

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

# SECTION **BL**

## BODY, LOCK & SECURITY SYSTEM

### CONTENTS

<p><b>PRECAUTIONS</b> ..... 5</p> <p>    Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" ..... 5</p> <p>    Precautions Necessary for Steering Wheel Rotation After Battery Disconnect ..... 5</p> <p>    OPERATION PROCEDURE ..... 5</p> <p>    Precautions for Work ..... 5</p> <p>    Wiring Diagnosis and Trouble Diagnosis ..... 6</p> <p><b>PREPARATION</b> ..... 7</p> <p>    Special Service Tools ..... 7</p> <p>    Commercial Service Tools ..... 7</p> <p><b>SQUEAK AND RATTLE TROUBLE DIAGNOSIS</b> ..... 8</p> <p>    Work Flow ..... 8</p> <p>        CUSTOMER INTERVIEW ..... 8</p> <p>        DUPLICATE THE NOISE AND TEST DRIVE ..... 9</p> <p>        CHECK RELATED SERVICE BULLETINS ..... 9</p> <p>        LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE ..... 9</p> <p>        REPAIR THE CAUSE ..... 9</p> <p>        CONFIRM THE REPAIR ..... 10</p> <p>    Generic Squeak and Rattle Troubleshooting ..... 10</p> <p>        INSTRUMENT PANEL ..... 10</p> <p>        CENTER CONSOLE ..... 10</p> <p>        DOORS ..... 10</p> <p>        TRUNK ..... 11</p> <p>        SUNROOF/HEADLINING ..... 11</p> <p>        SEATS ..... 11</p> <p>        UNDERHOOD ..... 11</p> <p>    Diagnostic Worksheet ..... 12</p> <p><b>HOOD</b> ..... 14</p> <p>    Fitting Adjustment ..... 14</p> <p>        LONGITUDINAL AND LATERAL CLEARANCE ADJUSTMENT ..... 14</p> <p>        FRONT END HEIGHT ADJUSTMENT ..... 14</p> <p>        SURFACE HEIGHT ADJUSTMENT ..... 14</p> <p>    Removal and Installation of Hood Assembly ..... 15</p> <p>        REMOVAL ..... 16</p> <p>        INSTALLATION ..... 16</p> <p>    Removal and Installation of Hood Lock Control .... 16</p>	<p>        REMOVAL ..... 16</p> <p>        INSTALLATION ..... 17</p> <p>        Hood Lock Control Inspection ..... 17</p> <p><b>RADIATOR CORE SUPPORT</b> ..... 19</p> <p>    Removal and Installation ..... 19</p> <p>        REMOVAL ..... 19</p> <p>        INSTALLATION ..... 20</p> <p><b>FRONT FENDER</b> ..... 21</p> <p>    Removal and Installation ..... 21</p> <p>        REMOVAL ..... 21</p> <p>        INSTALLATION ..... 21</p> <p><b>POWER DOOR LOCK SYSTEM</b> ..... 22</p> <p>    Component Parts and Harness Connector Location.. 22</p> <p>    Component Parts and Harness Connector Location.. 23</p> <p>    System Description ..... 23</p> <p>        OUTLINE ..... 24</p> <p>    CAN Communication System Description ..... 25</p> <p>    CAN Communication Unit ..... 25</p> <p>    Schematic (With Intelligent Key) ..... 26</p> <p>    Wiring Diagram -D/LOCK- (With Intelligent Key) ... 27</p> <p>        FIG. 1 ..... 27</p> <p>        FIG. 2 ..... 28</p> <p>        FIG. 3 ..... 29</p> <p>        FIG. 4 ..... 30</p> <p>        FIG. 5 ..... 31</p> <p>    Schematic (Without Intelligent Key) ..... 32</p> <p>    Wiring Diagram -D/LOCK- (Without Intelligent Key).. 33</p> <p>        FIG. 6 ..... 33</p> <p>        FIG. 7 ..... 34</p> <p>        FIG. 8 ..... 35</p> <p>        FIG. 9 ..... 36</p> <p>    Terminals and Reference Value for BCM ..... 37</p> <p>    Terminals and Reference Value for Intelligent Key Unit (With Intelligent Key System) ..... 37</p> <p>    Work Flow ..... 37</p> <p>    Preliminary Check ..... 38</p> <p>        FUSE AND FUSIBLE LINK CHECK ..... 38</p> <p>    CONSULT-II Function ..... 39</p> <p>        CONSULT-II INSPECTION PROCEDURE ..... 39</p> <p>        CONSULT-II APPLICATION ITEMS ..... 40</p>
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Trouble Diagnosis Chart by Symptom .....	41	STEERING LOCK UNIT REGISTRATION .....	92
Check Door Switch .....	42	CAN Communication System Description .....	93
CHECKDOOR SWITCH(EXCEPTBACKDOOR SWITCH) .....	42	CAN Communication Unit .....	93
CHECK BACK DOOR SWITCH .....	44	Schematic .....	94
Check Key Switch .....	46	Wiring Diagram — I/KEY— .....	96
Check Door Lock and Unlock Switch .....	48	Terminals and Reference Value for INTELLIGENT KEY UNIT .....	109
Check Door Lock Actuator (Driver side) .....	50	Terminals and Reference Value for Steering Lock unit .....	111
Check Door Lock Actuator (Passenger Side and Rear LH/RH) .....	51	Terminals and Reference Value for BCM .....	111
Check Fuel Lid Opener Actuator .....	52	Terminals and Reference Value for IPDM E/R .....	112
Check Front Door Key Cylinder Switch (Lock) .....	53	Diagnosis Procedure .....	113
Check Front Door Key Cylinder Switch (Unlock) ...	54	WORK FLOW .....	113
Check Select Unlock Relay Circuit .....	55	CONSULT-II Functions .....	114
<b>REMOTE KEYLESS ENTRY SYSTEM .....</b>	<b>56</b>	CONSULT-II Inspection Procedure .....	114
Component Parts and Harness Connector Location..	56	BASIC OPERATION .....	114
System Description .....	57	CONSULT-II Application Items .....	115
INPUTS .....	57	WORK SUPPORT .....	115
OPERATED PROCEDURE .....	58	SELF-DIAGNOSTIC RESULTS .....	115
CAN Communication System Description .....	59	DATA MONITOR .....	115
CAN Communication Unit .....	59	ACTIVE TEST .....	116
Schematic .....	60	List of Operation Related Parts .....	117
Wiring Diagram — KEYLES— .....	61	Trouble Diagnosis Symptom Chart .....	118
FIG. 1 .....	61	ALL FUNCTIONS OF THE INTELLIGENT KEY ARE NOT OPERATING .....	118
FIG. 2 .....	62	REMOTE CONTROL ENTRY FUNCTION MALFUNCTION .....	118
FIG. 3 .....	63	DOOR LOCK FUNCTION MALFUNCTION .....	119
Terminals and Reference Value for BCM .....	64	ENGINE START FUNCTION MALFUNCTION .....	120
Terminals and Reference Value for IPDM E/R .....	65	WARNING CHIME FUNCTION MALFUNCTION .....	120
CONSULT-II Function .....	65	Check CAN Communication System Inspection ..	123
CONSULT-II INSPECTION PROCEDURE .....	65	Check Intelligent Key Unit Power Supply and Ground Circuit .....	124
CONSULT-II APPLICATION ITEMS .....	66	Check Key Switch (Intelligent Key Unit Input) .....	124
Work Flow .....	68	Check Key Switch (BCM Input) .....	126
Trouble Diagnosis Chart by Symptom .....	69	Check Ignition Knob Switch .....	127
Check Key Fob Battery and Function .....	71	Check Door Switch .....	128
Check ACC Switch .....	72	CHECKDOOR SWITCH(EXCEPTBACKDOOR SWITCH) .....	128
Check Door Switch .....	73	CHECK BACK DOOR SWITCH .....	129
CHECKDOOR SWITCH(EXCEPTBACKDOOR SWITCH) .....	73	Check Unlock Sensor .....	131
CHECK BACK DOOR SWITCH .....	75	Check Door Request Switch .....	132
Check Key Switch .....	77	Check Intelligent Key Warning Buzzer .....	134
Check IPDM E/R Operation .....	78	Check Outside Key Antenna .....	135
Check Hazard Function .....	79	Check Inside Key Antenna .....	138
Check Horn Function .....	79	Check Steering Lock Unit .....	139
Check Headlamp Function .....	79	Check Stop Lamp Switch .....	141
Check Map Lamp and Ignition Keyhole Illumination Function .....	79	Check Detention Switch .....	142
ID Code Entry Procedure .....	80	Check Select Unlock Relay .....	144
KEY FOB ID SET UP WITH CONSULT-II .....	80	Check Hazard Function .....	145
KEY FOB ID SET UP WITHOUT CONSULT-II ...	82	Check Horn Function .....	145
Key Fob Battery Replacement .....	83	Check Headlamp Function .....	145
<b>INTELLIGENT KEY SYSTEM .....</b>	<b>84</b>	Check IPDM E/R Operation .....	145
Component Parts and Harness Connector Location..	84	Removal and Installation of Intelligent Key Unit ...	146
System Description .....	86	REMOVAL .....	146
DOOR LOCK FUNCTION .....	86	INSTALLATION .....	146
REMOTE CONTROL ENTRY FUNCTIONS .....	87	Intelligent Key Inspection .....	147
ENGINE STARTUP FUNCTION .....	88	INTELLIGENT KEY DISASSEMBLY AND	
WARNING AND ALARM FUNCTION .....	89		
CHANGE SETTINGS FUNCTION .....	92		
INTELLIGENT KEY REGISTRATION .....	92		

ASSEMBLY .....	147	<b>BACK DOOR AUTO CLOSURE SYSTEM .....</b>	<b>165</b>	
REMOTE CONTROLLER BATTERY INSPECTION .....	147	Component Parts and Harness Connector Location .....	165	A
<b>DOOR .....</b>	<b>148</b>	System Description .....	165	
Fitting Adjustment .....	148	CLOSE OPERATION .....	165	B
FRONT DOOR .....	148	NON-OPERATION CONDITION .....	165	
REAR DOOR .....	148	OPEN OPERATION .....	166	
STRIKER ADJUSTMENT .....	149	Wiring Diagram — B/CLOS — .....	167	
Removal and Installation of Front Door .....	149	Terminals and Reference Value for Back Door Closure Control Unit .....	169	C
REMOVAL .....	149	Work Flow .....	170	
INSTALLATION .....	150	Preliminary Check .....	170	
Removal and Installation of Rear Door .....	150	Trouble Diagnosis Chart by Symptom .....	170	D
REMOVAL .....	150	Back Door Closure Control Unit Power Supply and Ground Circuit Check .....	171	
INSTALLATION .....	151	Half-Latch Switch Check .....	171	E
Removal and Installation of Door Weathers trip ..	151	Close Switch Check .....	173	
REMOVAL .....	151	Open Switch Check .....	174	
INSTALLATION .....	151	Back Door Opener Switch Check (With Intelligent Key) .....	175	F
<b>FRONT DOOR LOCK .....</b>	<b>152</b>	Back Door Opener Switch Check (Without Intelligent Key) .....	177	
Removal and Installation .....	152	Unlock Sensor Check (Without Intelligent Key) ...	179	G
REMOVAL .....	152	Closure Motor Check .....	180	
INSTALLATION .....	154	Removal and Installation of Back Door Closer Control Unit .....	180	H
Disassembly and Assembly .....	155	<b>VEHICLE SECURITY (THEFT WARNING) SYSTEM 181</b>		
DOOR KEY CYLINDER ASSEMBLY .....	155	Component Parts and Harness Connector Location .....	181	
<b>REAR DOOR LOCK .....</b>	<b>156</b>	System Description .....	182	BL
Removal and Installation .....	156	DESCRIPTION .....	182	
REMOVAL .....	156	POWER SUPPLY .....	183	
INSTALLATION .....	158	INITIAL CONDITION TO ACTIVATE THE SYSTEM .....	183	J
<b>BACK DOOR .....</b>	<b>159</b>	VEHICLE SECURITY SYSTEM ALARM OPERATION .....	184	
Fitting Adjustment .....	159	VEHICLE SECURITY SYSTEM DEACTIVATION .....	184	K
VERTICAL/LATERAL CLEARANCE ADJUSTMENT .....	159	PANIC ALARM OPERATION .....	184	
Back Door Assembly .....	159	CAN Communication System Description .....	185	
REMOVAL .....	159	CAN Communication Unit .....	185	L
INSTALLATION .....	160	Schematic .....	186	
INSPECTION .....	160	Wiring Diagram -VEHSEC- .....	187	
Removal and Installation of Back Door Striker ....	160	Terminals and Reference Value for BCM .....	192	M
REMOVAL .....	160	Terminals and Reference Value for IPDM E/R ....	192	
INSTALLATION .....	160	CONSULT-II Inspection Procedure .....	193	
Removal and Installation of Back Door Stay .....	161	CONSULT-II APPLICATION ITEM .....	194	
REMOVAL .....	161	Trouble Diagnosis .....	195	
INSTALLATION .....	161	WORK FLOW .....	195	
Removal and Installation of Dave Tail Male & Female .....	161	Preliminary Check .....	196	
REMOVAL .....	161	Trouble Diagnosis Symptom Chart .....	197	
Removal and Installation of Back Door Weatherstrip	162	Diagnostic Procedure 1 .....	198	
REMOVAL .....	162	1 – 1 DOOR SWITCH CHECK .....	198	
INSTALLATION .....	162	1 – 2 HOOD SWITCH CHECK .....	200	
<b>BACK DOOR LOCK ASSEMBLY .....</b>	<b>163</b>	1 – 3 BACK DOOR SWITCH CHECK .....	202	
Removal and Installation of Back Door Lock & Closure Assembly .....	163	Diagnostic Procedure 2 .....	204	
REMOVAL .....	163	SECURITY INDICATOR LAMP CHECK .....	204	
INSTALLATION .....	163	Diagnostic Procedure 3 .....	205	
INSPECTION .....	163	FRONT DOOR KEY CYLINDER SWITCH CHECK .....	205	
Removal and Installation of Back Door Opener Switch .....	163	Diagnostic Procedure 4 .....	205	
REMOVAL .....	163	VEHICLE SECURITY HORN ALARM CHECK ..	205	
INSTALLATION .....	164			
Disassembly and Assembly .....	164			
BACK DOOR LOCK & CLOSURE ASSEMBLY ..	164			

