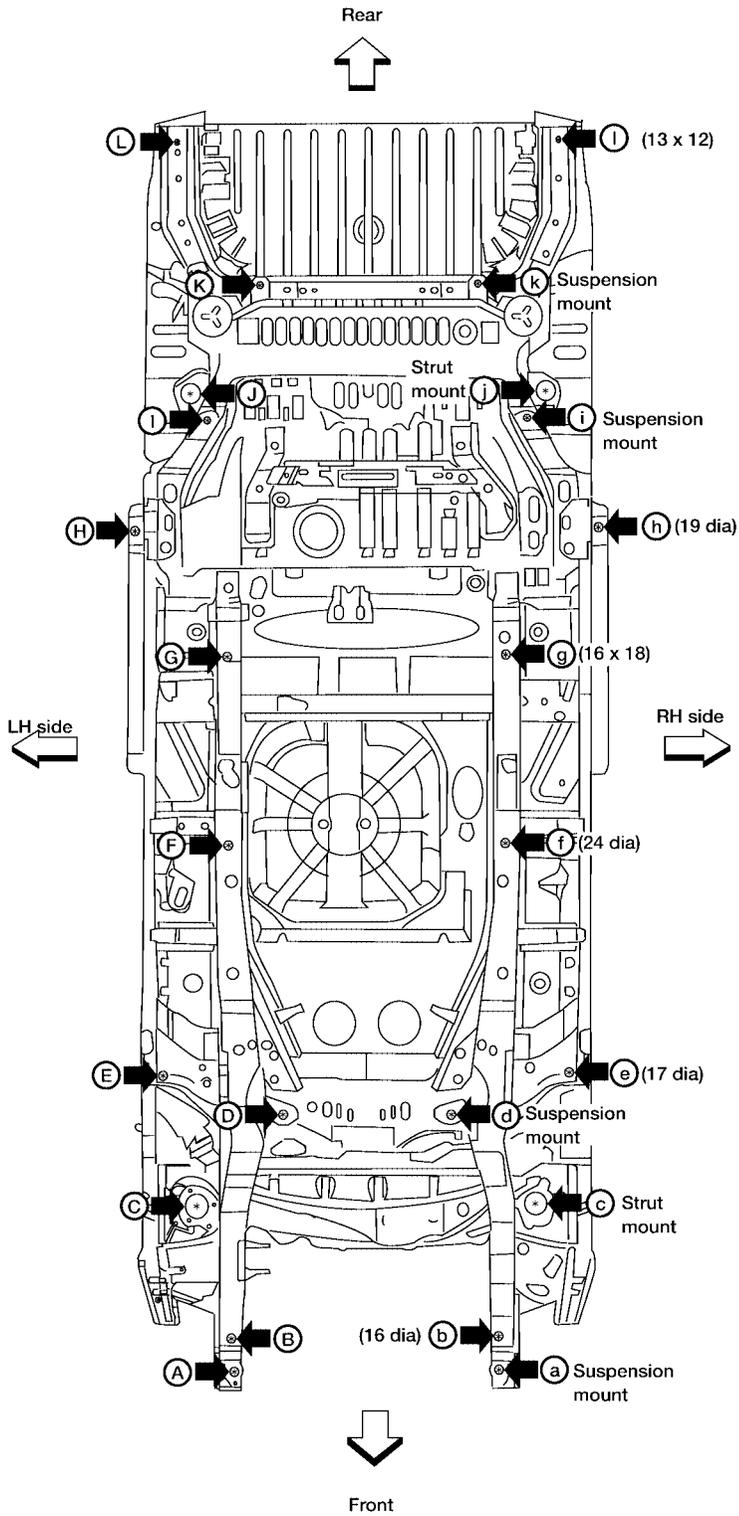
All dimensions indicated in this figure are actual.



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BODY REPAIR

MEASUREMENT POINTS

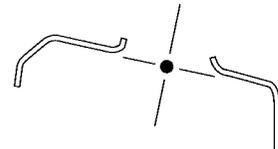


Coordinates:

- (A), (a)
X : ±494
Y : -617
Z : 140
- (B), (b)
X : ±495
Y : -500
Z : 357
- (D), (d)
X : ±310
Y : 328
Z : 72
- (E), (e)
X : ±755
Y : 470
Z : 159
- (F), (f)
X : ±515
Y : 1326
Z : 165
- (G), (g)
X : ±510
Y : 2060
Z : 140
- (H), (h)
X : ±858
Y : 2463
Z : 207
- (I), (i)
X : ±590
Y : 2913
Z : 157
- (K), (k)
X : ±401
Y : 3403
Z : 253
- (L), (l)
X : ±700
Y : 3945
Z : 358

Coordinates:

- (C), (c)
X : ±626
Y : 28
Z : 811
- (J), (j)
X : ±655
Y : 3023
Z : 430



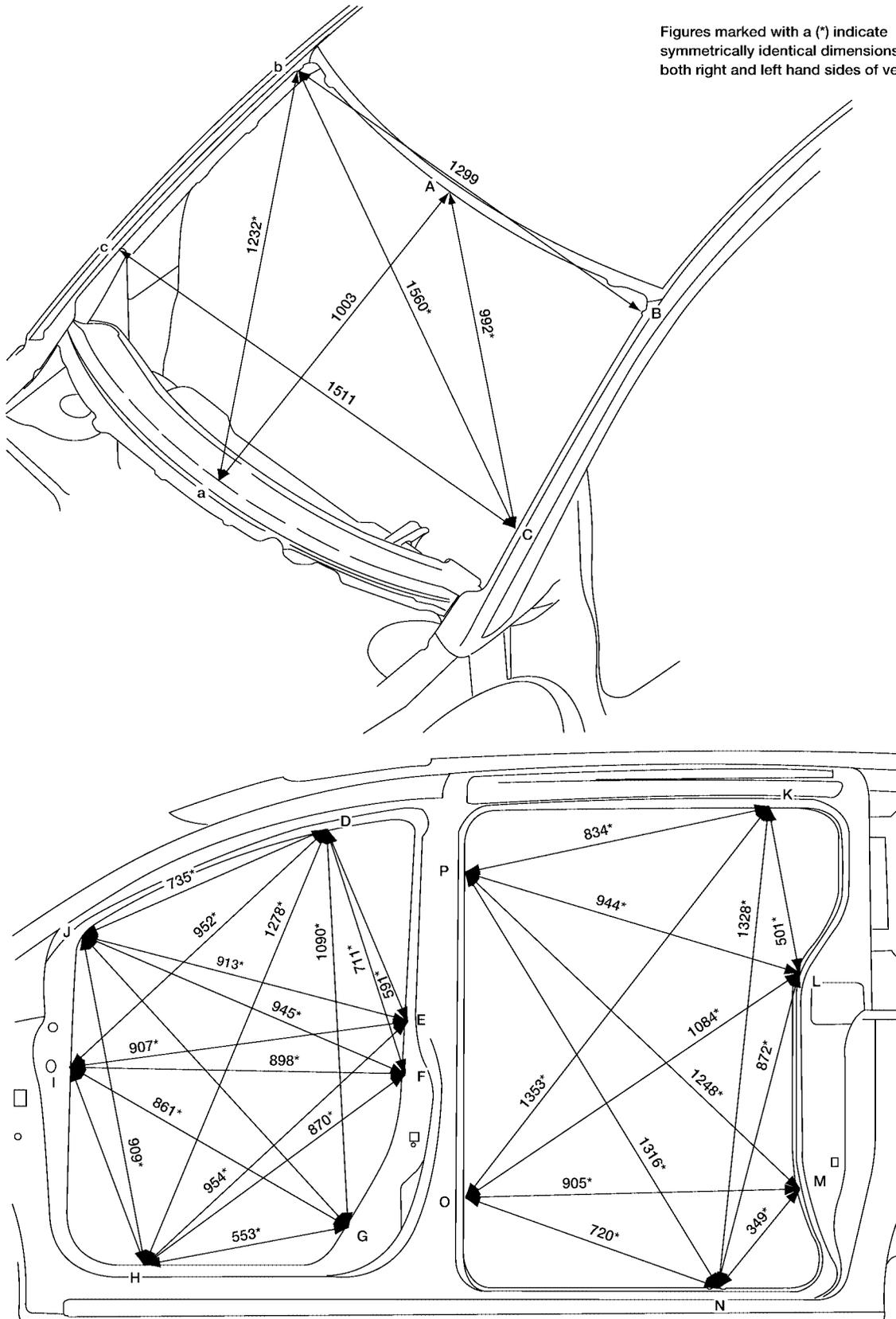
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BODY REPAIR

PASSENGER COMPARTMENT MEASUREMENT

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



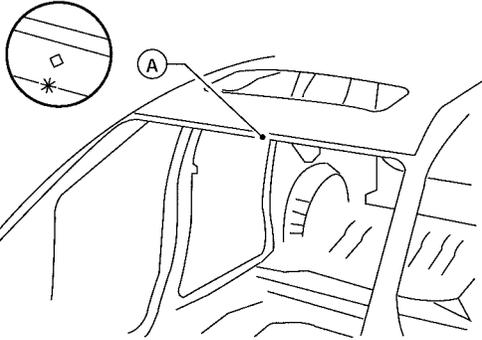
Unit: mm

WIIA0537E

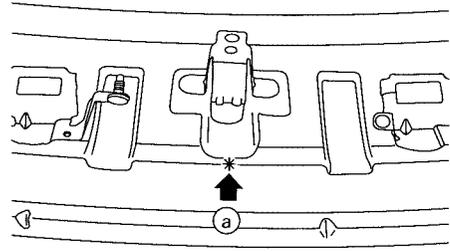
BODY REPAIR

MEASUREMENT POINTS

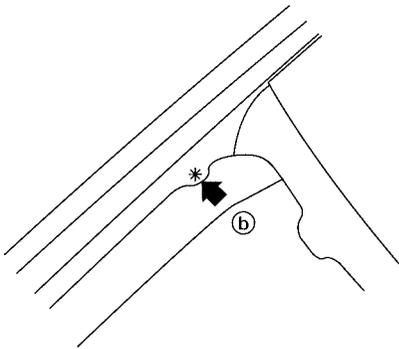
(A) Front roof flange end of center position mark



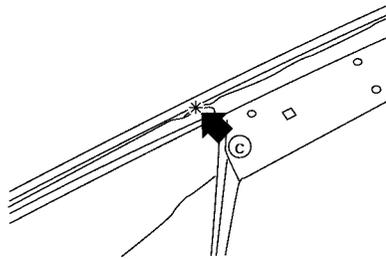
(a) Center of upper dash panel.



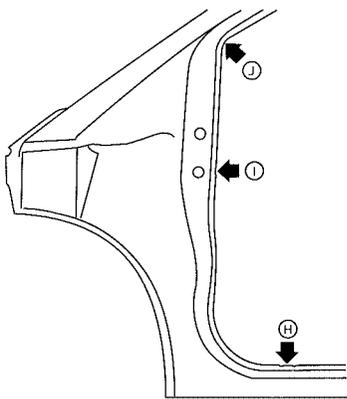
(B), (b) Outer front pillar upper position mark.



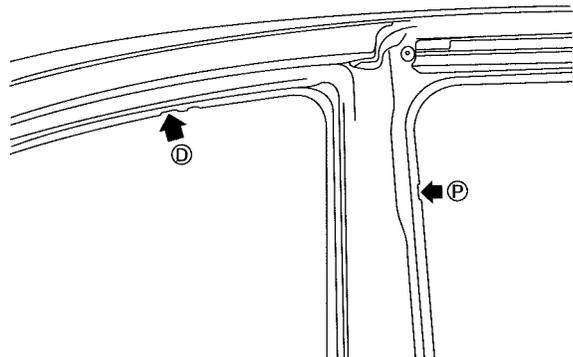
(C), (c) Inner front pillar lower reinforcement panel overlap.



(H), (h) Outer sill front fold over tab center.
(I), (i) Dash side pannel joggle center.
(J), (j) Center of pillar radius.



(D), (d) Upper door opening front joggle center.
(P), (p) Center pillar rear upper joggle center.



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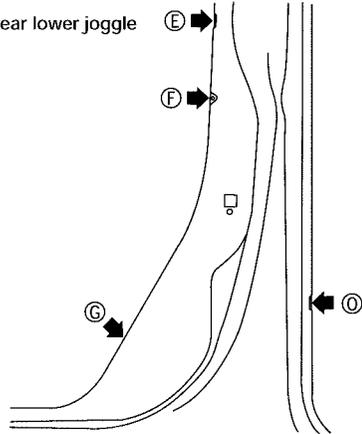
BODY REPAIR

(E). (e) Center pillar lower joggle center.

(F). (f) Center pillar center position mark.

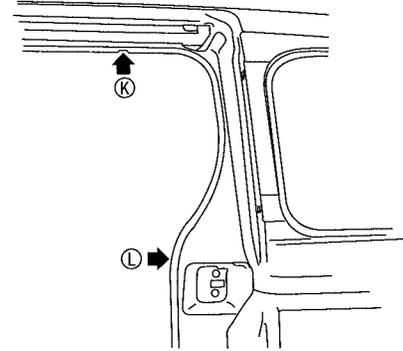
(G). (g) Lower center pillar reinforcement overlap.