Diagnostic Procedure 5 .....	205	Wiring Diagram —TRNSCV— .....	228
VEHICLE SECURITY HEADLAMP ALARM		Trouble Diagnoses .....	229
CHECK .....	205	DIAGNOSTIC PROCEDURE .....	229
Diagnostic Procedure 6 .....	205	<b>BODY REPAIR .....</b>	<b>231</b>
DOOR LOCK AND UNLOCK SWITCH CHECK	205	Body Exterior Paint Color .....	231
<b>IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-</b>		Body Component Parts .....	232
<b>NATS) .....</b>	<b>206</b>	UNDERBODY COMPONENT PARTS .....	232
Component Parts and Harness Connector Location	206	BODY COMPONENT PARTS .....	234
System Description .....	206	Corrosion Protection .....	236
DESCRIPTION .....	206	DESCRIPTION .....	236
SECURITY INDICATOR .....	207	ANTI-CORROSIVE WAX .....	237
System Composition .....	208	UNDERCOATING .....	238
ECM Re-communicating Function .....	208	STONE GUARD COAT .....	239
Wiring Diagram – NATS – .....	209	Body Sealing .....	240
MODELS WITH INTELLIGENT KEY SYSTEM	209	DESCRIPTION .....	240
MODELS WITHOUT INTELLIGENT KEY SYS-		Body Construction .....	243
TEM .....	211	BODY CONSTRUCTION .....	243
Terminals and Reference Value for Steering Lock		Body Alignment .....	244
Unit/with Intelligent Key System .....	212	BODY CENTER MARKS .....	244
Terminals and Reference Value for Intelligent Key		PANEL PARTS MATCHING MARKS .....	245
Unit/with Intelligent Key System .....	212	DESCRIPTION .....	246
Terminals and Reference Value for BCM .....	213	ENGINE COMPARTMENT .....	247
CONSULT-II .....	214	UNDERBODY .....	249
CONSULT-II INSPECTION PROCEDURE .....	214	PASSENGER COMPARTMENT .....	251
CONSULT-II DIAGNOSTIC TEST MODE FUNC-		REAR BODY .....	253
TION .....	215	Handling Precautions For Plastics .....	255
HOW TO READ SELF-DIAGNOSTIC RESULTS	215	HANDLING PRECAUTIONS FOR PLASTICS .....	255
NATS SELF-DIAGNOSTIC RESULT ITEM		LOCATION OF PLASTIC PARTS .....	256
CHART .....	216	Precautions In Repairing High Strength Steel .....	258
Diagnosis Procedure .....	217	HIGH STRENGTH STEEL (HSS) USED IN NIS-	
WORK FLOW .....	217	SAN VEHICLES .....	258
Trouble Diagnosis Symptom Chart .....	218	Replacement Operations .....	261
Security Indicator Inspection .....	218	DESCRIPTION .....	261
Diagnostic Procedure 1 .....	219	HOODLEDGE .....	264
Diagnostic Procedure 2 .....	220	FRONT SIDE MEMBER .....	266
Diagnostic Procedure 3 .....	221	FRONT SIDE MEMBER (PARTIAL REPLACE-	
Diagnostic Procedure 4 .....	222	MENT) .....	268
Diagnostic Procedure 5 .....	223	FRONT PILLAR .....	270
Diagnostic Procedure 6 .....	224	CENTER PILLAR .....	272
Diagnostic Procedure 7 .....	226	OUTER SILL .....	274
Removal and Installation NATS Antenna Amp. ...	227	REAR FENDER .....	276
REMOVAL .....	227	REAR PANEL .....	278
INSTALLATION .....	227	REAR END CROSSMEMBER .....	280
<b>INTEGRATED HOMELINK TRANSMITTER .....</b>	<b>228</b>	REAR FLOOR REAR .....	282
		REAR SIDE MEMBER EXTENSION .....	285



# PRECAUTIONS

## PRECAUTIONS

PFP:00001

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

AIS004L9

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 Necessary for Steering Wheel Rotation After Battery Disconnect

AIS005WT

#### **NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NVIS/IVIS (NISSAN/INFINITI VEHICLE IMMOBILIZER SYSTEM - NATS).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the “LOCK” position.
- Always use CONSULT-II to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NVIS/IVIS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### **OPERATION PROCEDURE**

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the “ACC” position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the “LOCK” position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-II.

### Precautions for Work

AIS004LA

- 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.

# PRECAUTIONS

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## Wiring Diagnosis and Trouble Diagnosis

AIS004LB

When you read wiring diagrams, refer to the following:

- [GI-15, "How to Read Wiring Diagrams"](#)
- [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#)

When you perform trouble diagnosis, refer to the following:

- [GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#)
  - [GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"](#)
- Check for any Service bulletins before servicing the vehicle.

# PREPARATION

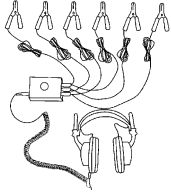
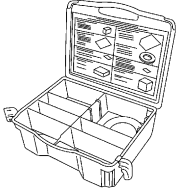
## PREPARATION

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### Special Service Tools

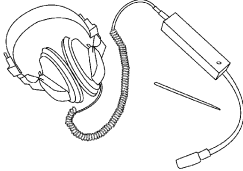

AIS004LC

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

Tool number (Kent-Moore No.) Tool name	Description
(J-39570) Chassis ear   SIIA0993E	Locating the noise
(J-43980) NISSAN Squeak and Rattle Kit   SIIA0994E	Repairing the cause of the noise

### Commercial Service Tools

AIS004LD

Tool name	Description
Engine ear   SIIA0995E	Locating the noise
Power tool   PIIB1407E	Loosening bolts and nuts

A  
B  
C  
D  
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BL  
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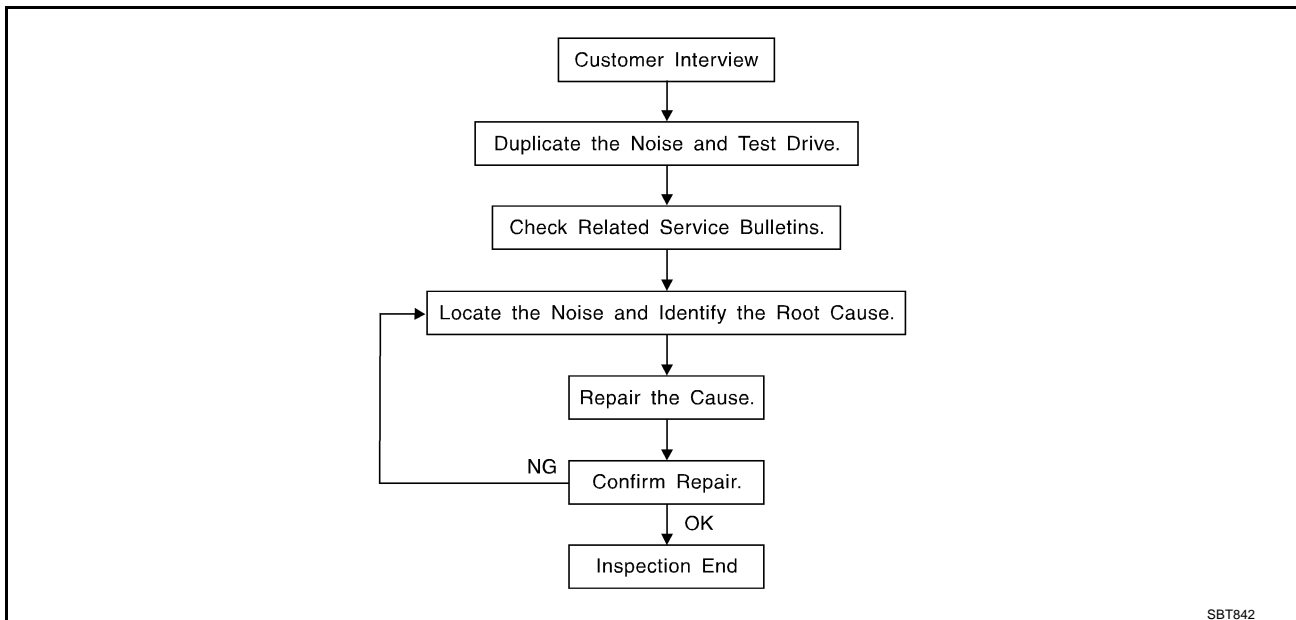
# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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### Work Flow

AIS004LE



### 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-12. "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 DIAGNOSIS

## DUPLICATE THE NOISE AND TEST DRIVE

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

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

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

## CHECK RELATED SERVICE BULLETINS

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

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

## LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
  - removing the components in the area that you suspect the noise is coming from.  
Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
  - tapping or pushing/pulling the component that you suspect is causing the noise.  
Do not tap or push/pull the component with excessive force, otherwise the noise will only be eliminated 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-10, "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)**

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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## **INSULATOR (Light foam block)**

80845-71L00: 30 mm (1.18 in) thick, 30 × 50 mm (1.18×1.97 in)

## **FELT CLOTHTAPE**

Used to insulate where movement does not occur. Ideal for instrument panel applications.

68370-4B000: 15 × 25 mm (0.59 × 0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll The following materials, not found in the kit, can also be used to repair squeaks and rattles.

## **UHMW(TEFLON) TAPE**

Insulates where slight movement is present. Ideal for instrument panel applications.

## **SILICONE GREASE**

Used in place of UHMW tape that will be visible or not fit.

Note: Will only last a few months.

## **SILICONE SPRAY**

Use when grease cannot be applied.

## **DUCT TAPE**

Use to eliminate movement.

## **CONFIRM THE REPAIR**

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

## **Generic Squeak and Rattle Troubleshooting**

AIS004LF

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 silicon spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

### **CAUTION:**

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

## **CENTER CONSOLE**

Components to pay attention to include:

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

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

## **DOORS**

Pay attention to the:

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

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

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## TRUNK

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

1. Trunk lid dumpers out of adjustment
2. Trunk lid striker out of adjustment
3. 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. Sunvisor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

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

## SEATS

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

Cause of seat noise include:

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

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.

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# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## Diagnostic Worksheet

AIS004LG



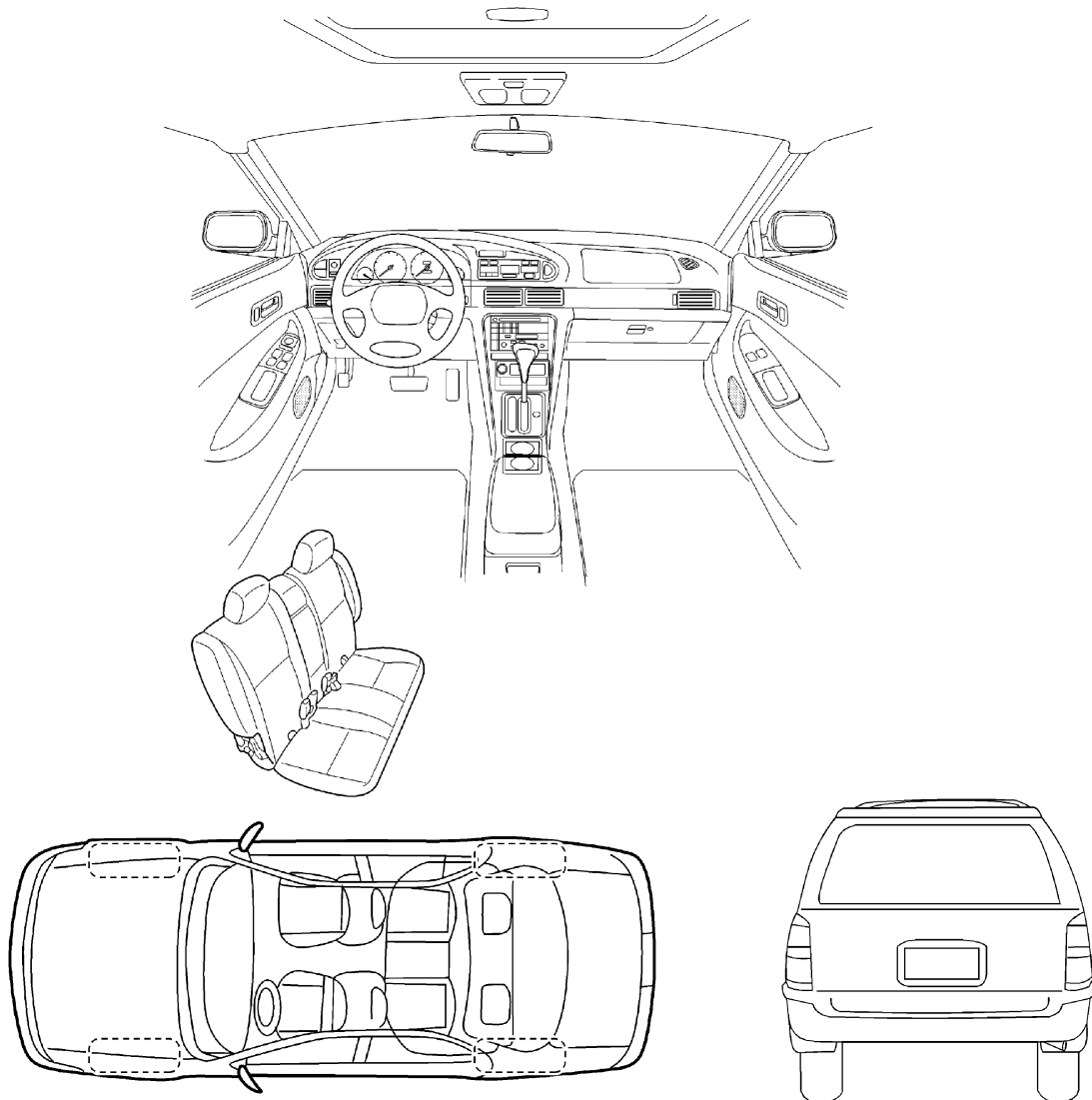
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Infiniti Customer:

We are concerned about your satisfaction with your Infiniti vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Infiniti 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.

SBT860



# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

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### 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 <sup>st</sup> 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:

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	YES	NO	Initials of person performing
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**

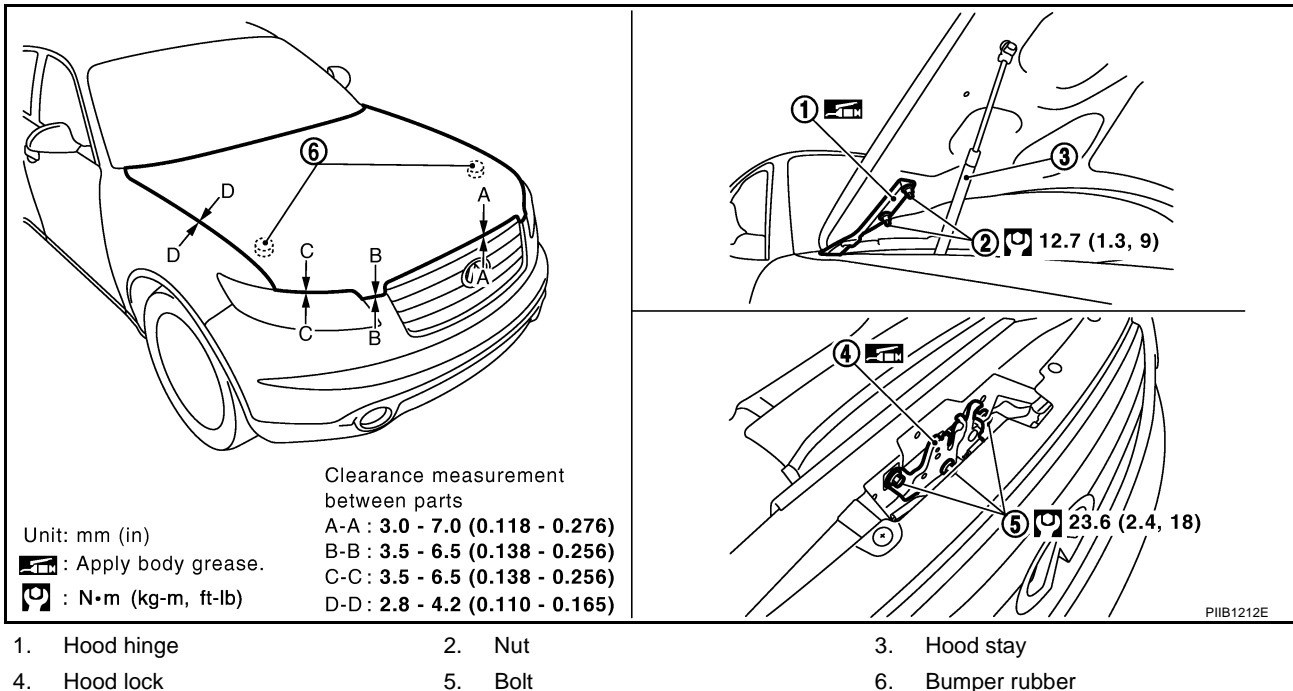
# HOOD

## HOOD

PFP:F5100

### Fitting Adjustment

AIS0051E



### LONGITUDINAL AND LATERAL CLEARANCE ADJUSTMENT

1. Remove hood lock assembly, loosen the hood hinge nuts and close the hood.
2. Adjust the lateral and longitudinal clearance, and open the hood to tighten the hood hinge mounting bolts to the specified torque.
3. Install the hood lock temporarily, and align the hood striker and lock so that the centers of striker and lock become vertical viewed from the front, by moving the hood lock laterally.
4. Tighten hood lock mounting bolts to the specified torque.

#### CAUTION:

Adjust right/left Clearance between hood and headlamp to the following specification.

**Hood and headlamp (C-C) : Less than 2.0 mm (0.08in)**

### FRONT END HEIGHT ADJUSTMENT

1. Remove the hood lock and adjust the height by rotating the bumper rubber until the hood becomes 1 to 1.5 mm (0.04 to 0.059 in) lower than the fender.
2. Temporarily tighten the hood lock, and position it by engaging it with the hood striker. Check the lock and striker for looseness, and tighten the hood lock mounting bolts to the specified torque.

### SURFACE HEIGHT ADJUSTMENT

1. Remove hood lock, and adjust the surface height difference of hood, fender and headlamp according to the fitting standard dimension, by rotating RH and LH bumper rubbers.
2. Install hood lock temporarily, and move hood lock laterally until the centers of striker and lock become vertical when viewed from the front.

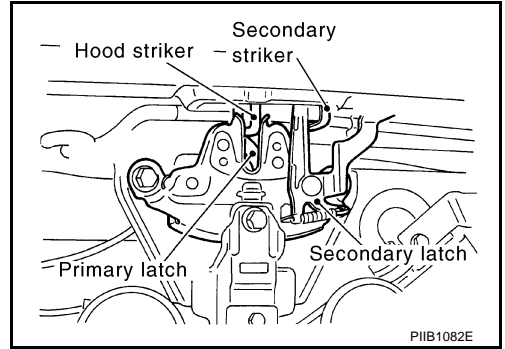
# HOOD

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

**CAUTION:**

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

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



**CAUTION:**

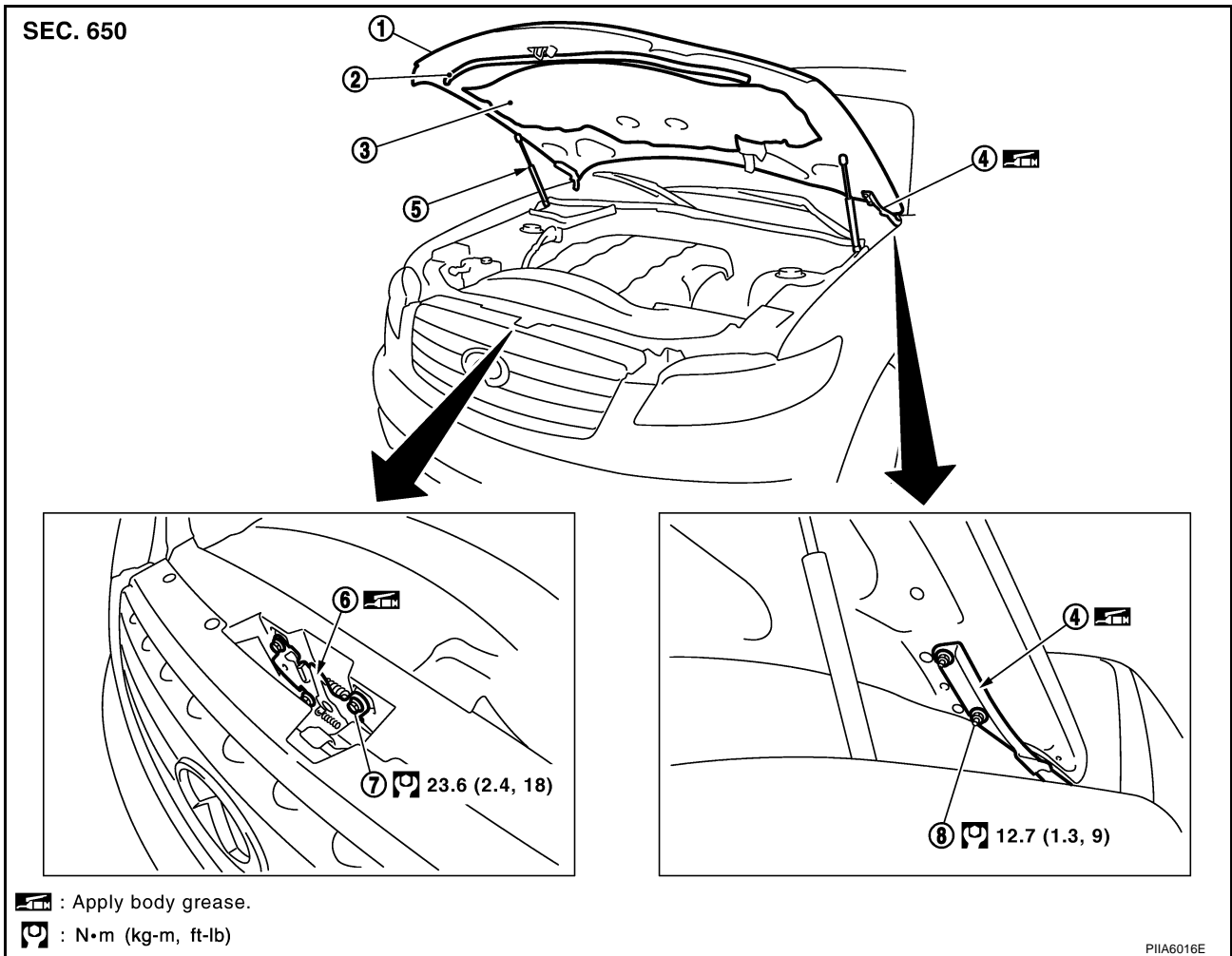
**Adjust evenness between hood and each part to the following specification.**

**Hood and head lamp (C-C) : 0.9±1.5 mm (0.035±0.059 in)**

**Hood and fender (D-D) : 0.1±1.0 mm (0.004±0.04 in)**

## Removal and Installation of Hood Assembly

AIS0051F



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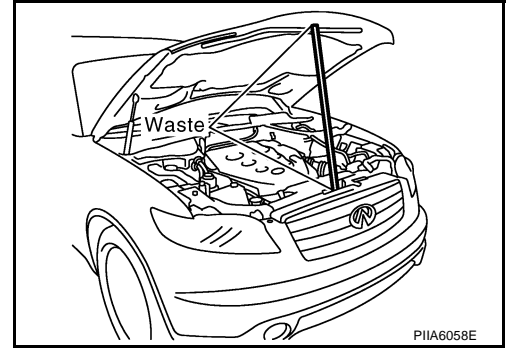
# HOOD

## REMOVAL

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 hood stay.



2. Remove the hood stays from the stud balls on the body side.
3. Remove the hinge mounting nuts on the hood to remove the hood assembly.

### **CAUTION:**

Operate with two workers, because of its heavy weight.

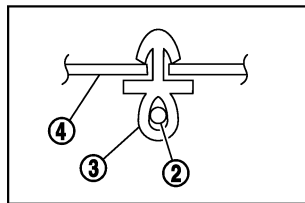
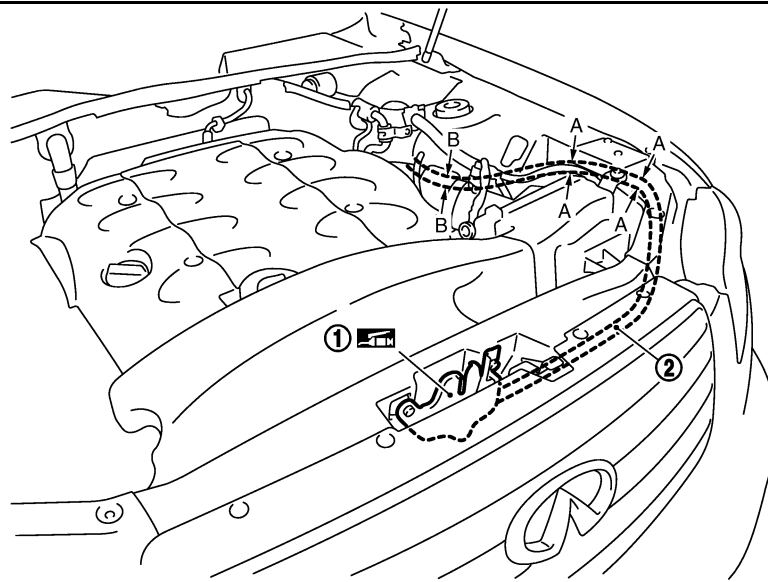
## INSTALLATION

Install in the reverse order of removal.

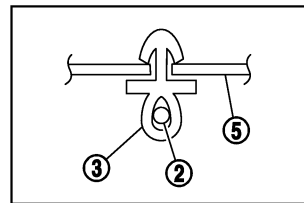
## Removal and Installation of Hood Lock Control

AIS0051G


SEC. 656



A - A



B - B

 : Apply body grease.

P1IA6017E

- |                              |   |         |
|------------------------------|---|---------|
| 1. Hood lock                 | 2. Hood lock cable                      | 3. Clip |
| 4. Hood ledge upper front LH | 5. Dash lower cross member reinforce LH |         |

## REMOVAL

1. Remove the front grill. Refer to [EI-23, "Removal and Installation"](#).
2. Remove the front fender protector (LH). Refer to [EI-25, "Removal and Installation"](#).
3. Disconnect the hood lock cable from the hood lock, and clip it from the radiator core support upper and hood ledge.

# HOOD

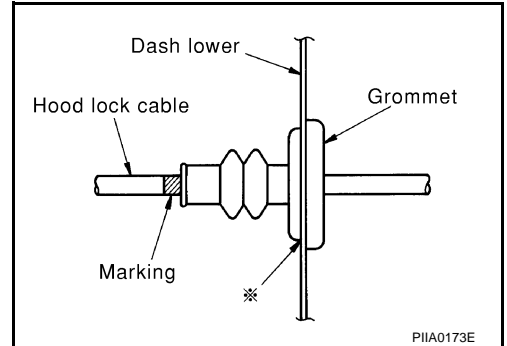
4. Remove instrument driver lower panel. Refer to [IP-11, "Removal and Installation"](#).
5. After the bolt of the case with the air cleaner is disconnected, and it is moved, the cable is pulled.
6. Remove the grommet on the dashboard, and pull the hood lock cable toward the passenger room.

**CAUTION:**

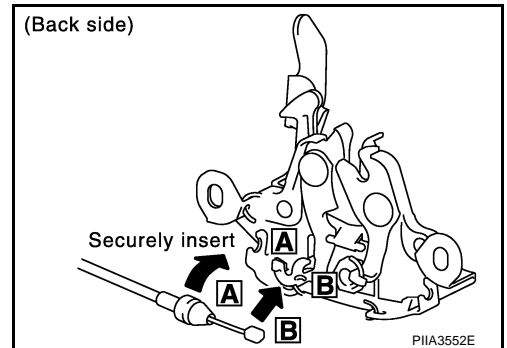
**While pulling, be careful not to damage (peeling) the outside of the hood lock cable.**

## INSTALLATION

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

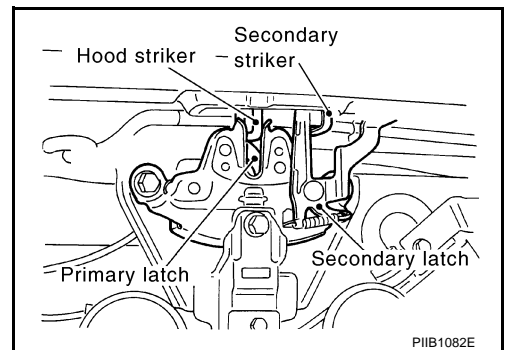
**CAUTION:**

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

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

**CAUTION:**

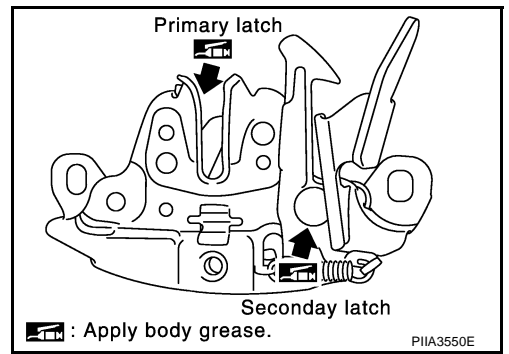
**Do not drop hood from a height of 300 mm (11.81in) or more.**



3. When pulling hood opener lever gently, make sure that front end of the hood rises by approximately 20 mm and that hood striker and hood lock primary latch are disengaged. Also make sure that hood opener returns to the original position.