(O). (o) Center pillar rear lower joggle center.



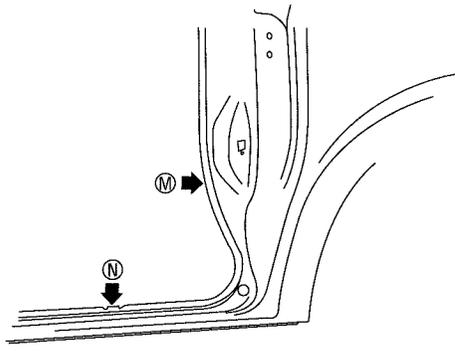
(K). (k) Upper sliding door opening rear joggle center.

(L). (l) Rear fender inner reinforcement upper panel overlap.



(M). (m) Outer sill rear fold over tab center.

(N). (n) Center pillar rear upper joggle center.

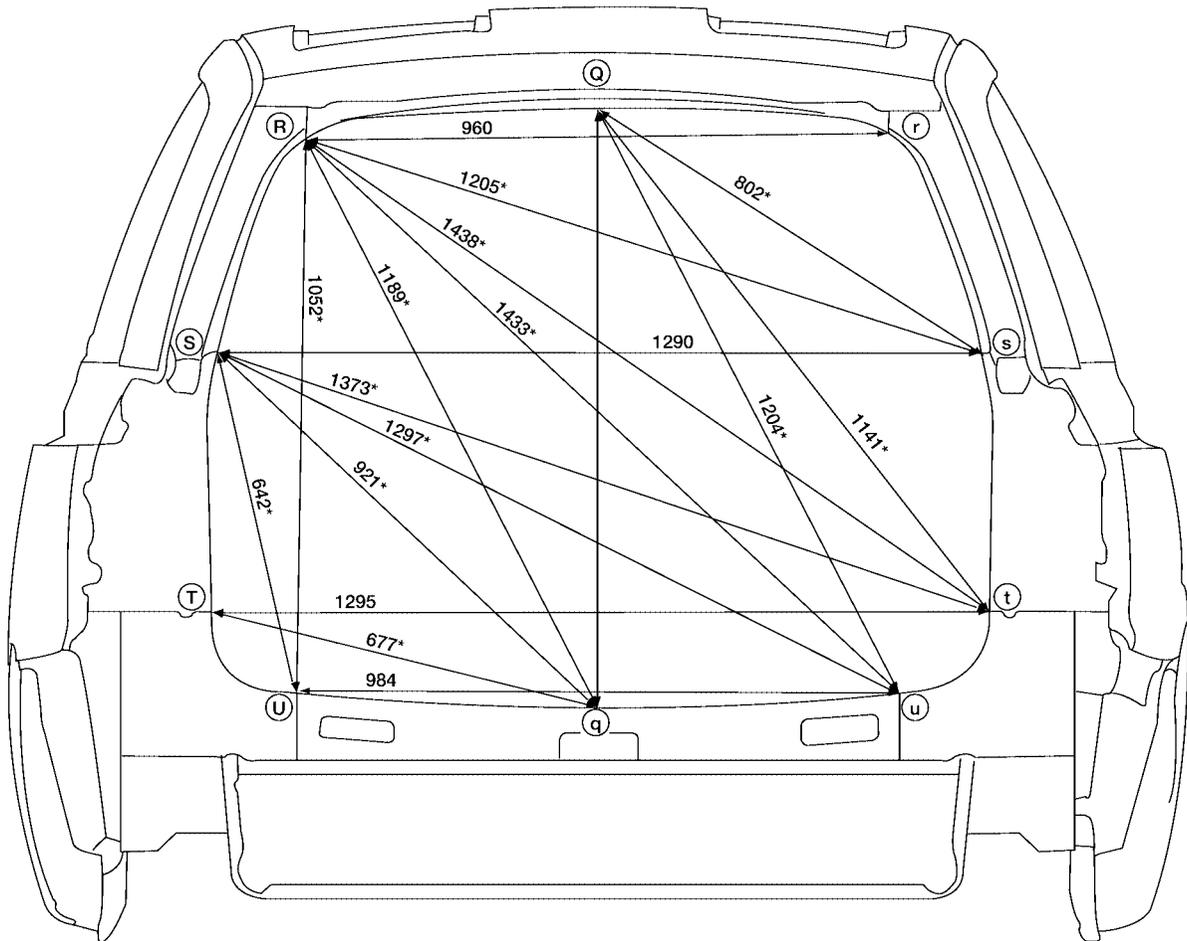


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BODY REPAIR

REAR BODY MEASUREMENT

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



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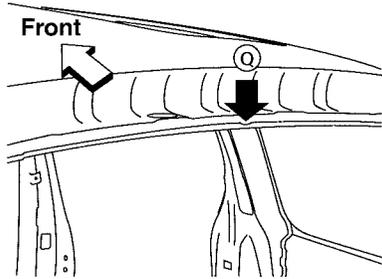
Unit: mm

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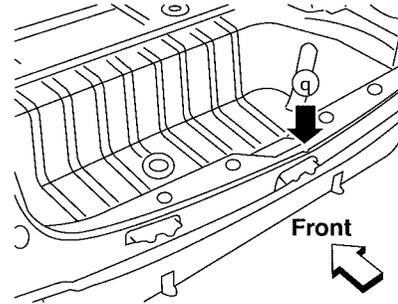
BODY REPAIR

MEASUREMENT POINTS

Q Rear roof flange center of indent.



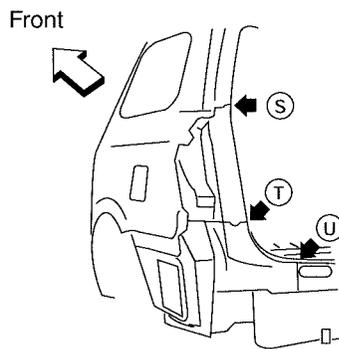
q Rear sill center nipple.



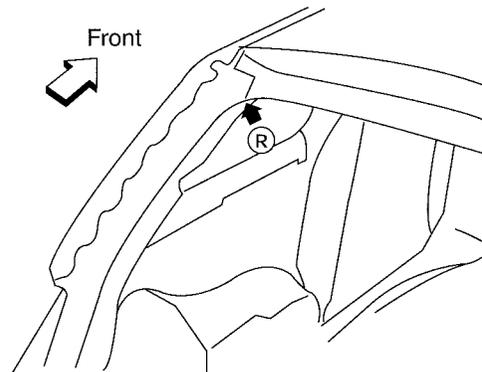
S, s Middle pillar reinforcement panel overlap.

T, t Lower pillar reinforcement panel overlap.

U, u Rear sill and reinforcement panel overlap.



R, r Rear pillar upper reinforcement and roof overlap..



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BODY REPAIR

EIS001SB

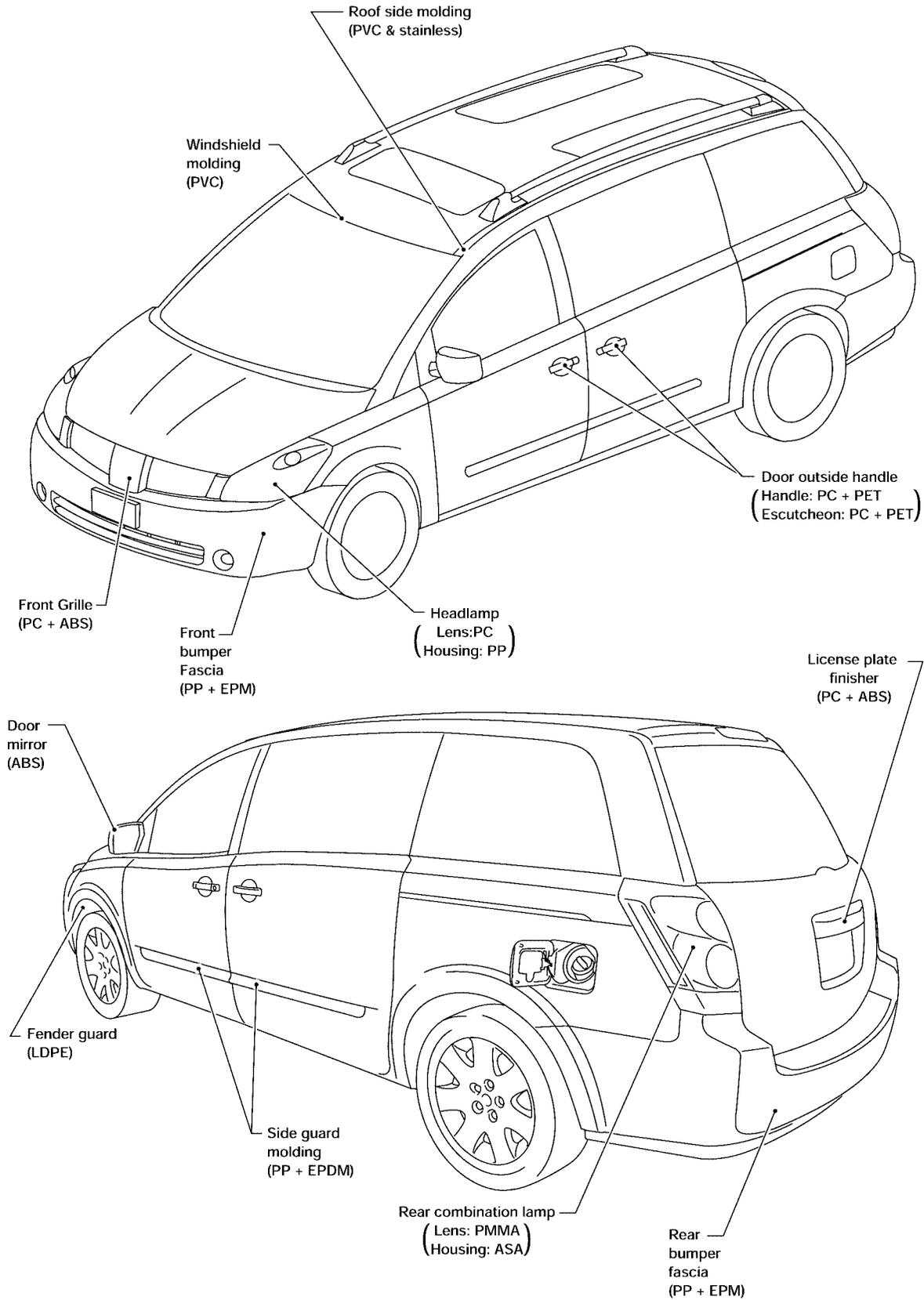
Handling Precautions for Plastics HANDLING PRECAUTIONS FOR PLASTICS

Abbreviation	Material name	Heatresisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Polyvinyl Chloride	80 (176)	Same as above.	Poison gas is emitted when burned.
EPM/EPDM	Ethylene Propylene (Diene) rubber	80 (176)	Same as above.	Flammable
TPO/TPR	Thermoplastic Olefine/Thermoplastic Rubber	80 (176)	Same as above.	Flammable
PP	Polypropylene	90 (194)	Same as above.	Flammable, avoid battery acid.
UP	Polyester thermoset	90 (194)	Same as above.	Flammable
PS	Polystyrene	80 (176)	Avoid solvents.	Flammable
ABS	Acrylonitrile Butadiene Styrene resin	80 (176)	Avoid gasoline and solvents.	
AES	Acrylonitrile Ethylene Styrene	80 (176)	Same as above.	
PMMA	Polymethyl Methacrylate	85 (185)	Same as above.	
AAS	Acrylonitrile Acrylic Styrene	85 (185)	Same as above.	
AS	Acrylonitrile Styrene	85 (185)	Same as above.	
EVA	Polyvinyl Ethyl Acetate	90 (194)	Same as above.	
ASA	Acrylonitrile Styrene Acrylate	100 (222)	Same as above.	Flammable
PPO/PPE	Polyphenylene Oxide/ Polyphenylene Ether	110 (230)	Same as above.	
PC	Polycarbonate	120 (248)	Same as above.	
PAR	Polyacrylate	180 (356)	Same as above.	
L-LDPE	Linear 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.