# HOOD

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



# RADIATOR CORE SUPPORT

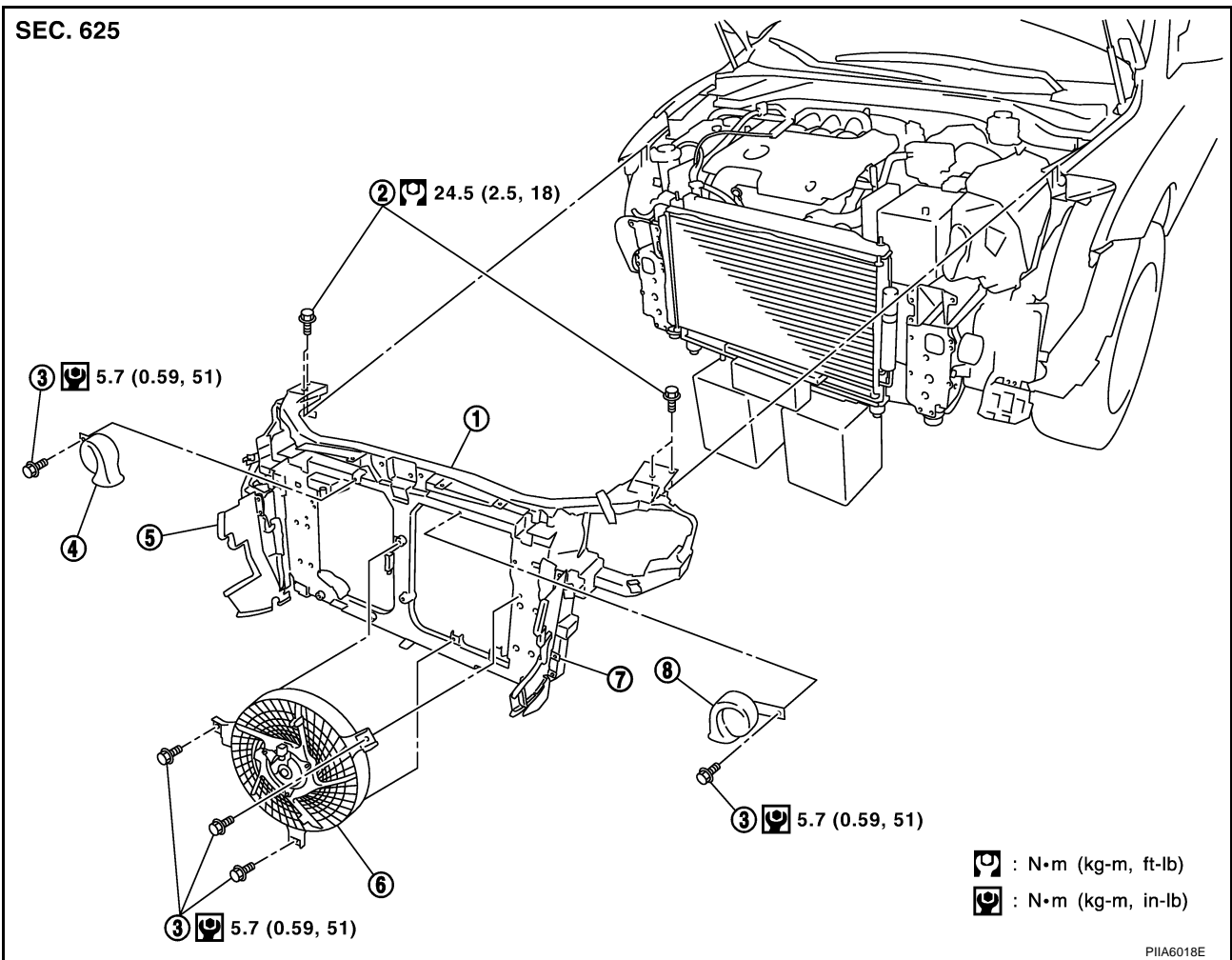
## RADIATOR CORE SUPPORT

PFP:62500

### Removal and Installation

AIS004LL

SEC. 625



- |                                   |                   |                |
|-----------------------------------|-------------------|----------------|
| 1. Radiator core support assembly | 2. Bolt           | 3. Bolt        |
| 4. Horn (High)                    | 5. Air guide (RH) | 6. Cooling fan |
| 7. Air guide (LH)                 | 8. Horn (Low)     |                |

### REMOVAL

1. Remove the front fender protector. Refer to [EI-25, "Removal and Installation"](#) .
2. Remove the front bumper. Refer to [EI-14, "Removal and Installation"](#) .
3. Remove the ICC. Refer to [ACS-67, "REMOVAL AND INSTALLATION"](#) .
4. Remove the headlamp. Refer to [LT-36, "Removal and Installation"](#) .
5. Remove the washer tank. Refer to [WW-33, "Removal and Installation of Washer Tank"](#) .
6. Remove the resonator.
7. Remove the power steering oil cooler. Refer to [PS-41, "HYDRAULIC LINE"](#) .
8. Remove the ambient sensor. Refer to [ATC-117, "Removal and Installation"](#) .
9. Remove the crash zone sensor. Refer to [SRS-45, "Removal and Installation"](#) .
10. Remove the horn connector, blower fan connector and harness clip.
11. Remove the hood lock and disconnect hood lock control cable. Refer to [BL-16, "Removal and Installation of Hood Lock Control"](#) .
12. Remove the reservoir tank.
13. Remove mounting blots and remove radiator core support. Remove mounting bolts with power tool.
14. After remove radiator core support, remove the horn, cooling fan.

# RADIATOR CORE SUPPORT

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## **INSTALLATION**

Install in the reverse order of removal.



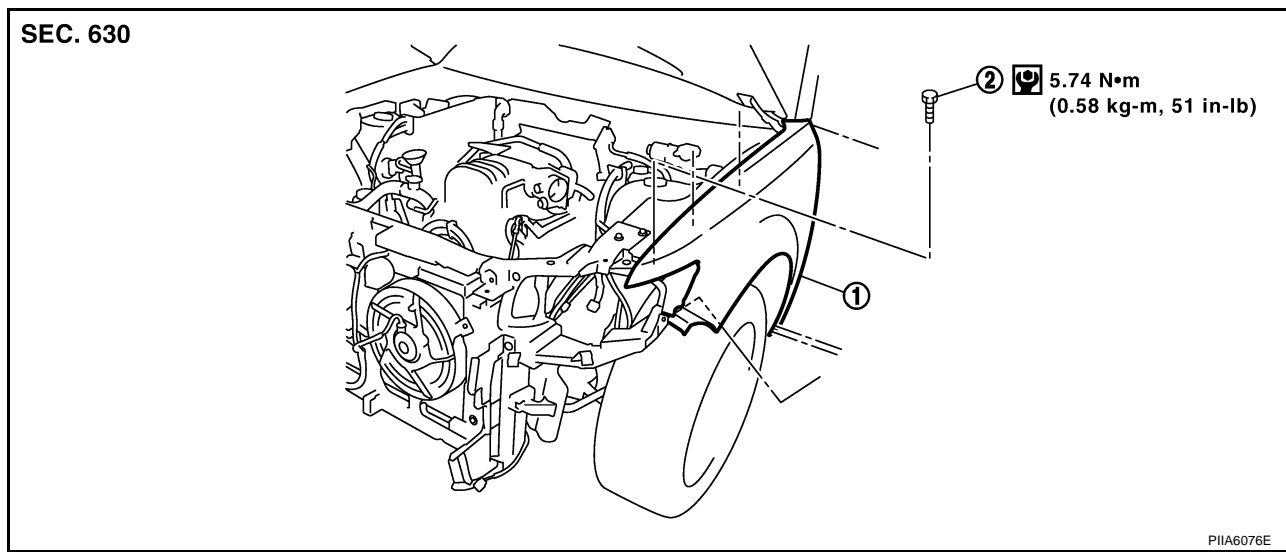
# FRONT FENDER

## FRONT FENDER

PFP:63100

### Removal and Installation

AIS004LM



### REMOVAL

1. Remove the front bumper. Refer to [EI-14, "Removal and Installation"](#) .
2. Remove the headlamp. Refer to [LT-36, "Removal and Installation"](#) .
3. Remove the front fender protector. Refer to [EI-25, "Removal and Installation"](#) .
4. Remove the mounting bolt and remove the front fender.

### CAUTION:

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

### INSTALLATION

Install in the reverse order of removal.

### CAUTION:

- After installing, apply touch-up paint (the body color) onto the head of the front fender mounting bolts.
- After installing, check front fender adjustment. Refer to [BL-14, "Fitting Adjustment"](#) and [BL-148, "Fitting Adjustment"](#) .

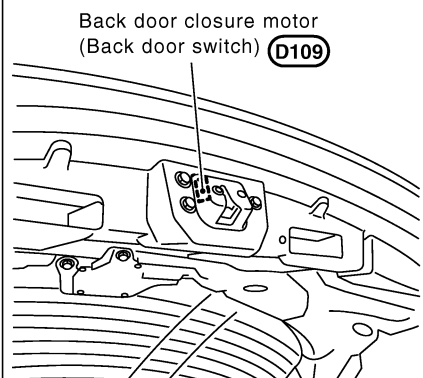
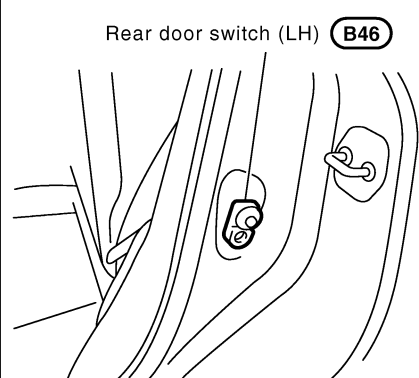
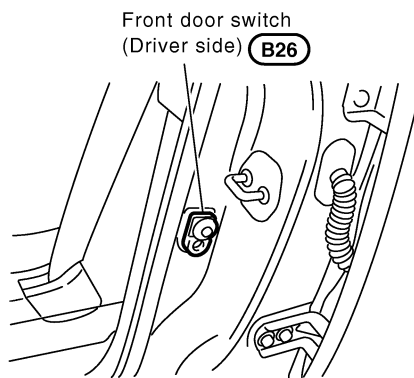
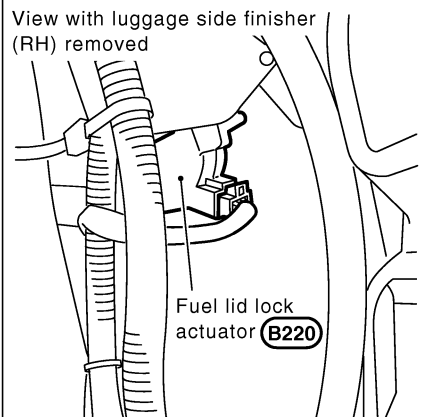
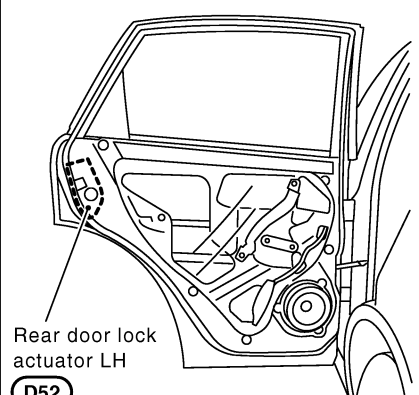
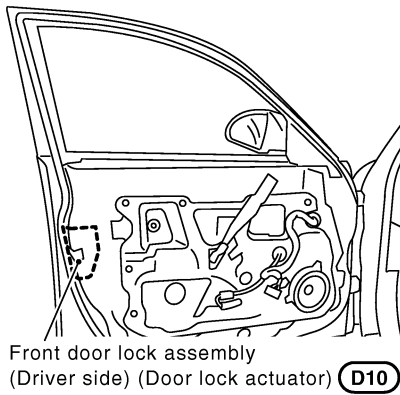
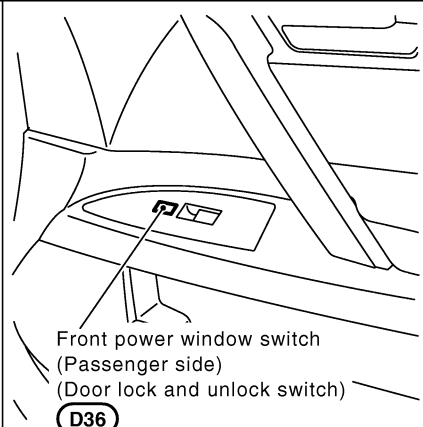
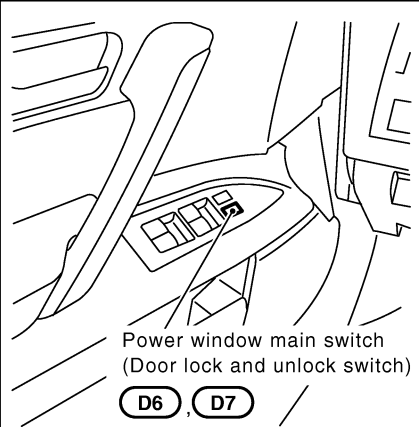
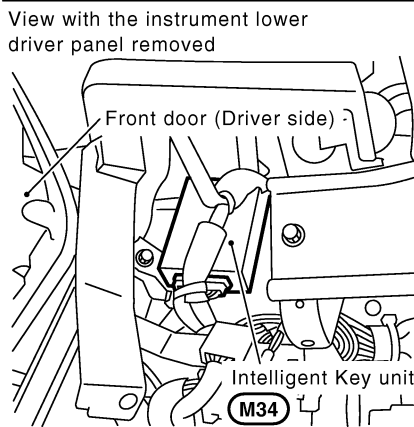
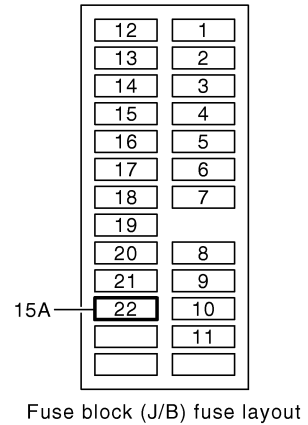
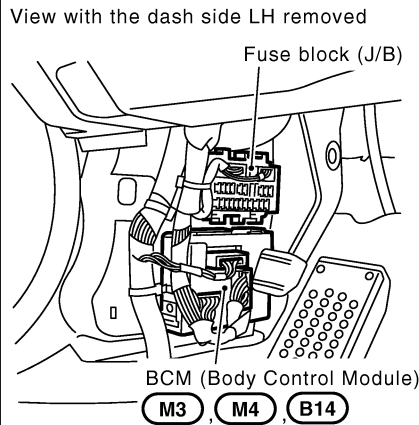
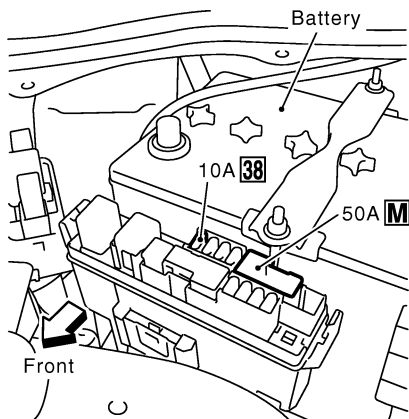
# POWER DOOR LOCK SYSTEM

## POWER DOOR LOCK SYSTEM

PFP:24814

### Component Parts and Harness Connector Location

AIS004LN



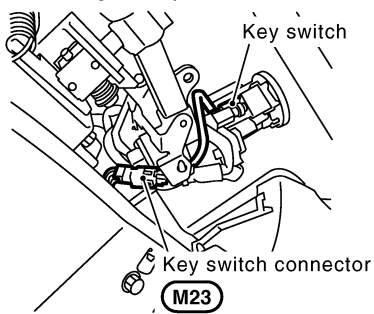
PIIA9926E

# POWER DOOR LOCK SYSTEM

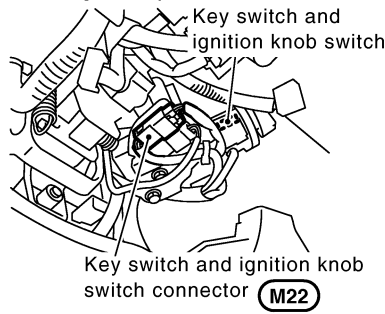
## Component Parts and Harness Connector Location

AIS004LO

Without Intelligent Key

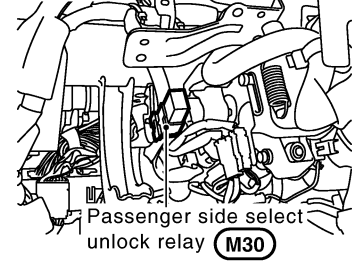


With Intelligent Key



With Intelligent Key

View with the instrument driver lower panel removed



A  
B  
C  
D

PIIA6412E

## System Description

AIS004LP

Power is supplied at all times

- to BCM terminal 55
- through 50A fusible link (letter **M** , located in the fuse and fusible link box).
- to BCM terminal 42
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to key switch terminal 2 (without intelligent key system)
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to key switch and ignition knob switch terminal 3 (with intelligent key system)
- through 15A fuse [No. 22, located in the fuse block (J/B)].

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

- to BCM terminal 37
- through key switch terminal 1 (without intelligent key system) or 4 (with intelligent key system).

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

- to CPU of power window main switch
- through power window main switch (door lock and unlock switch) terminal 17
- through grounds M35, M45 and M85.

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

- to BCM terminal 22
- through power window main switch terminal 14.

When the door is locked or unlocked with front power window switch (passenger side) (door lock and unlock switch), ground is supplied

- to CPU of front power window switch (passenger side)
- through front power window switch (passenger side) (door lock and unlock switch) terminal 11
- through grounds M35, M45 and M85.

Then front power window switch (passenger side) (door lock and unlock switch) operation signal is supplied

- to BCM terminal 22
- through front power window switch (passenger side) terminal 16.

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

- to power window main switch terminal 4
- through key cylinder switch terminals 1 and 5
- through grounds M35, M45 and M85.

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# POWER DOOR LOCK SYSTEM

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Then key cylinder switch operation signal (lock) is supplied

- to BCM terminal 22
- through power window main switch terminal 14.

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

- to power window main switch terminal 6
- through key cylinder switch terminal 6 and 5
- through grounds M35, M45 and M85.

Then key cylinder switch operation signal (unlock) is supplied

- to BCM terminal 22
- through power window main switch terminal 14.

BCM is connected to power window main switch and front power window switch (passenger side) as serial link.

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

- to BCM terminal 62
- through front door switch (driver side) terminal 1
- through front door switch (driver side) case ground.

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

- to BCM terminal 12
- through front door switch (passenger side) terminal 1
- through front door switch (passenger side) case ground.

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

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

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

- to BCM terminal 13
- through front door switch RH terminal 1
- through rear 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 closure motor (door switch) terminal 7 and 8
- through grounds B15 and B45.

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

### Functions Available by Operating the Key Cylinder Switch on Driver's

- Interlocked with the locking operation of door key cylinder, door lock actuators of all doors and fuel lid lock actuator are locked.

### Select Unlock Operation

- When door key cylinder is unlocked, door lock actuator driver side and fuel lid lock actuator are 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.  
Select unlock operation mode can be changed using "DOOR LOCK-UNLOCK SET" mode in "WORK SUPPORT". Refer to [BL-40, "Work Support"](#) .  
Select unlock operation mode can be changed also on the display.  
Refer to [AV-58, "SETTING SCREEN"](#) . (without navigation system)

# POWER DOOR LOCK SYSTEM

Refer to [AV-95, "Vehicle Electronic Systems"](#) . (with navigation system)

## Key Reminder Door System

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

Key reminder door mode can be changed using "WORK SUPPORT" mode in "ANTI-LOCK OUT SET".

Refer to [BL-40, "Work Support"](#) .

## CAN Communication System Description

*AIS004LQ*

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

## CAN Communication Unit

*AIS004RP*

Refer to [LAN-6, "CAN Communication Unit"](#) .

A

B

C

D

E

F

G

H

BL

J

K

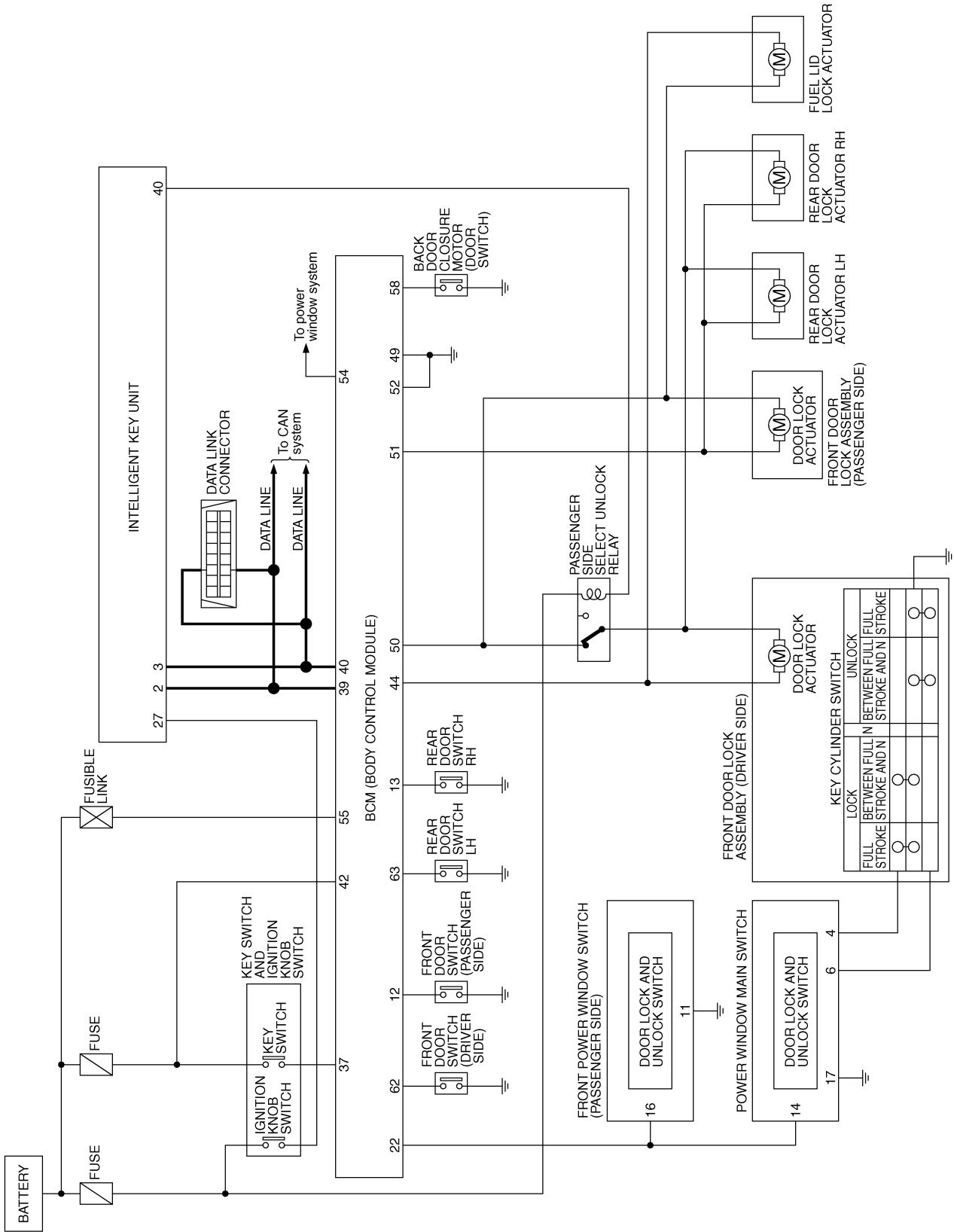
L

M

# POWER DOOR LOCK SYSTEM

## Schematic (With Intelligent Key)

AI5004LR



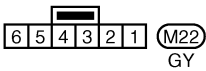
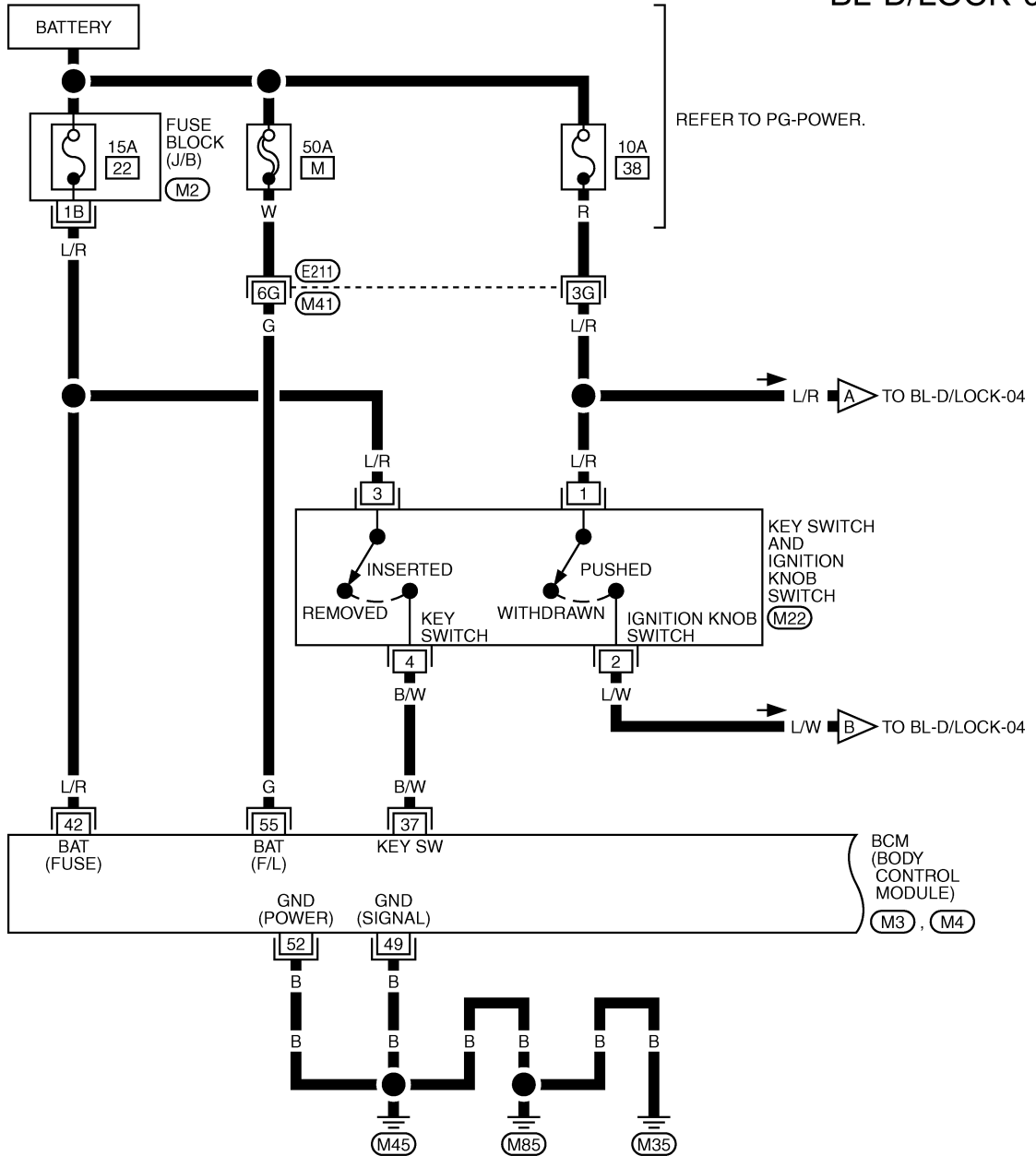
TIWH0085E

# POWER DOOR LOCK SYSTEM

**Wiring Diagram -D/LOCK- (With Intelligent Key)**  
**FIG. 1**

AIS004LS

BL-D/LOCK-01



REFER TO THE FOLLOWING.

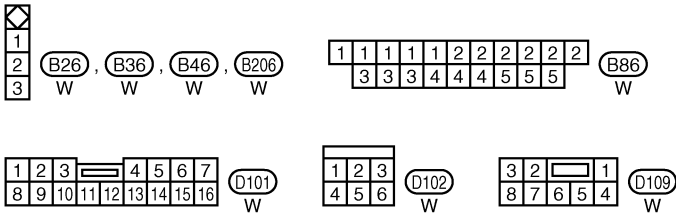
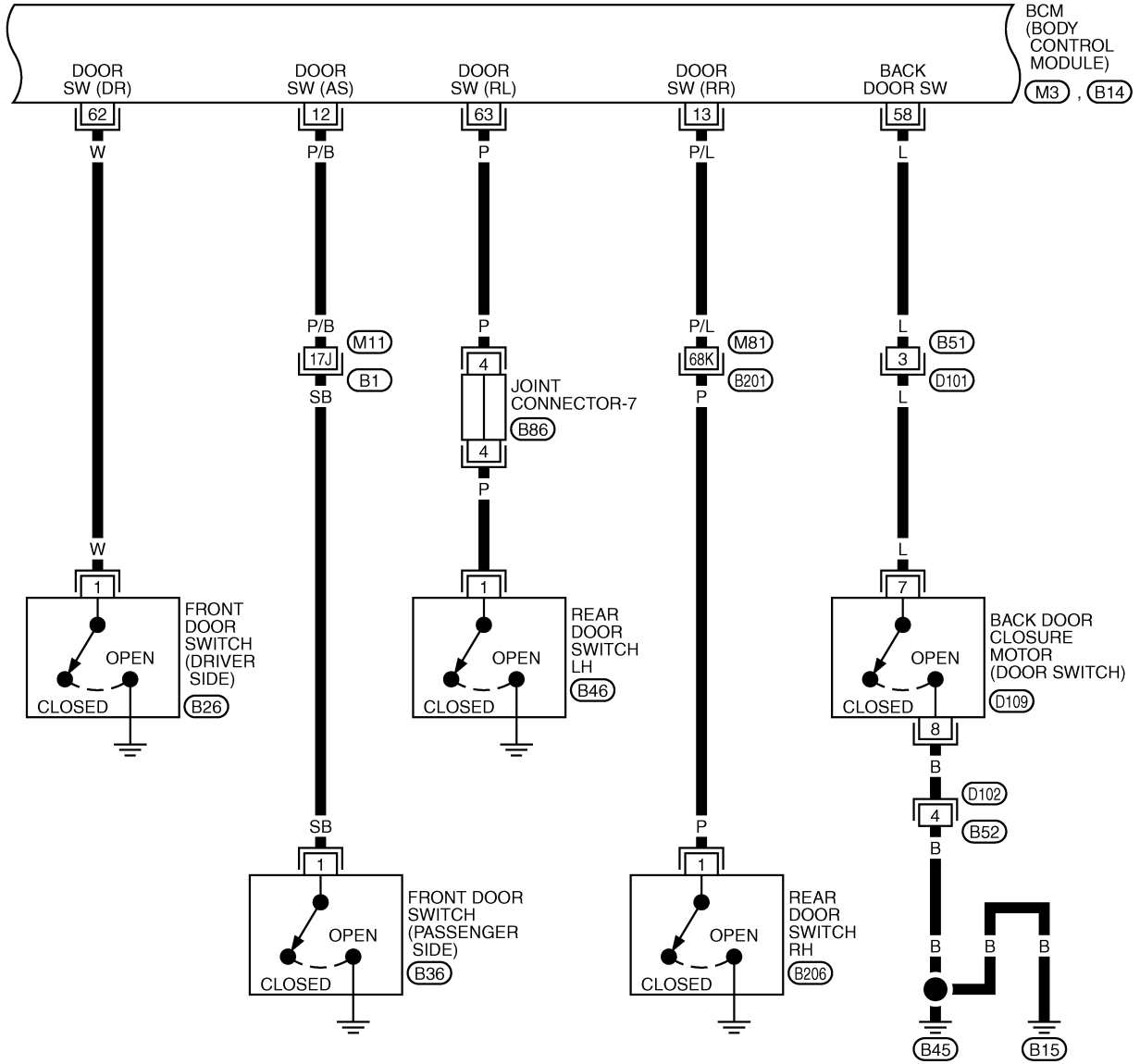
- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3) , (M4) -ELECTRICAL UNITS