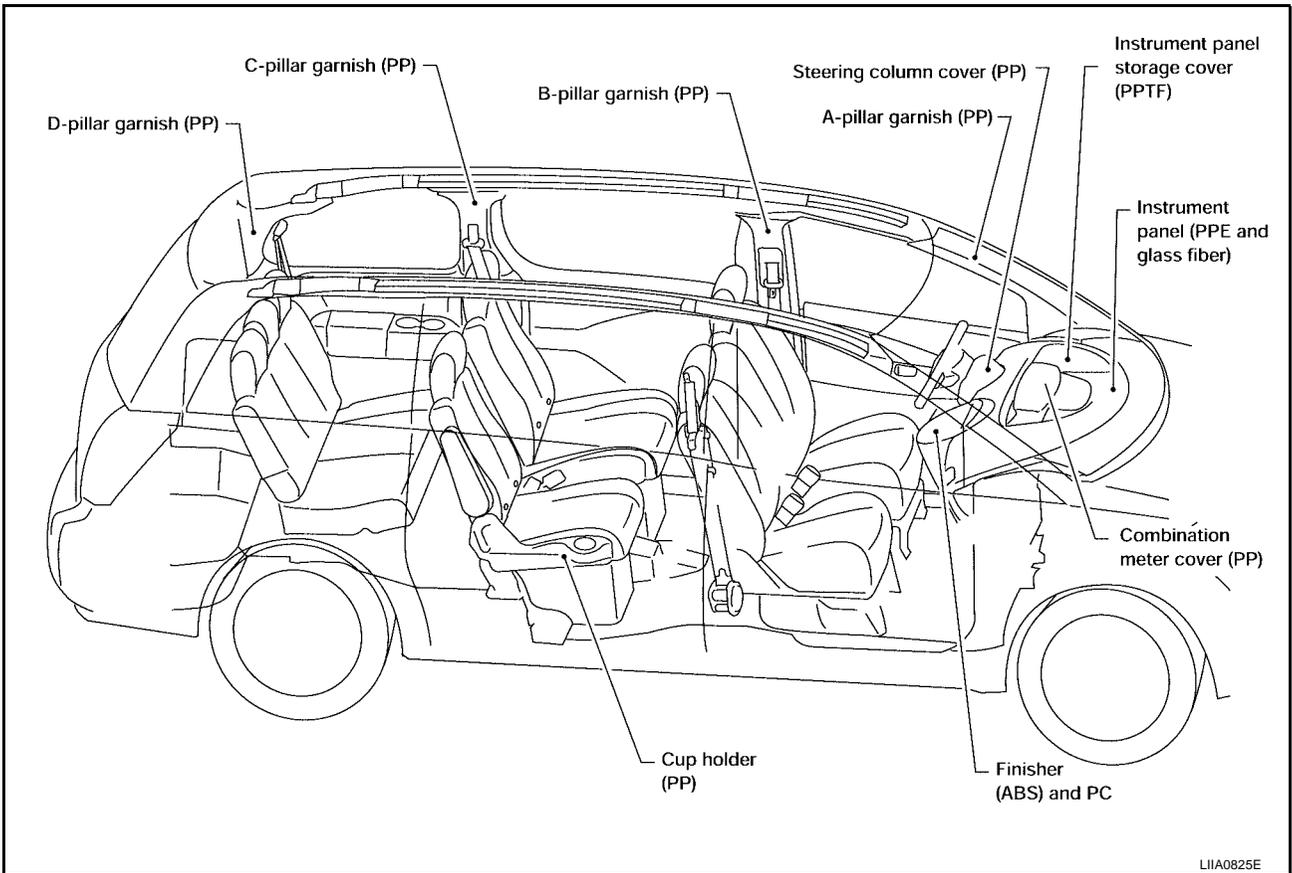
BODY REPAIR

LOCATION OF PLASTIC PARTS



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BODY REPAIR



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BODY REPAIR

EIS001SC

Precautions in Repairing High Strength Steel

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	<ul style="list-style-type: none"> ● Front side member assembly ● Upper hoodledge ● Upper pillar hinge brace assembly ● Rear side member extension ● Other reinforcements
785-981 N/mm ² (80-100kg/mm ² 114-142klb/sq in)	SP150	<ul style="list-style-type: none"> ● Front bumper reinforcement ● Rear bumper reinforcement

SP130 is the most commonly used HSS.

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

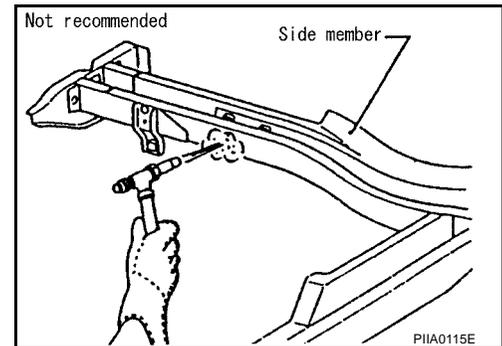
Read the following precautions when repairing HSS:

1. Additional points to consider

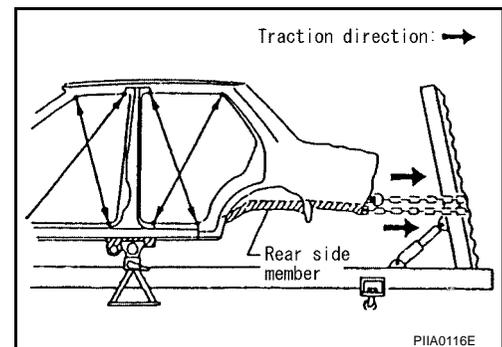
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).

Verify heating temperature with a thermometer.

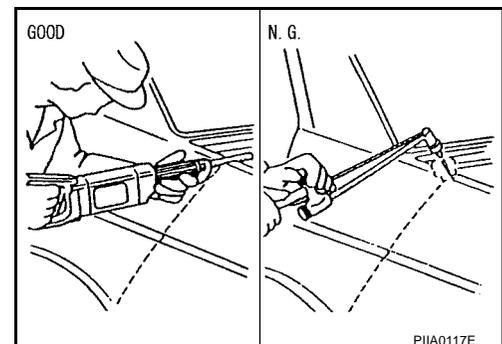
(Crayon-type and other similar type thermometer are appropriate.)



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

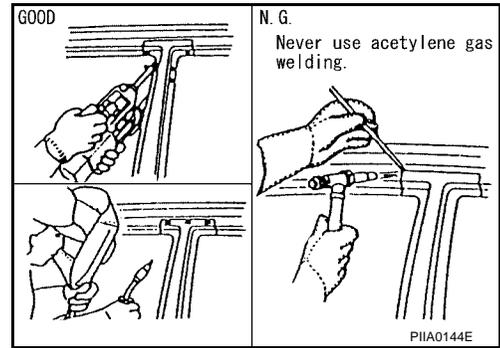


- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).

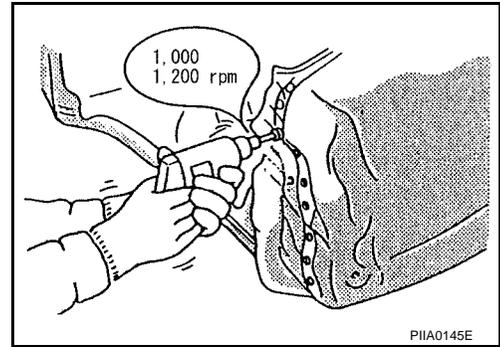


BODY REPAIR

- 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.



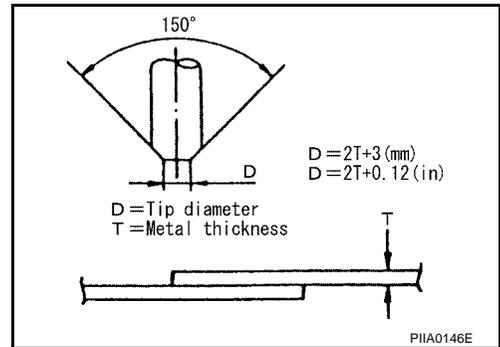
- The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.
- SP150 HSS panels with a tensile strength of 785 to 981 N/mm² (80 to 100 kg/mm², 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.



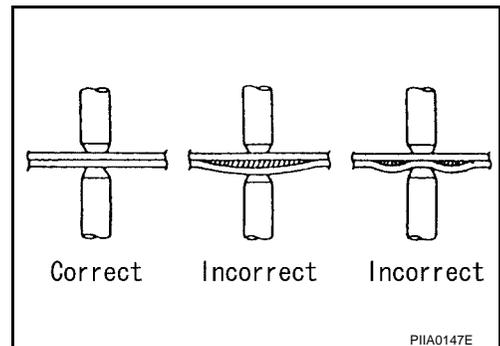
2. Precautions in spot welding HSS

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.

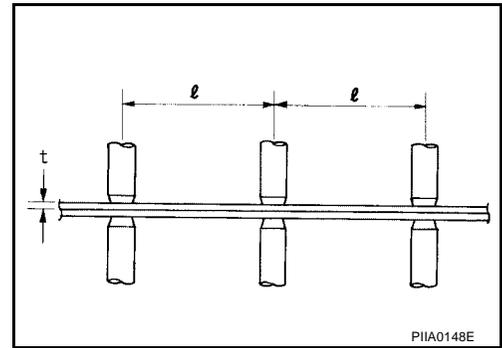


BODY REPAIR

- Follow the specifications for the proper welding pitch.

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

Unit:mm



EIS005BD

Foam Repair

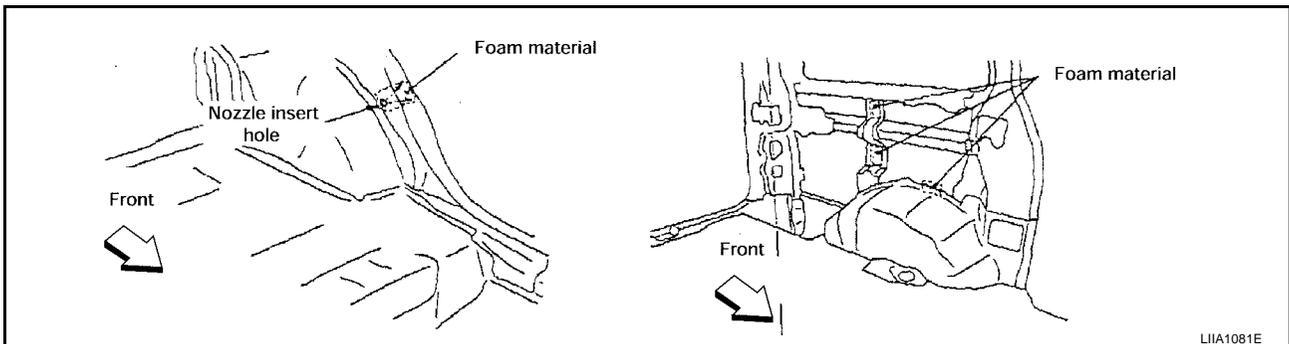
During factory body assembly, foam insulators are installed in certain body panels and locations around the vehicle. Use the following procedure(s) to replace any factory-installed foam insulators.

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.

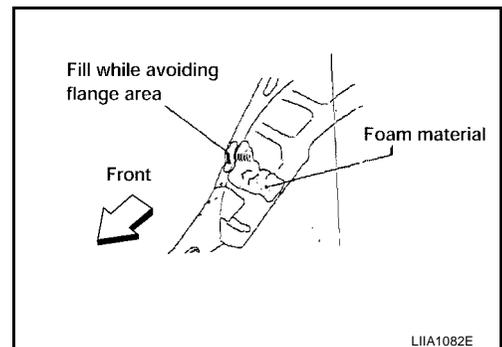
NOTE:

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.



BODY REPAIR

Replacement Operations

EIS001SD

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.

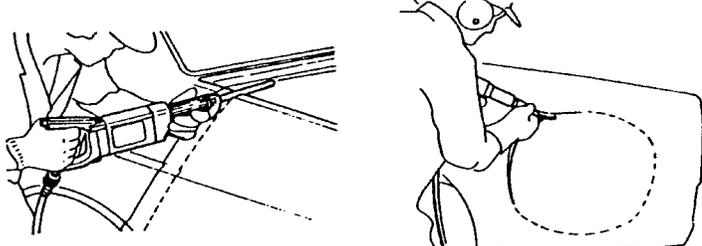
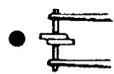
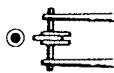
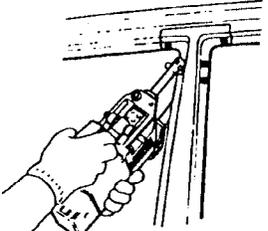
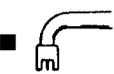
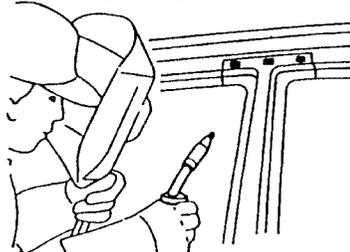
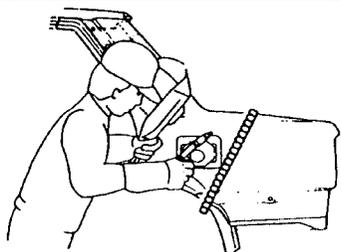
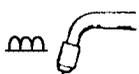
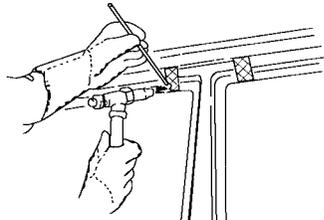
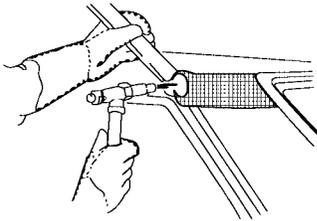
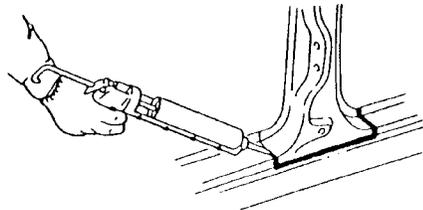
Please note that this information is prepared for worldwide usage, and as such, certain procedures may not apply in some regions or countries.

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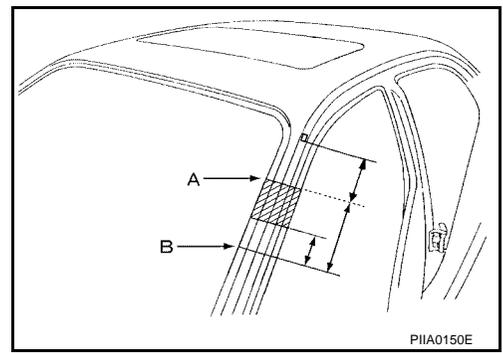
BODY REPAIR

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

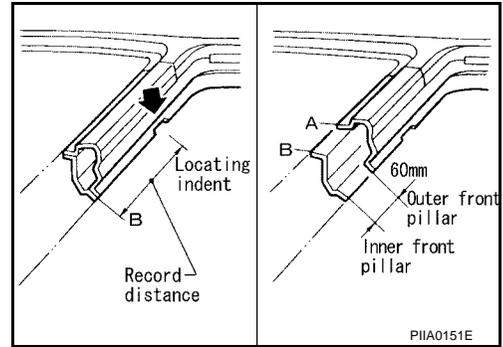
 <p>Saw cut or air chisel cut</p>		
<p>Spot weld</p> <p>●●●●● 2-spot welds</p> <p>●●●●● 3-spot welds</p>  	<p>2-spot welds (2-panel overlapping portions)</p>  <p>3-spot welds (3-panel overlapping portions)</p>	
<p>■ ■ ■ ■</p> <p>MIG plug weld</p> 		
<p>~~~~~</p> <p>MIG seam weld/ Point weld</p> 		
<p>▨ ▨ ▨ ▨</p> <p>Brazing</p> 		
<p>▨ ▨ ▨ ▨</p> <p>Soldering</p> 		
<p>—————</p> <p>Sealing</p>		

BODY REPAIR

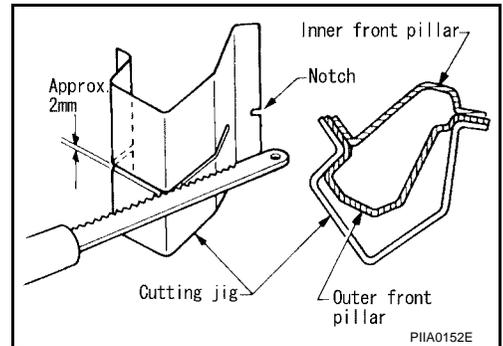
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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.

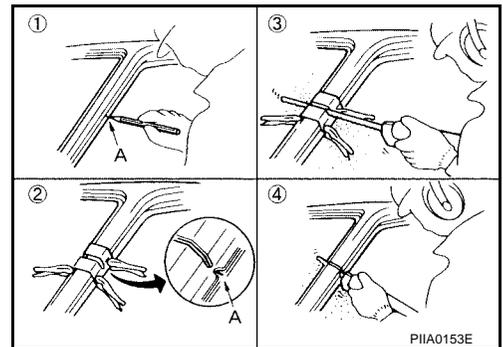


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



- 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.

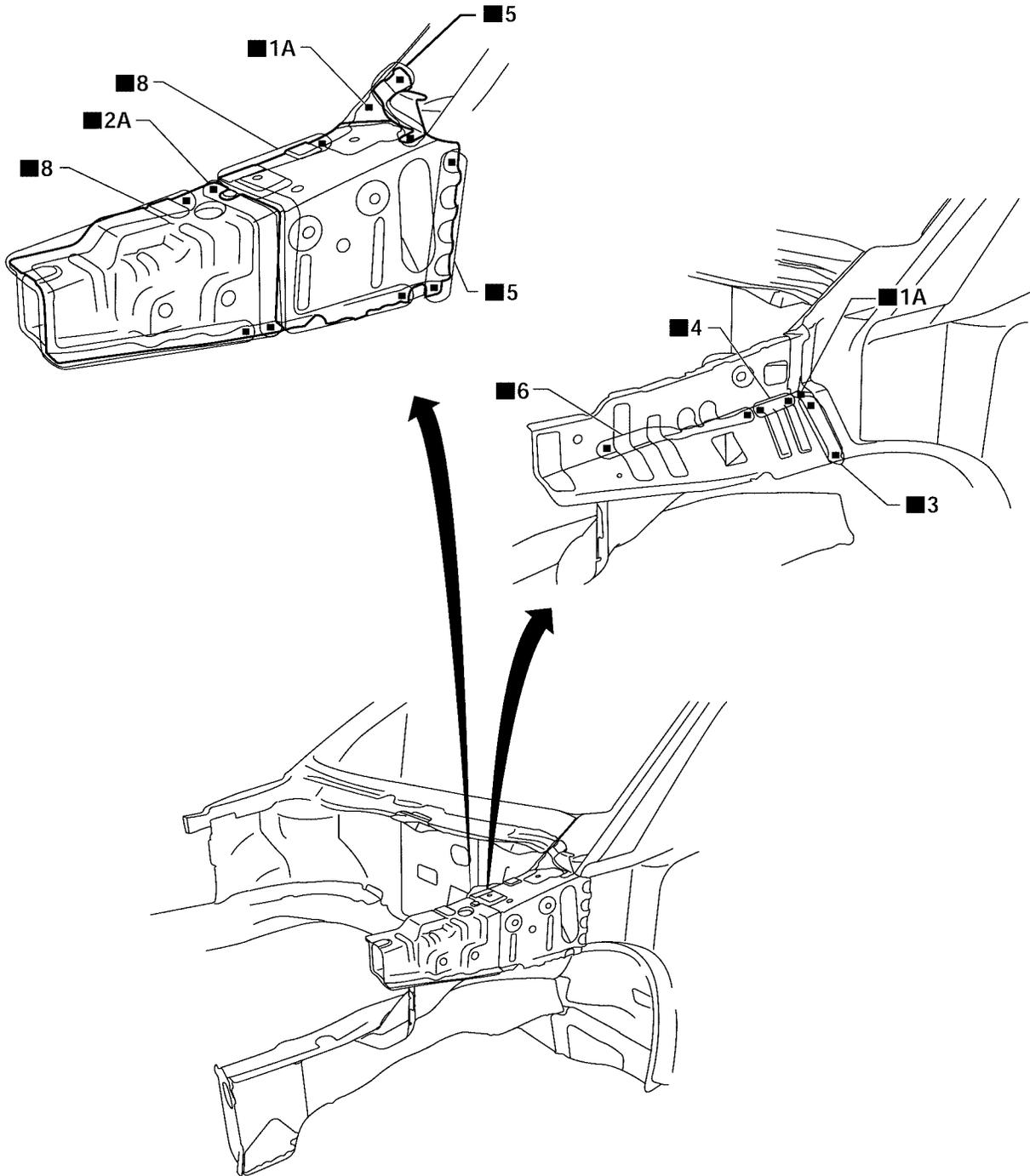


BODY REPAIR

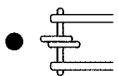
HOODLEDGE

- Work after radiator core support has been removed.

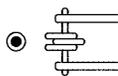
Service Joint



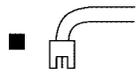
2-spot welds



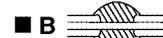
3-spot welds



MIG Plug weld



(For 3 panels plug weld method)



MIG seam weld/
Point weld



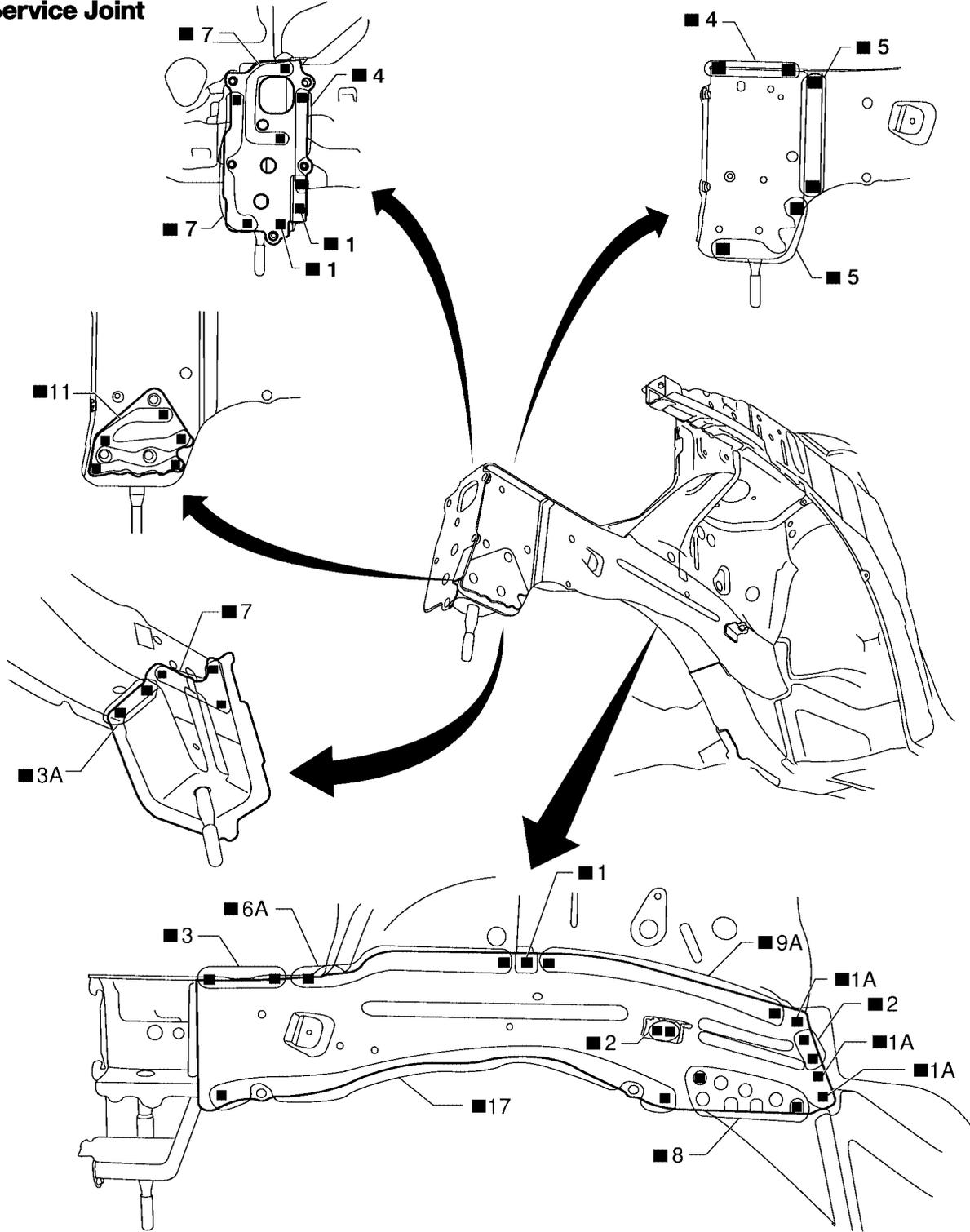
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BODY REPAIR

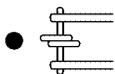
FRONT SIDE MEMBER

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

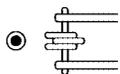
Service Joint



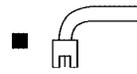
2-spot welds



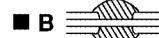
3-spot welds



MIG Plug weld



(For 3 panels plug weld method)