TIWM0421E

# POWER DOOR LOCK SYSTEM

FIG. 2

BL-D/LOCK-02



REFER TO THE FOLLOWING.  
 (B1), (B201) - SUPER MULTIPLE JUNCTION (SMJ)  
 (M3), (B14) - ELECTRICAL UNITS

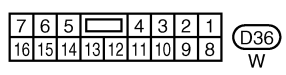
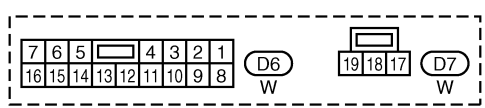
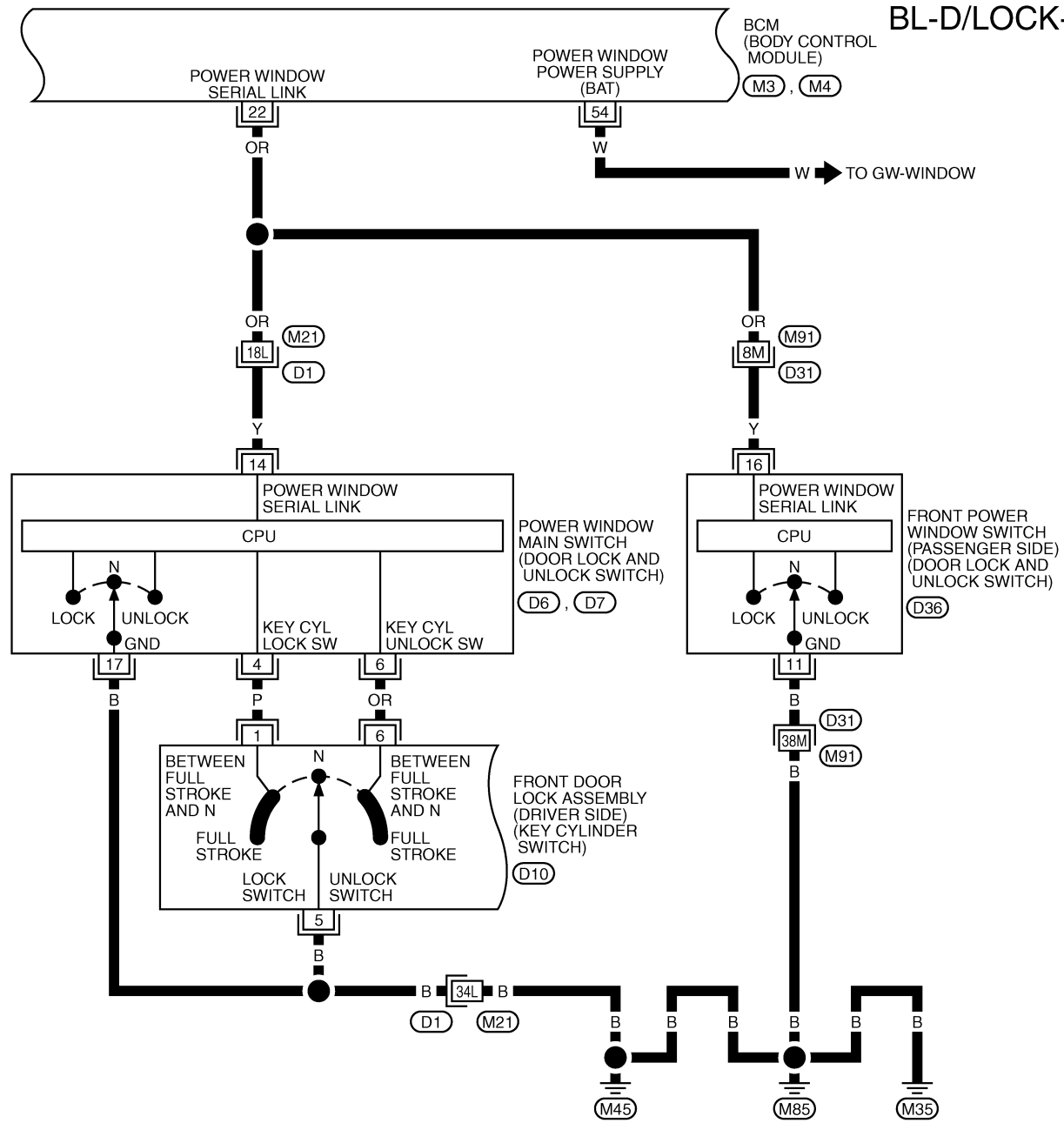
TIWH0036E



# POWER DOOR LOCK SYSTEM

FIG. 3

BL-D/LOCK-03



REFER TO THE FOLLOWING.  
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M3), (M4) -ELECTRICAL UNITS

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

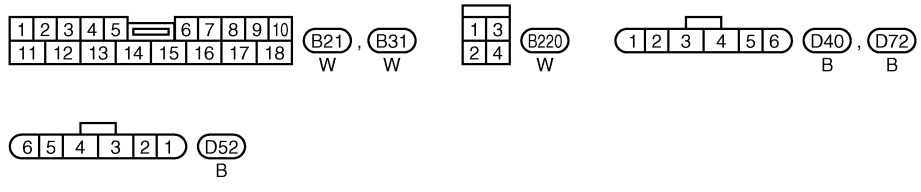
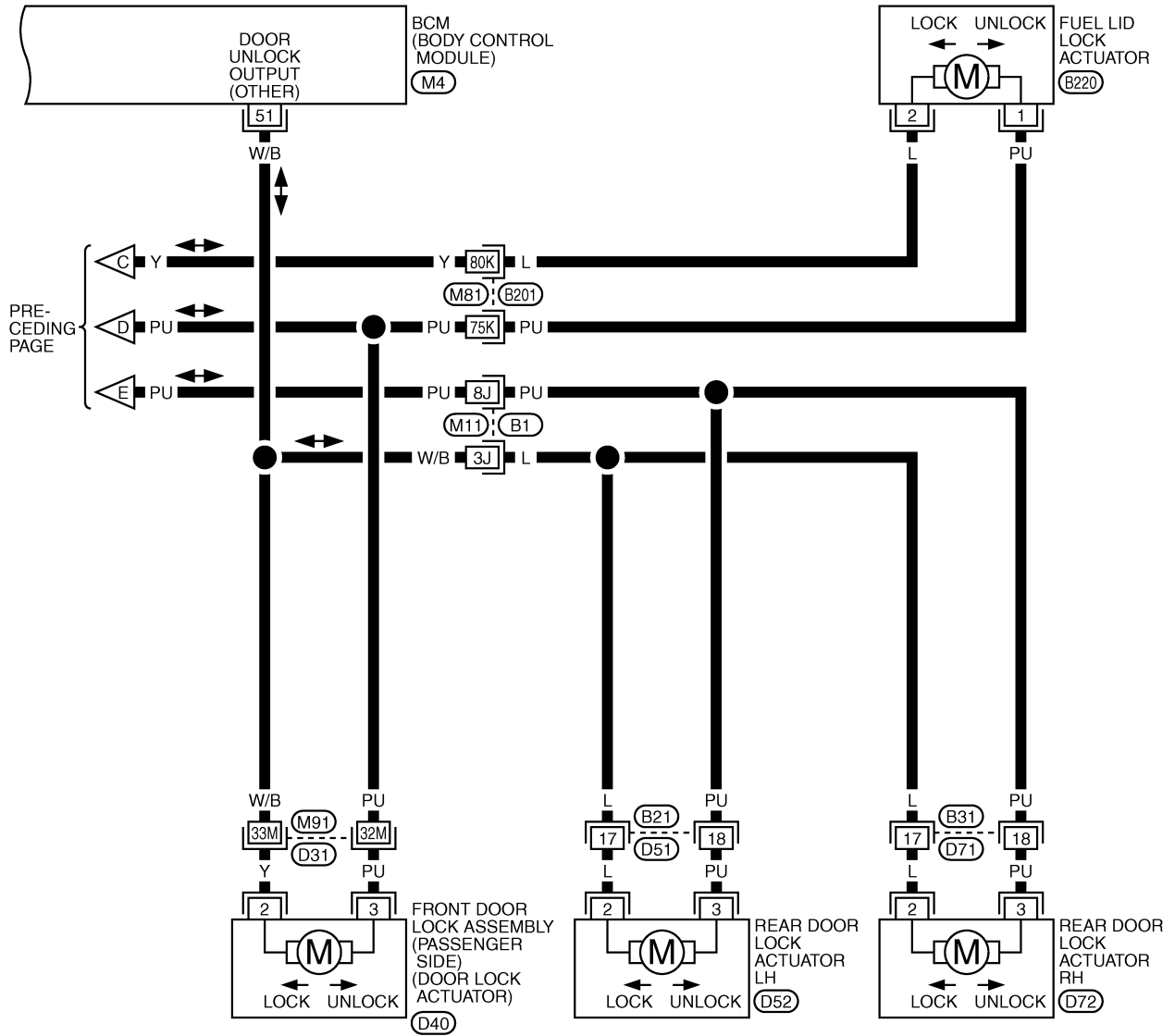
BL