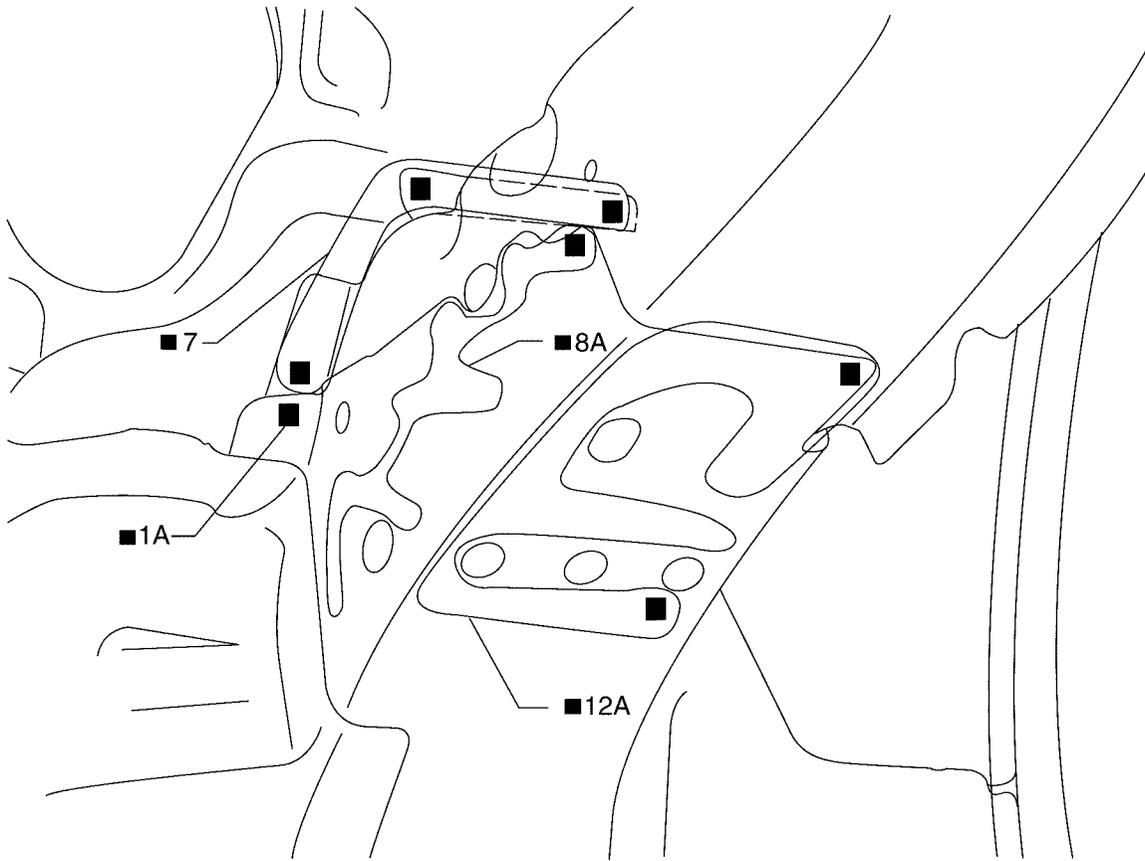
MIG seam weld/
Point weld



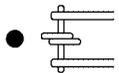
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BODY REPAIR

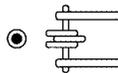
Service Joint



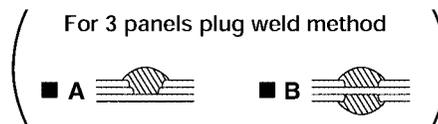
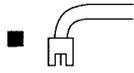
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



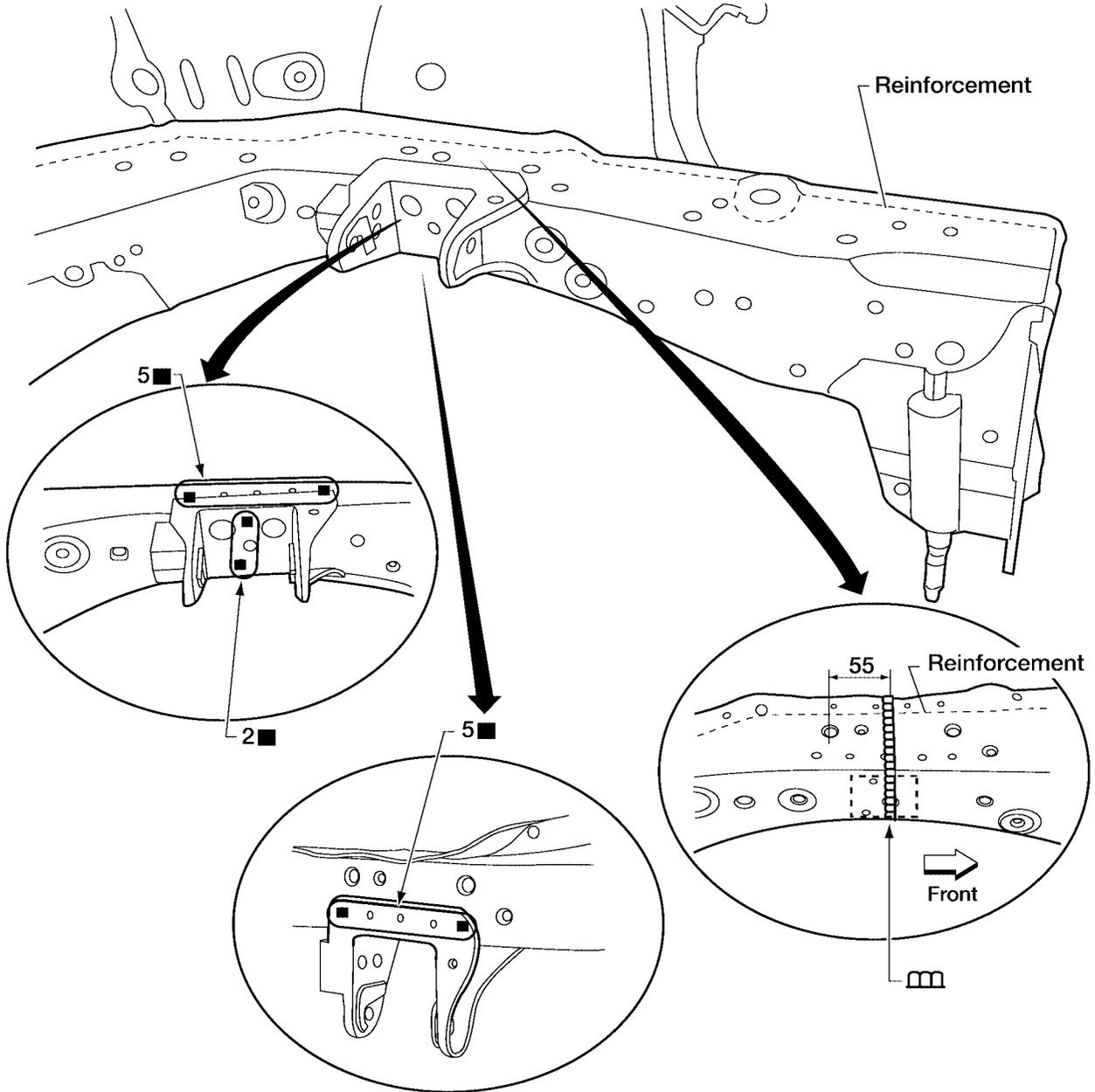
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BODY REPAIR

FRONT SIDE MEMBER (PARTIAL REPLACEMENT)

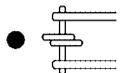
- Work after radiator core support has been removed.

Service Joint

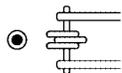


Unit : mm

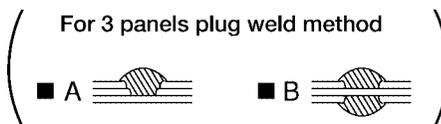
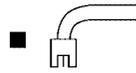
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



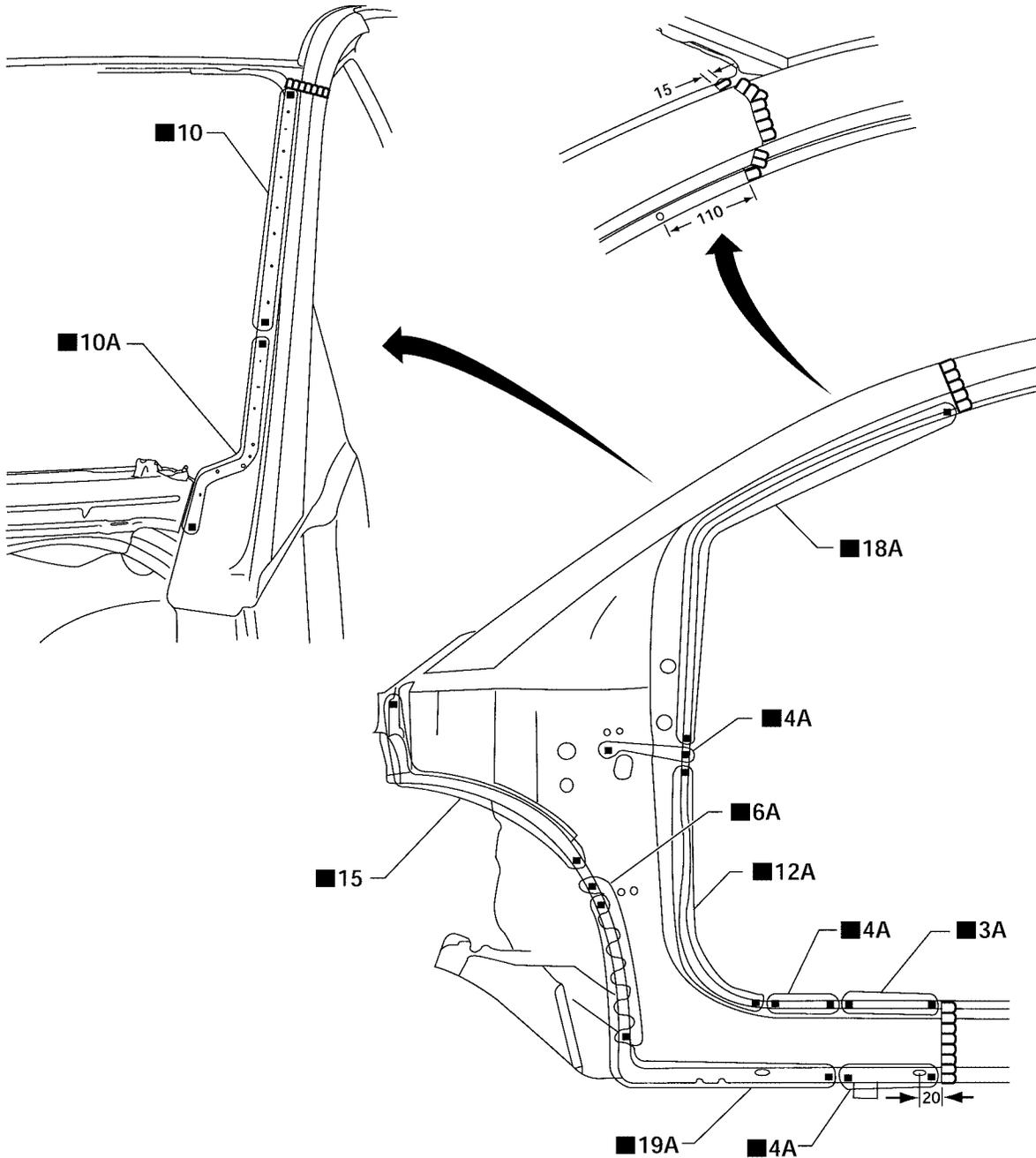
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BODY REPAIR

FRONT PILLAR

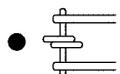
- Work after rear hoodedge reinforcement has been removed.

Service Joint



Unit: mm

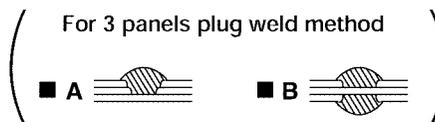
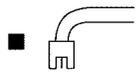
2-spot welds



3-spot welds



MIG Plug weld



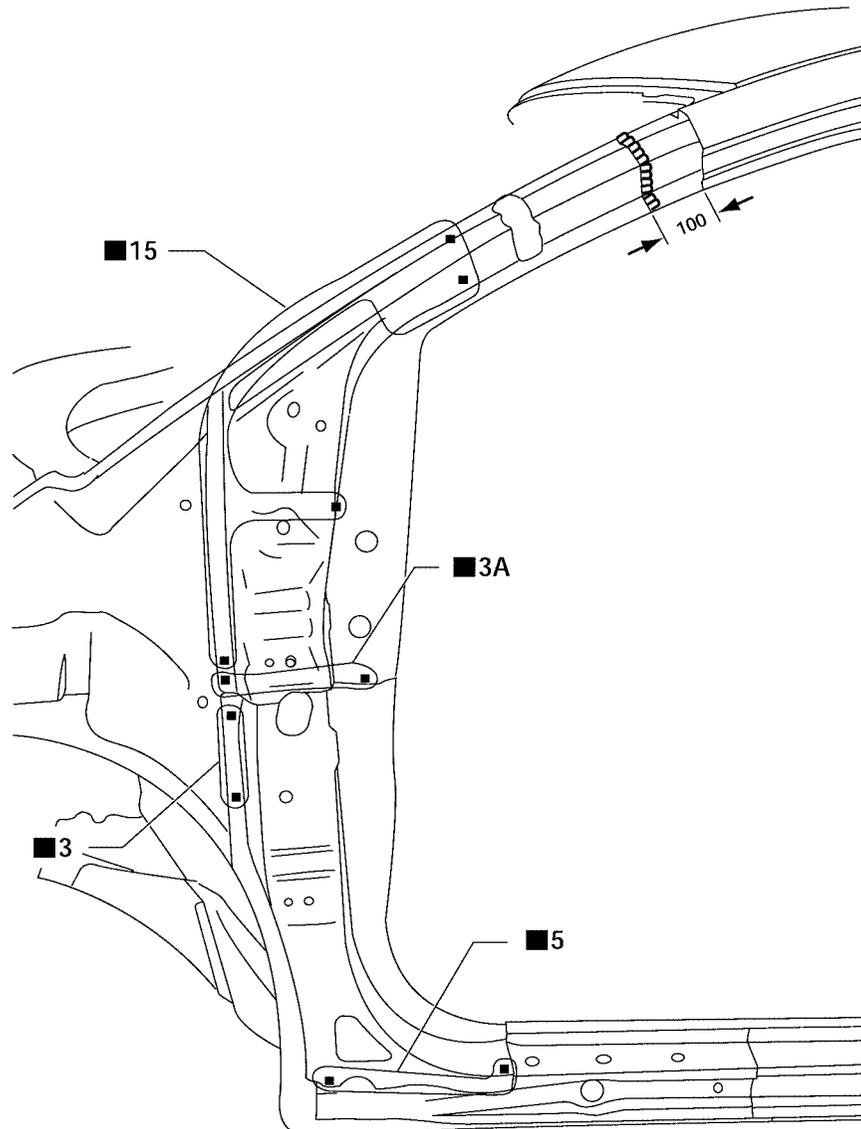
MIG seam weld/
Point weld



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BODY REPAIR

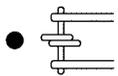
Service Joint



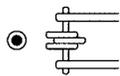
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Unit: mm