# POWER DOOR LOCK SYSTEM

FIG. 5

BL-D/LOCK-05

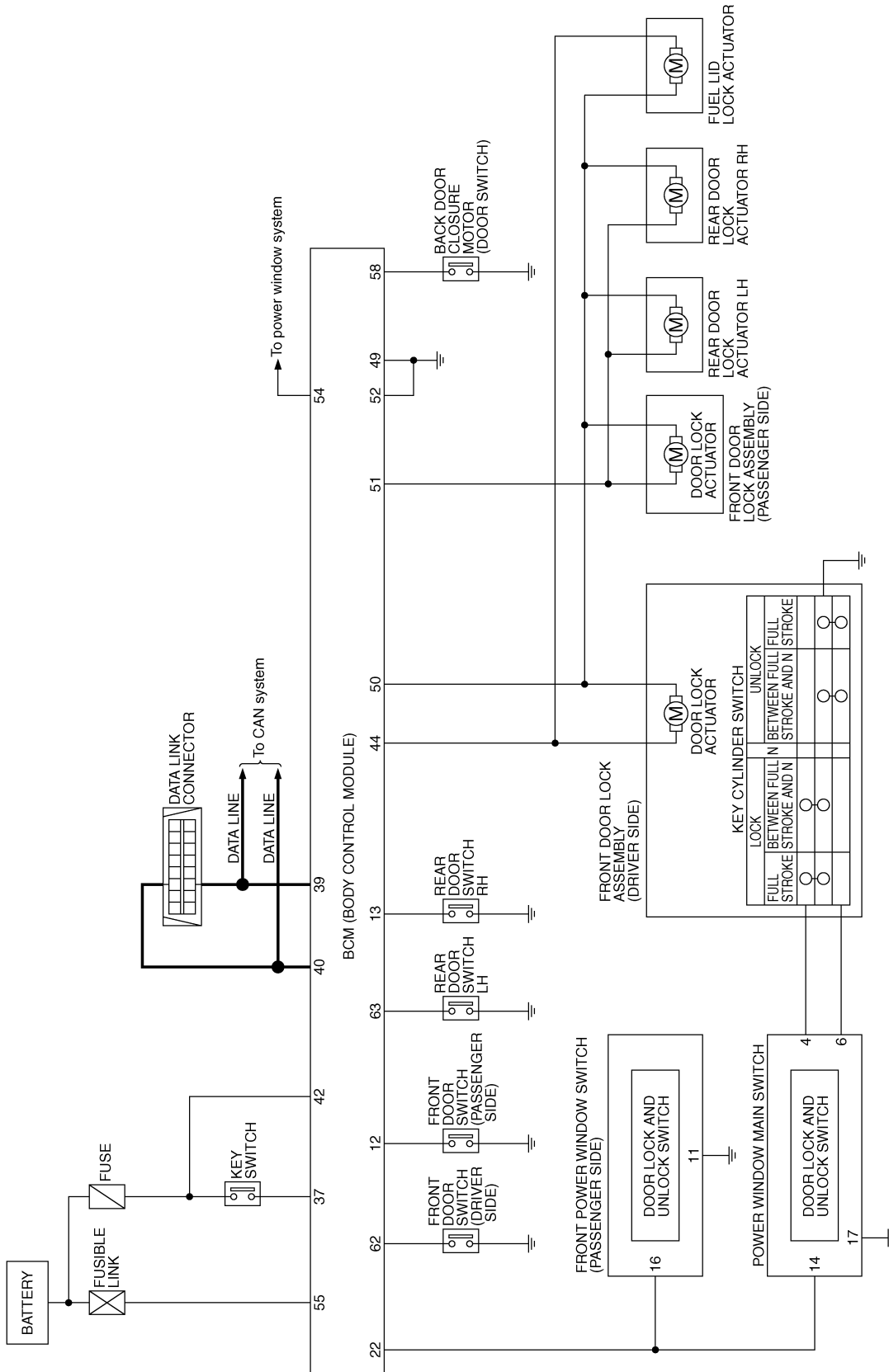


REFER TO THE FOLLOWING.  
 (B1), (B201), (D31) -SUPER  
 MULTIPLE JUNCTION (SMJ)  
 (M4) -ELECTRICAL UNITS

# POWER DOOR LOCK SYSTEM

## Schematic (Without Intelligent Key)

AIS004LT



TIWM0321E

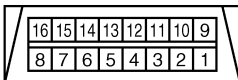
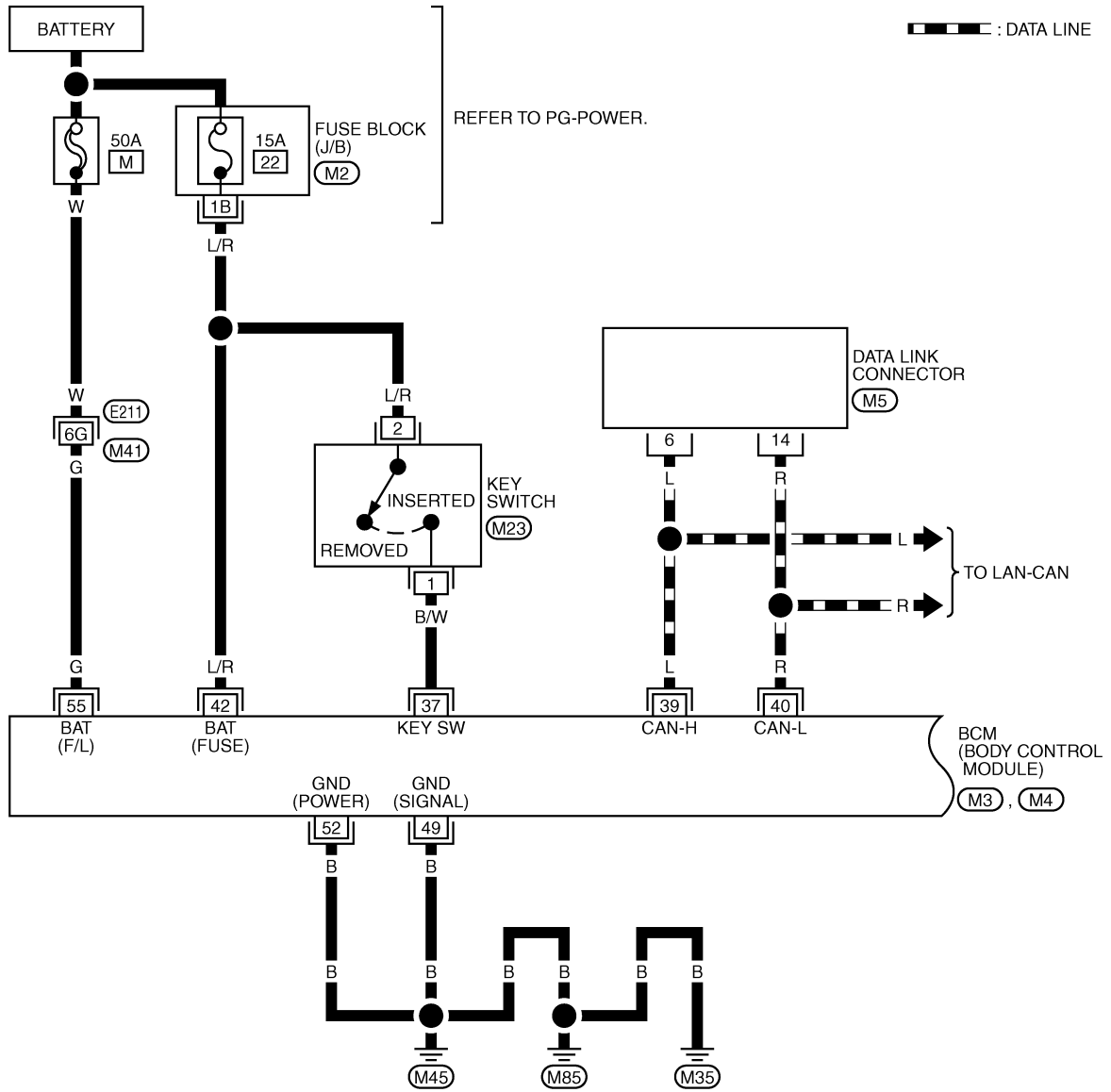
# POWER DOOR LOCK SYSTEM

Wiring Diagram -D/LOCK- (Without Intelligent Key)  
FIG. 6

AIS004LU

BL-D/LOCK-06

▬ : DATA LINE



(M5)  
W



(M23)  
BR

REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

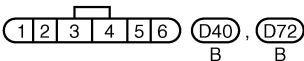
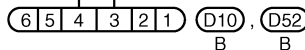
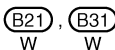
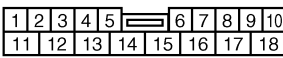
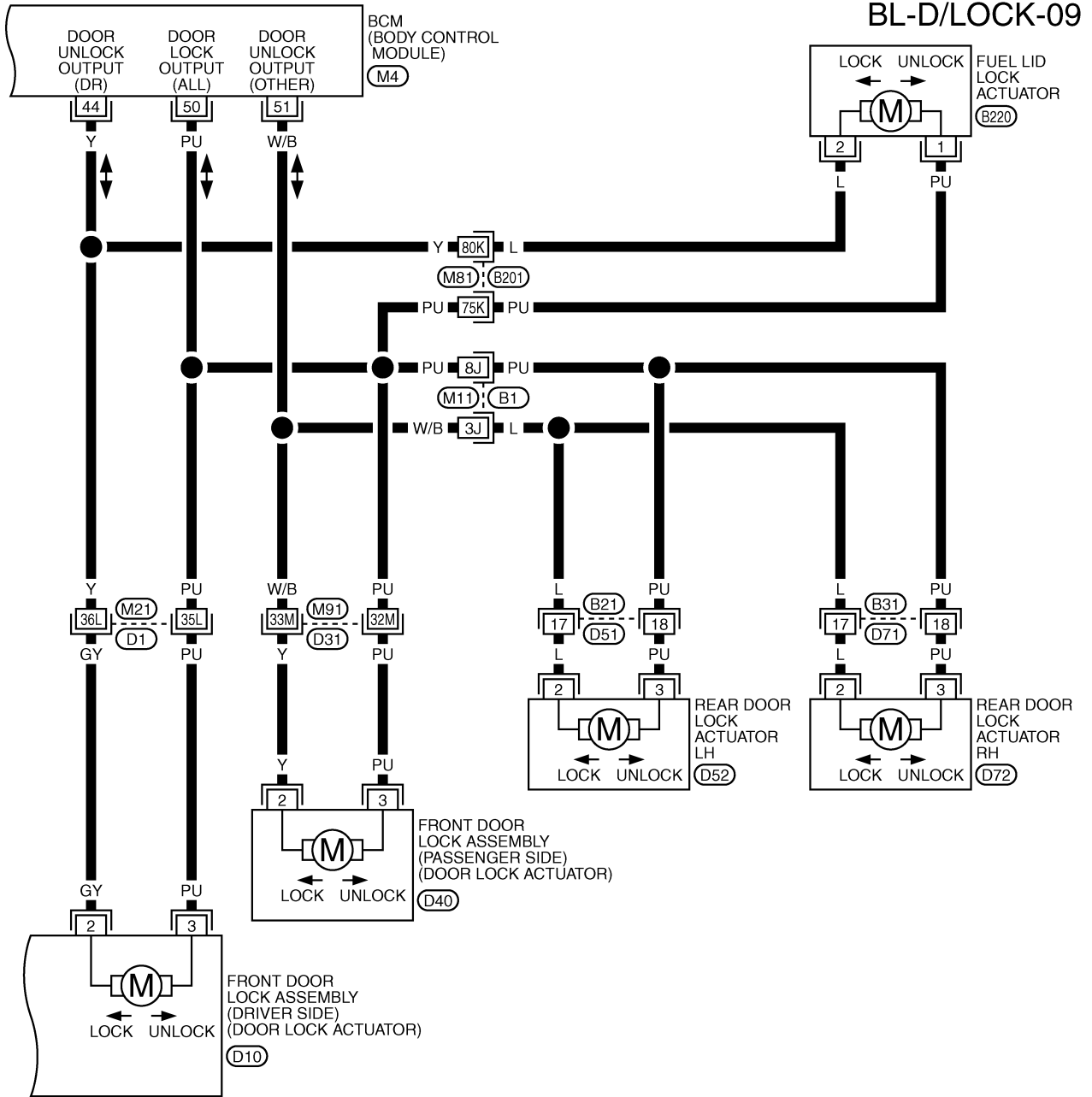
TIWM0322E





# POWER DOOR LOCK SYSTEM

FIG. 9



REFER TO THE FOLLOWING.

(B1), (B201), (D1), (D31)  
-SUPER MULTIPLE JUNCTION (SMJ)

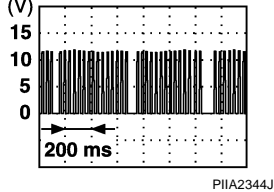
(M4) -ELECTRICAL UNITS



# POWER DOOR LOCK SYSTEM

## Terminals and Reference Value for BCM

AIS004LV

TERMI- NAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
12	P/B	Front door switch (Passenger side)	ON (door open) → OFF (door closed)	0 → Battery voltage
13	P/L	Rear door switch RH	ON (door open) → OFF (door closed)	0 → Battery voltage
22	OR	Power window serial link	Ignition switch ON	
37	B/W	Key switch	ON (Key inserted) → OFF (Key removed from IGN key cylinder)	Battery voltage → 0
39	L	CAN H	—	—
40	R	CAN L	—	—
42	L/R	Battery power supply (fuse)	—	Battery voltage
44	Y	Driver door lock actuator (unlock)	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage
49, 52	B	Ground	—	0
50	PU	Door lock actuator (lock)	Door lock / unlock switch (Free → Lock)	0 → Battery voltage
51	W/B	Passenger and rear doors lock actuator (unlock)	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage
55	G	Power source (Fusible link)	—	Battery voltage
58	L	Back door switch	ON (Door open) → OFF (Door closed)	0 → 9
62	W	Front door switch (Driver side)	ON (Door open) → OFF (Door closed)	0 → Battery voltage
63	P	Rear door switch LH	ON (Door open) → OFF (Door closed)	0 → Battery voltage

## Terminals and Reference Value for Intelligent Key Unit (With Intelligent Key System)

AIS004LW

TERMI- NAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
2	L	CAN H	—	—
3	R	CAN L	—	—
27	L/W	Push switch	Push switch (OFF → ON)	0 → Battery voltage
40	BR/W	AS unlock output signal	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage

## Work Flow

AIS004LX

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [BL-23, "System Description"](#) .
3. Perform the preliminary check. Refer to [BL-38, "Preliminary Check"](#) .
4. According to the trouble diagnosis chart by symptom, repair or replace the cause of the malfunction. Refer to [BL-41, "Trouble Diagnosis Chart by Symptom"](#) .
5. Does power door lock system operate normally?  
YES: GO TO 6.  
NO: GO TO 4.
6. INSPECTION END

# POWER DOOR LOCK SYSTEM

AIS004LY

## Preliminary Check FUSE AND FUSIBLE LINK CHECK

### 1. FUSE INSPECTION

Check the following fuse and fusible link.

Unit	Signal name	No,	Location
BCM	Battery power supply	22 (15A)	Fuse block (J/B)
	Battery power supply	M (50A)	Fuse and fusible link box

#### NOTE:

Refer to [BL-22, "Component Parts and Harness Connector Location"](#).

#### OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

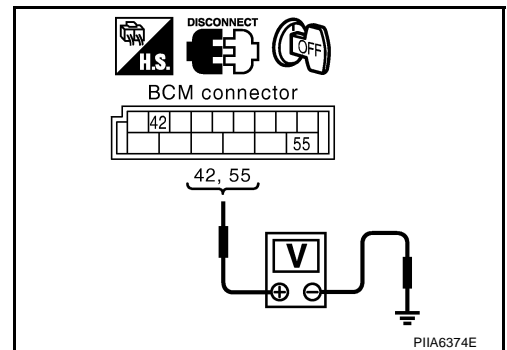
### 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connectors.
3. Check voltage between BCM connectors M4 terminals 42, 55 and ground.

**BCM – Ground**

**42 (L/R) – Ground : Battery voltage**

**55 (G) – Ground : Battery voltage**



#### OK or NG

OK >> GO TO 3.

NG >> Repair or replace BCM power supply circuit.

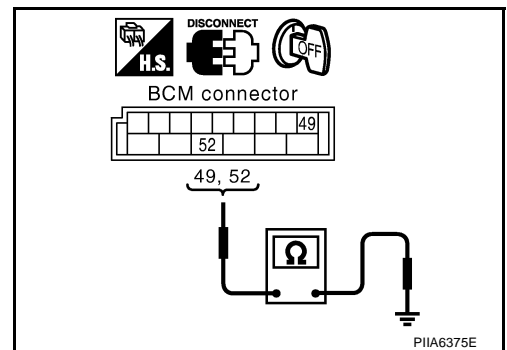
### 3. CHECK GROUND CIRCUIT

Check continuity between BCM connectors M4 terminals 49, 52 and ground.

**BCM – Ground**

**49 (B) – Ground : Continuity should exist.**

**52 (B) – Ground : Continuity should exist.**



Connector	Terminals (Wire color)		Continuity
	(+)	(-)	
M4	49 (B)	Ground	Yes
	52 (B)		

#### OK or NG

OK >> Power supply and ground circuit are OK.

NG >> Repair or replace BCM ground circuit.

# POWER DOOR LOCK SYSTEM

AIS004LZ

## CONSULT-II Function

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

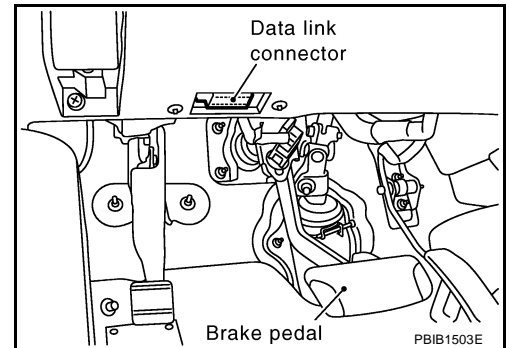
BCM diagnosis part	Inspection item, self-diagnosis mode	Content
Door lock	DATA MONITOR	Displays BCM input data on real-time basis.
	ACTIVE TEST	Sends drive signals to door lock actuator to perform operation check.

## CONSULT-II INSPECTION PROCEDURE

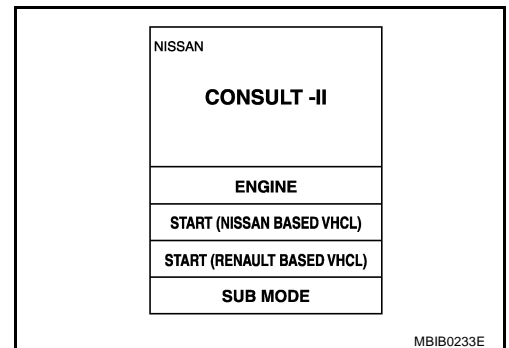
### CAUTION:

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

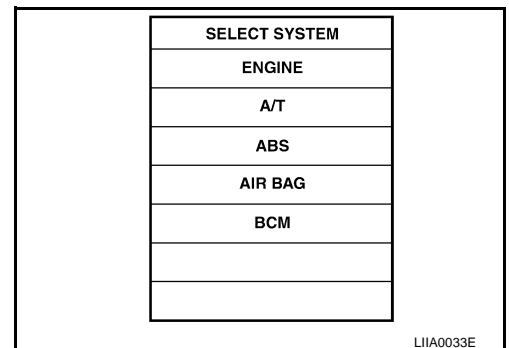
1. With ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



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

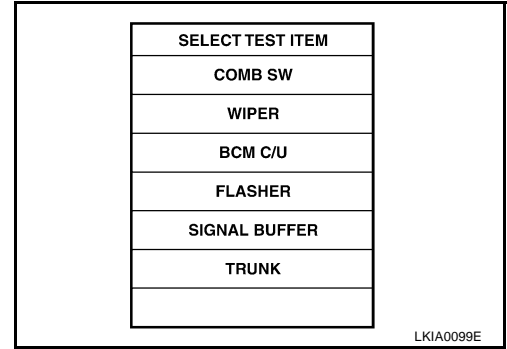


5. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



# POWER DOOR LOCK SYSTEM

6. Select item to be diagnosed on "SELECT TEST ITEM" screen.



## CONSULT-II APPLICATION ITEMS

### Work Support

Work item	Description
DOOR LOCK-UNLOCK SET	Select unlock mode can be changed in this mode. Selects ON-OFF of select unlock mode.
ANTI-LOCK OUT SET	Key reminder door mode can be changed in this mode. Selects ON-OFF of key reminder door mode.