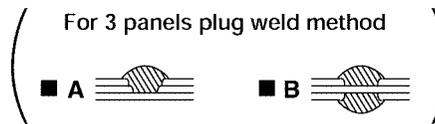
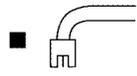
2-spot welds



3-spot welds



MIG Plug weld



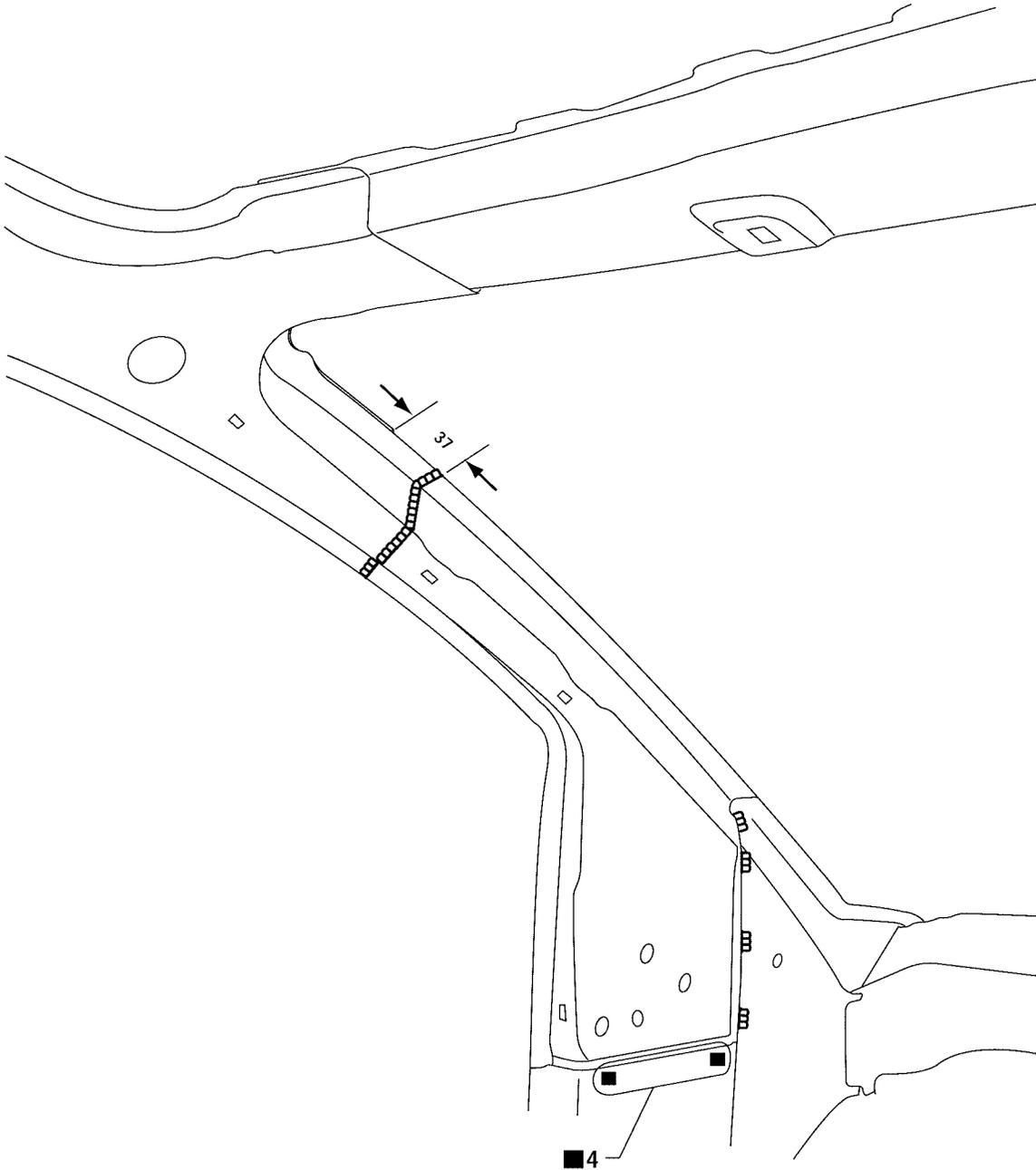
MIG seam weld/
Point weld



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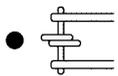
BODY REPAIR

Service Joint

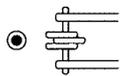


Unit: mm

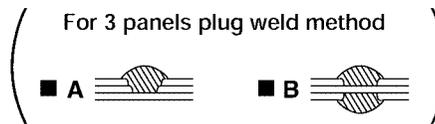
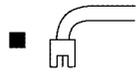
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld

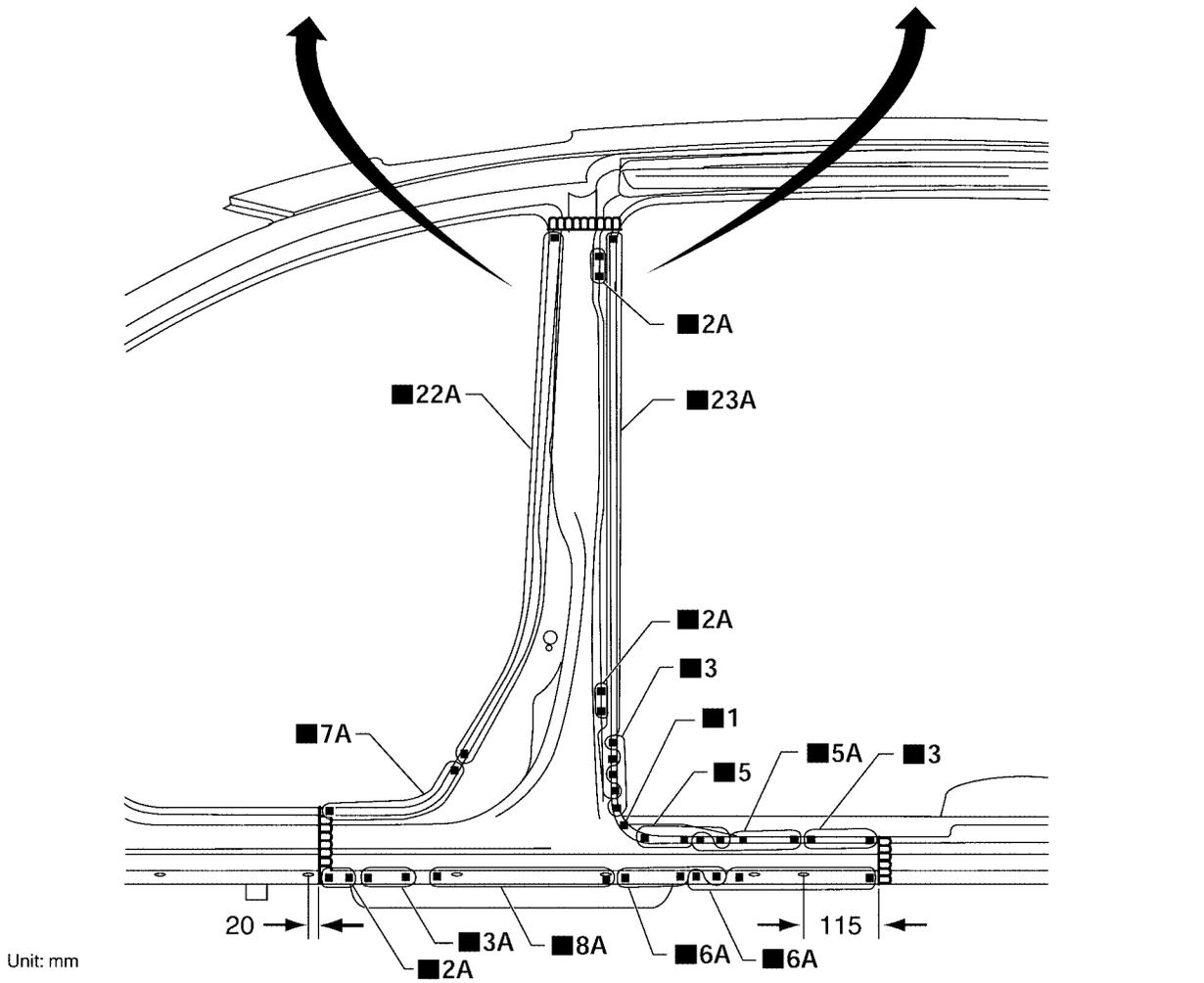
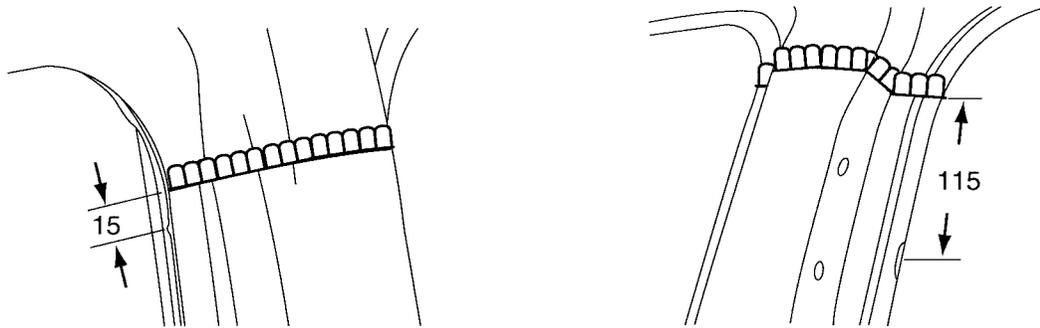


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BODY REPAIR

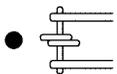
CENTER PILLAR

Service Joint

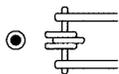


Unit: mm

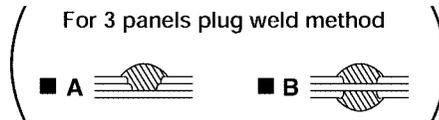
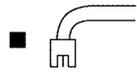
2-spot welds



3-spot welds



MIG Plug weld



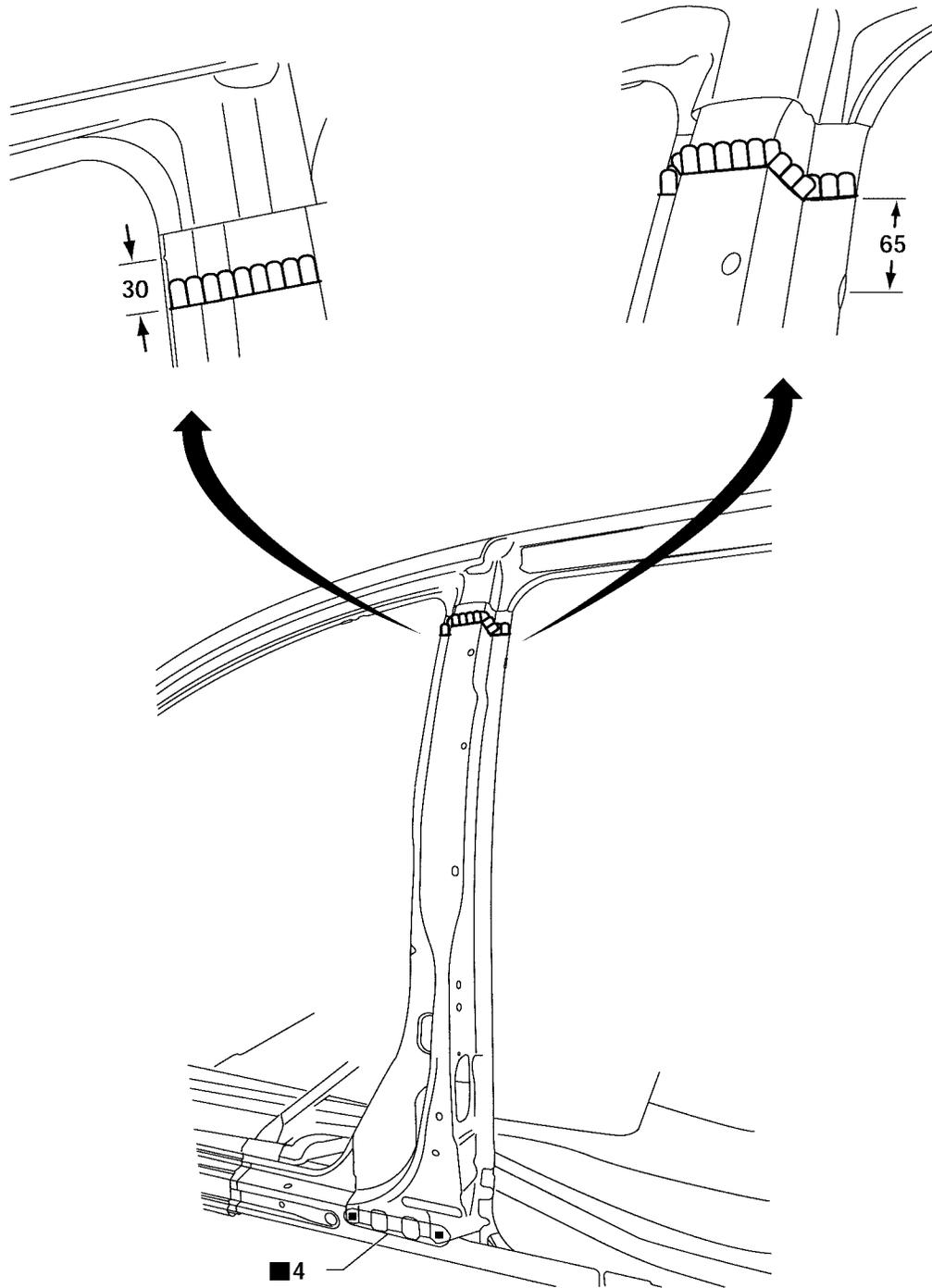
MIG seam weld/
Point weld



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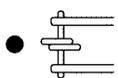
BODY REPAIR

Service Joint

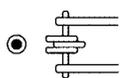


Unit: mm

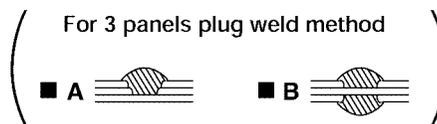
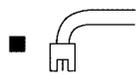
2-spot welds



3-spot welds



MIG Plug weld



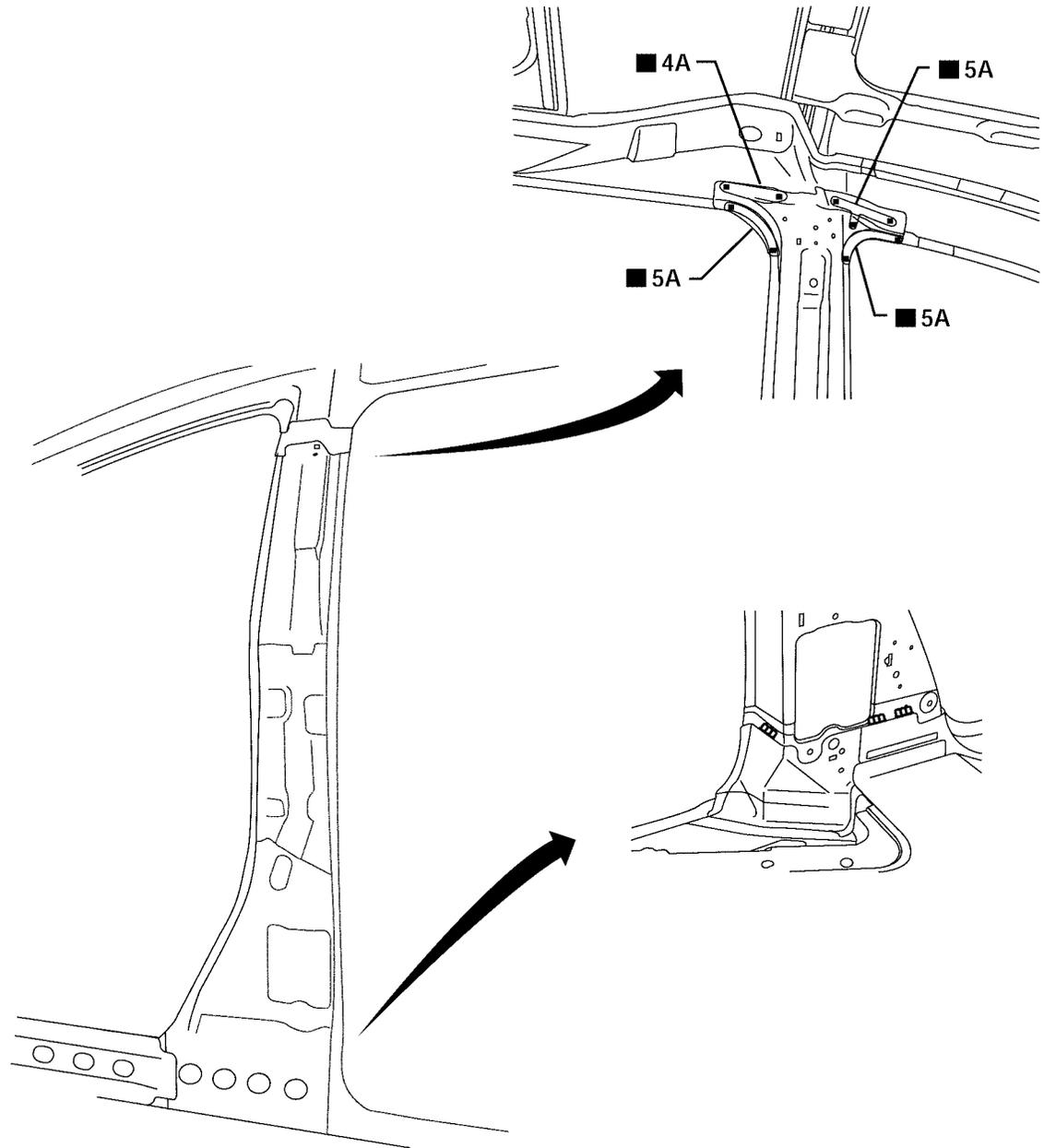
MIG seam weld/
Point weld



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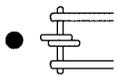
BODY REPAIR

Service Joint

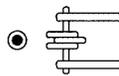


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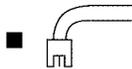
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/
Point weld

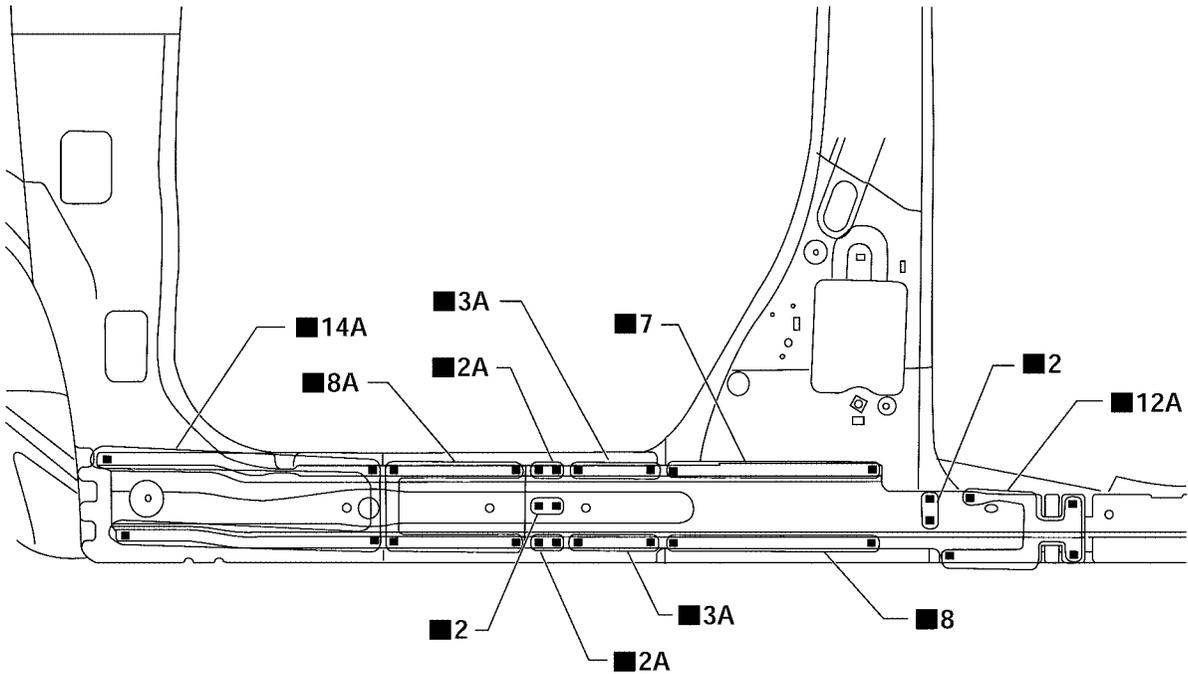


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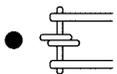
BODY REPAIR

OUTER SILL

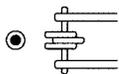
Service Joint



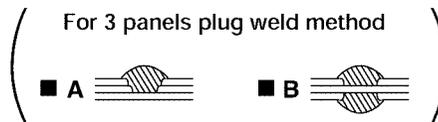
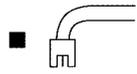
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld

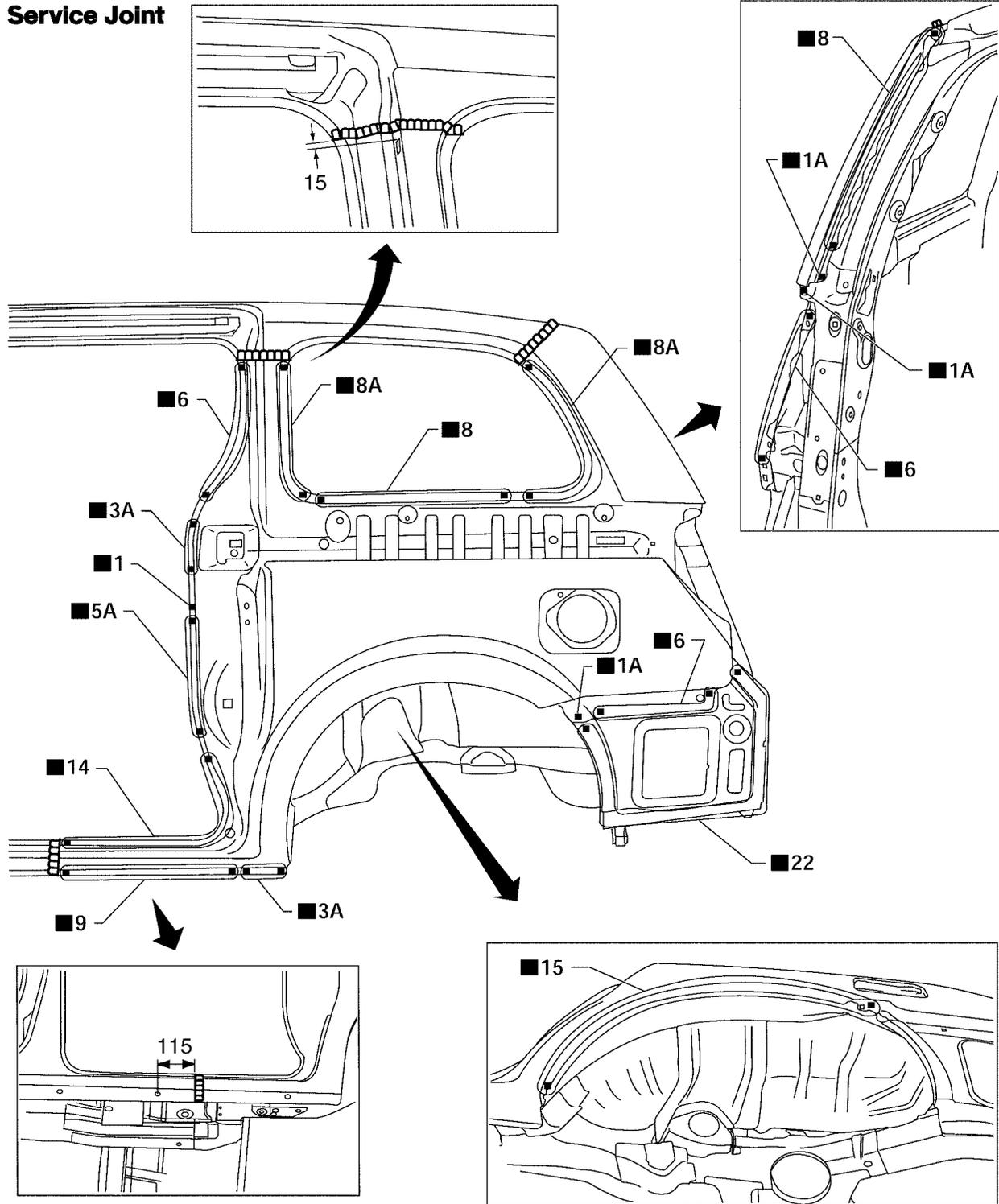


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BODY REPAIR

REAR FENDER

Service Joint



Unit: mm

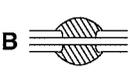
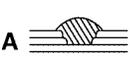
2-spot welds

3-spot welds

MIG Plug weld

(For 3 panels plug weld method)

MIG seam weld/
Point weld

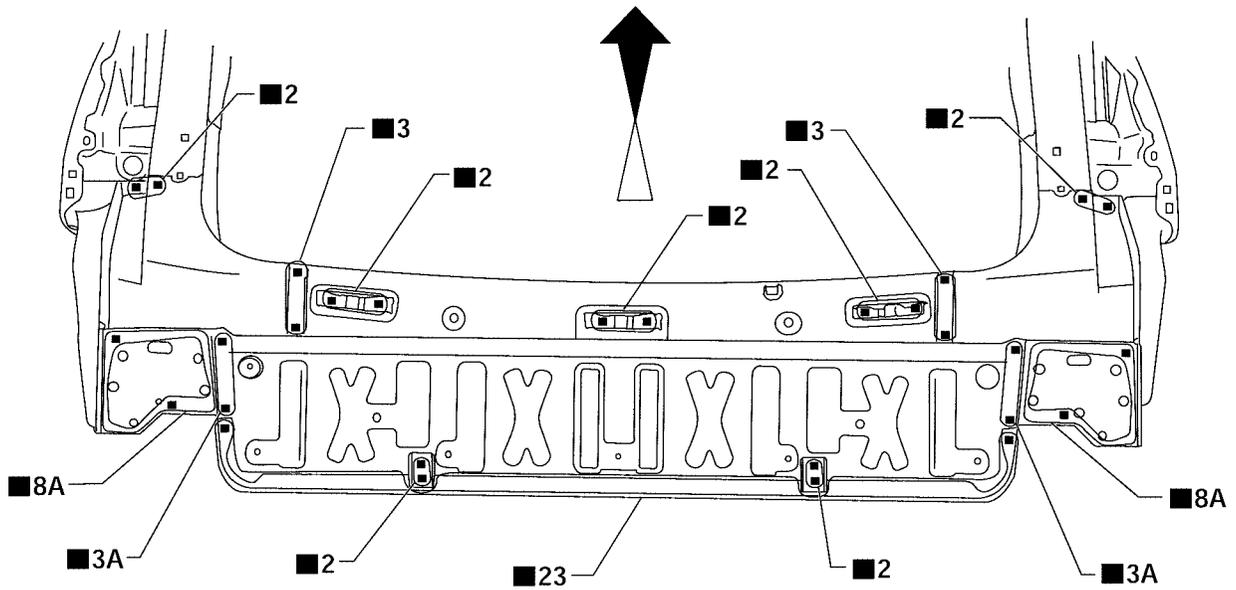
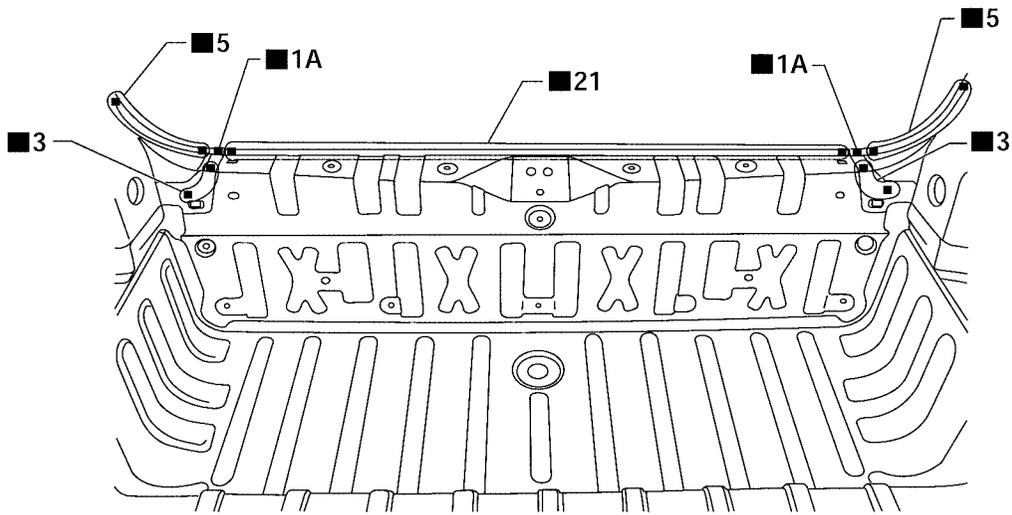


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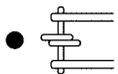
BODY REPAIR

REAR PANEL

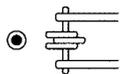
Service Joint



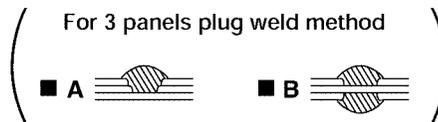
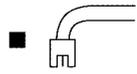
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



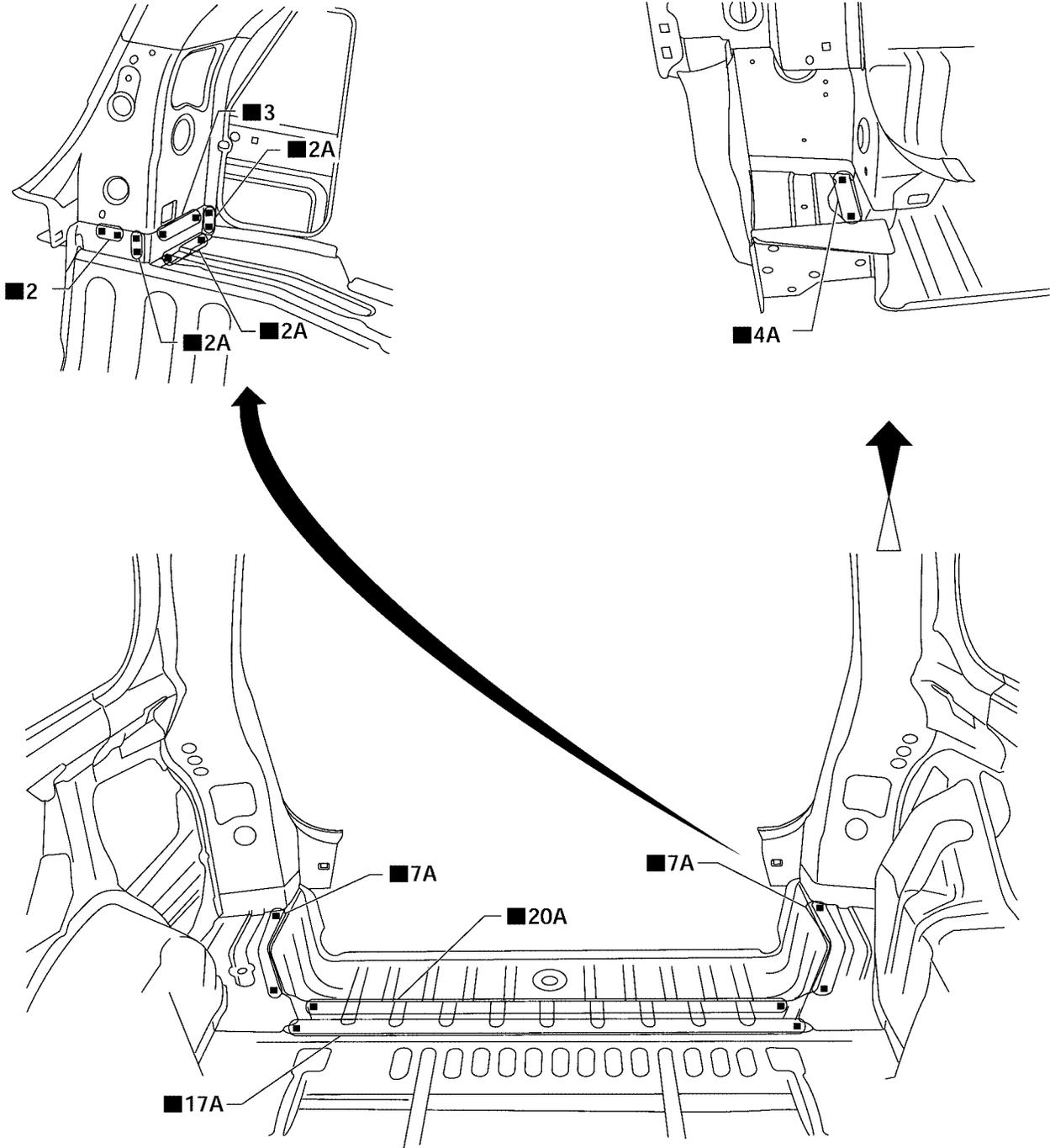
LIA0877E

BODY REPAIR

REAR FLOOR REAR

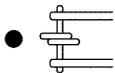
- Work after rear panel has been removed.

Service Joint

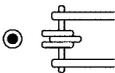


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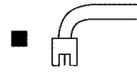
2-spot welds



3-spot welds



MIG Plug weld



(For 3 panels plug weld method)



MIG seam weld/
Point weld



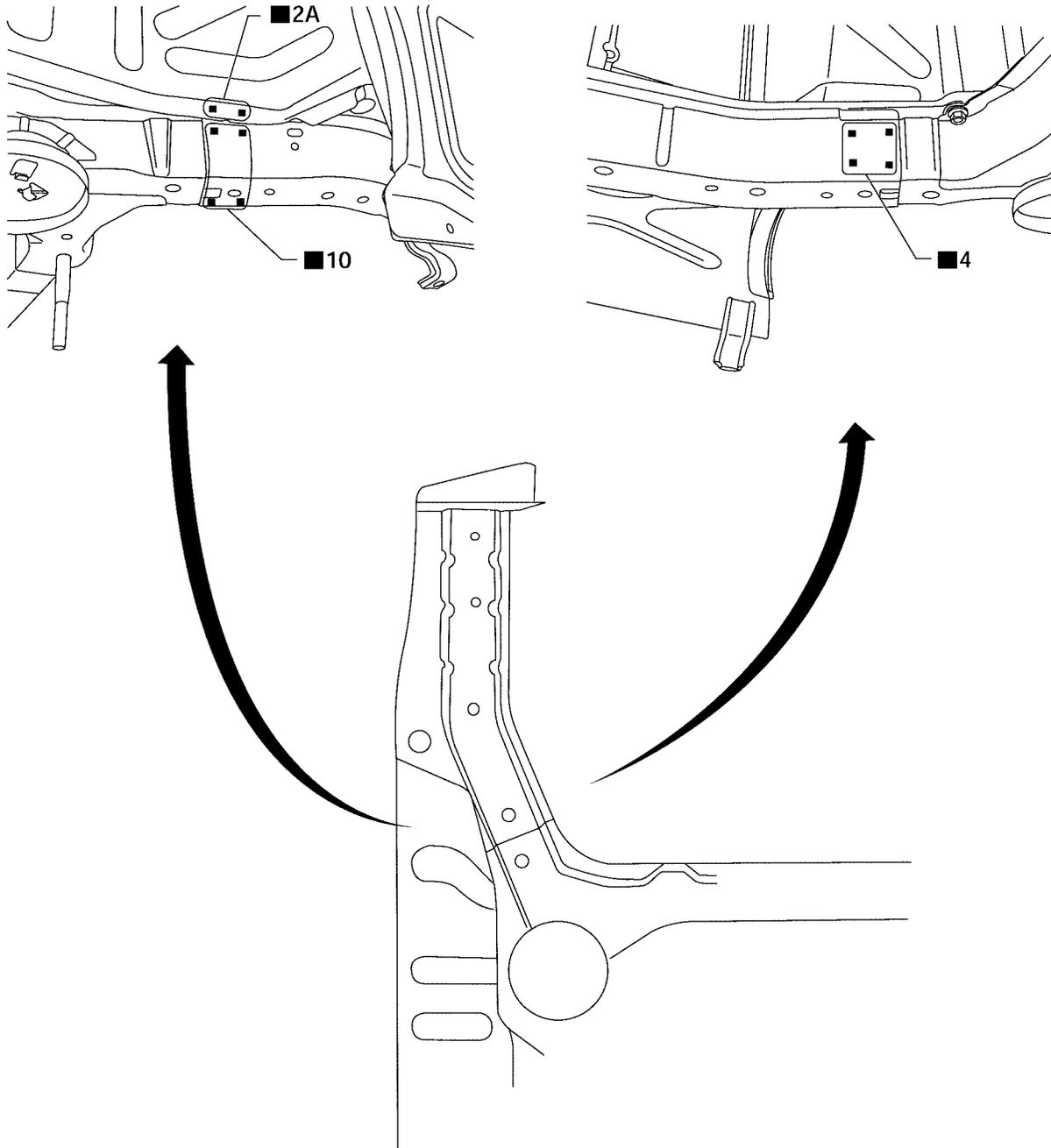
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BODY REPAIR

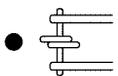
REAR SIDE MEMBER EXTENSION

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

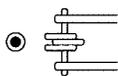
Service Joint



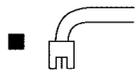
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/
Point weld



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