### Data Monitor

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock and unlock switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch driver side.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch passenger side.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from key cylinder.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from key fob.
I-KEY LOCK*	Indicates [ON/OFF] condition of lock signal from door request switch.
I-KEY UNLOCK*	Indicates [ON/OFF] condition of unlock signal from door request switch.

\*: With Intelligent Key system

### Active Test

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

# POWER DOOR LOCK SYSTEM

## Trouble Diagnosis Chart by Symptom

AIS004M0

Always check the "Work Flow" before troubleshooting. Refer to [BL-37, "Work Flow"](#) .

Symptom	Diagnoses service procedure	Reference page
Key reminder door system does not operate properly.	1. Check key reminder door mode.* *: Key reminder door mode can be changed. First check key reminder door mode.	<a href="#">BL-40</a>
	2. Preliminary Check	<a href="#">BL-38</a>
	3. Check key switch.	<a href="#">BL-46</a>
	4. Check door switch.	<a href="#">BL-42</a>
	5. Replace BCM.	<a href="#">BCS-15</a>
Power door lock does not operate with door lock and unlock switch.	1. Preliminary check	<a href="#">BL-38</a>
	2. Check door lock and unlock switch.	<a href="#">BL-48</a>
	3. Replace BCM.	<a href="#">BCS-15</a>
Power door lock does not operate with door key cylinder operation. (Power door lock operate properly with door lock and unlock switch.)	1. Check front door key cylinder switch.	<a href="#">BL-53</a> <sup>*1</sup> <a href="#">BL-54</a> <sup>*2</sup>
	2. Replace power window main switch.	—
Specific door lock actuator does not operate.	1. Check door lock actuator.	<a href="#">BL-50</a> <sup>*3</sup> <a href="#">BL-51</a> <sup>*4</sup>
	2. Replace BCM.	<a href="#">BCS-15</a>
All door lock actuator (except passenger side and fuel lid) does not operate.* *: Only model with intelligent key system.	1. Check select unlock relay circuit.	<a href="#">BL-55</a>
Select unlock does not operate. (All other power door lock system is "OK".)	1. Check select unlock mode.* *: Select unlock mode can be changed. First check select unlock mode.	<a href="#">BL-40</a>
	2. Replace BCM.	<a href="#">BCS-15</a>
Fuel lid opener actuator does not operate. (All door lock actuators operates properly.)	1. Check fuel lid opener actuator.	<a href="#">BL-52</a>

\*1 : Lock operation

\*2 : Unlock operation

\*3 : Driver side

\*4 : Except driver side

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

# POWER DOOR LOCK SYSTEM

AIS004M1

## Check Door Switch

### CHECK DOOR SWITCH (EXCEPT BACK DOOR SWITCH)

#### 1. CHECK DOOR SWITCH INPUT SIGNAL

##### Ⓟ With CONSULT-II

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

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

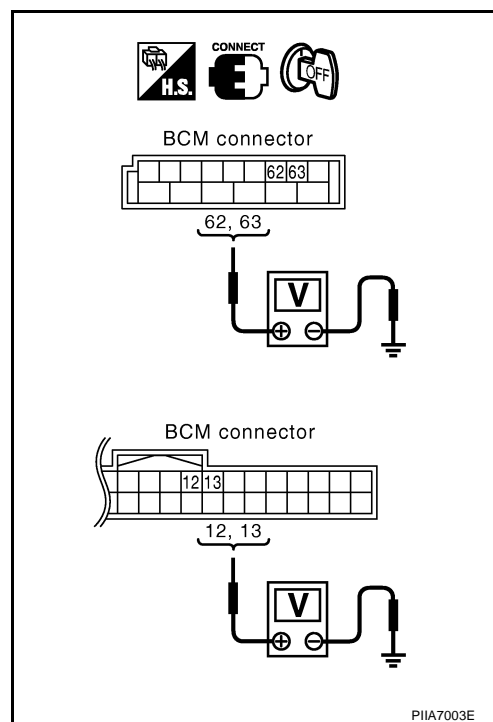
DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF
DOOR SW-AS	OFF
DOOR SW-RL	OFF
DOOR SW-RR	OFF

PIIA6469E

##### ⓧ Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Connector	Terminals (Wire color)		Door condition	Voltage (V) (Approx.)
		(+)	(-)		
Driver side	B14	62 (W)	Ground	CLOSE ↓ OPEN	Battery voltage ↓ 0
Rear LH		63 (P)			
Passenger side	M3	12 (P/B)			
Rear RH		13 (P/L)			



#### OK or NG

- OK >> Door switch circuit 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 connector.
3. Check continuity between door switch connector B26, B36, B46, B206 terminals 1 and BCM connector M3, B14 terminals 62, 12, 63, 13.

### Driver side door

1 (W) – 62 (W) : Continuity should exist.

### Passenger side door

1 (SB) – 12 (P/B) : Continuity should exist.

### Rear door LH

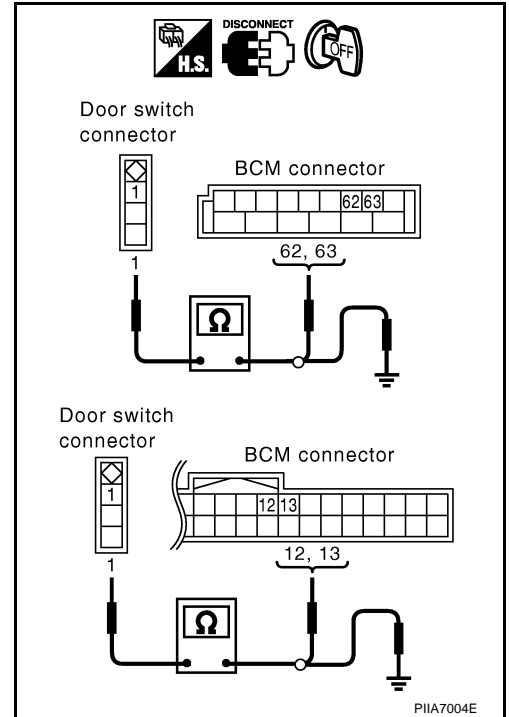
1 (P) – 63 (P) : Continuity should exist.

### Rear door RH

1 (P) – 13 (P/L) : Continuity should exist.

4. Check continuity between door switch connector B26, B36, B46, B206 terminal 1 and ground.

1 (W, SB, P) – Ground : Continuity should not exist.



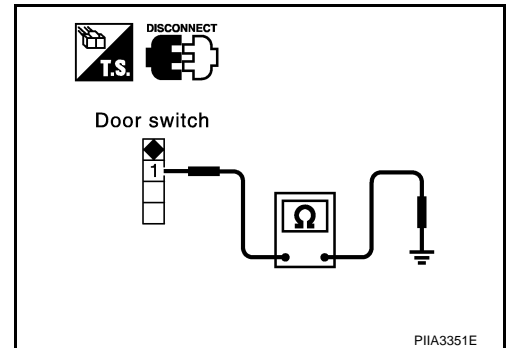
### OK or NG

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

## 3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and ground part of door switch.

Terminal	Door switch condition	Continuity
1	Pushed	No
	Released	Yes



### OK or NG

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

# POWER DOOR LOCK SYSTEM

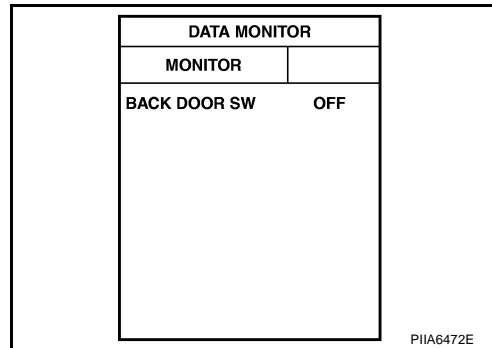
## CHECK BACK DOOR SWITCH

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

#### ④ With CONSULT-II

Check door switches ("BACK DOOR SW") in "DATA MONITOR" mode with CONSULT-II.

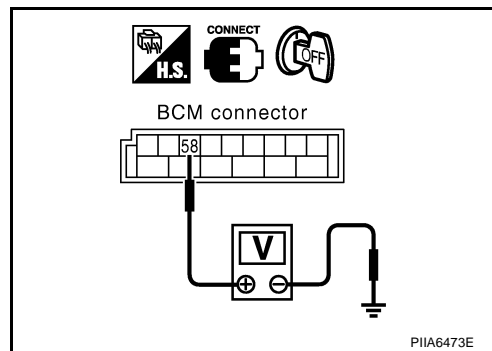
Monitor item	Condition
BACK DOOR SW	CLOSE → OPEN: OFF → ON



#### ⊗ Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Connector	Terminal (Wire color)		Back door condition	Voltage (V) (Approx.)
		(+)	(-)		
Back door switch	B14	58 (L)	Ground	CLOSE	9
				OPEN	0



#### OK or NG

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

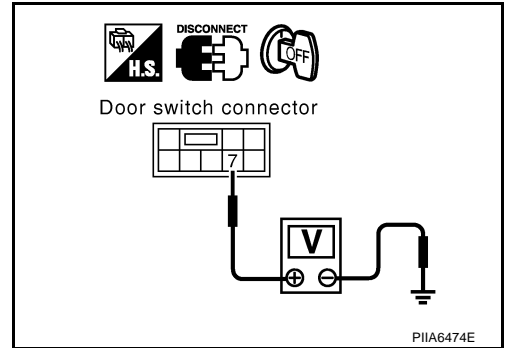


# POWER DOOR LOCK SYSTEM

## 2. CHECK BACK DOOR SWITCH CIRCUIT

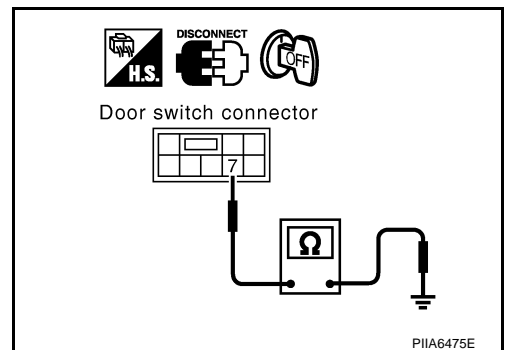
1. Turn ignition switch OFF.
2. Disconnect back door switch connector.
3. Check voltage between back door switch connector D109 terminal 7 and ground. (Check harness for open.)

**7 (L) – Ground : Approx. 9V**



4. Check continuity between back door switch connector D109 terminal 7 and ground. (Check harness for short.)

**7 (L) – Ground : Continuity should not exist.**



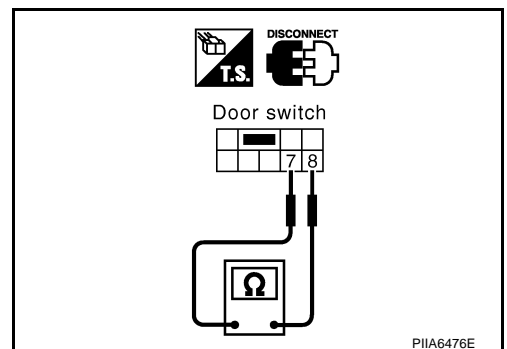
### OK or NG

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

## 3. CHECK BACK DOOR SWITCH

Check continuity between back door switch terminals 7 and 8.

Terminal	Back door condition	Continuity
7 – 8	Closed	No
	Opened	Yes



### OK or NG

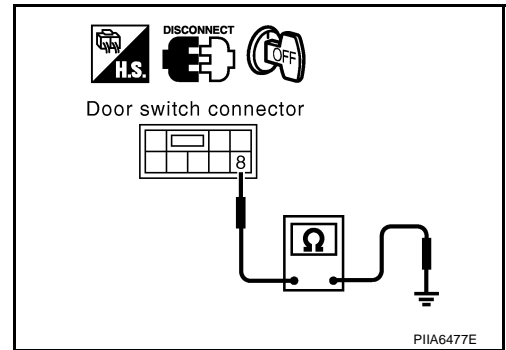
- OK >> GO TO 4.  
 NG >> Replace back door closure motor (door switch).

# POWER DOOR LOCK SYSTEM

## 4. CHECK BACK DOOR SWITCH GROUND HARNESS

Check continuity between back door switch connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**



OK or NG

- OK >> Check harness connection.
- NG >> Repair or replace harness.

## Check Key Switch

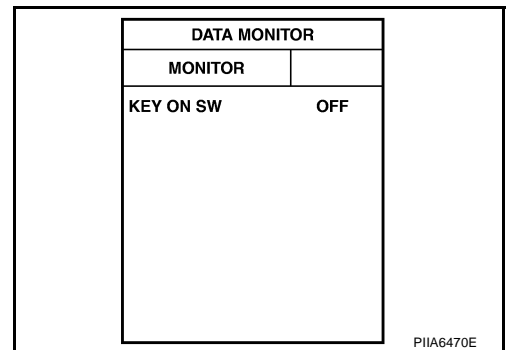
AIS004M2

### 1. CHECK KEY SWITCH INPUT SIGNAL

#### With CONSULT-II

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

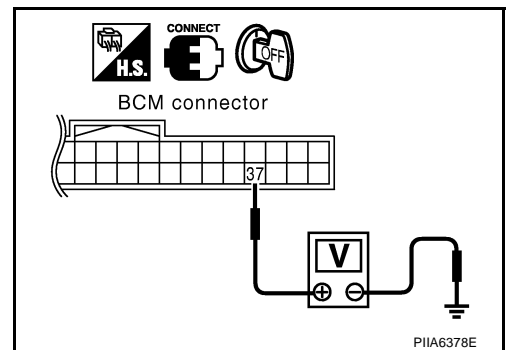
- When key is inserted in ignition key cylinder  
**KEY ON SW : ON**
- When key is removed from ignition key cylinder  
**KEY ON SW : OFF**



#### Without CONSULT-II

Check voltage between BCM connector M3 terminal 37 (B/W) and ground.

Condition of key switch	Voltage (V) Approx.
Key switch is “ON”. (Key is inserted in IGN key cylinder.)	Battery voltage
Key switch is “OFF”. (Key is removed from IGN key cylinder.)	0



OK or NG

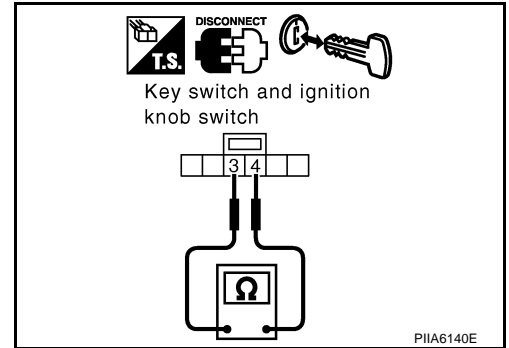
- OK >> Key switch circuit is OK.
- NG >> GO TO 2. (with intelligent key)
- NG >> GO TO 3. (without intelligent key)

# POWER DOOR LOCK SYSTEM

## 2. CHECK KEY SWITCH (WITH INTELLIGENT KEY)

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

Condition of key switch	Continuity
Key switch is "ON". (Key is inserted in IGN key cylinder.)	Yes
Key switch is "OFF". (Key is removed from IGN key cylinder.)	No



### OK or NG

OK >> Check the following.

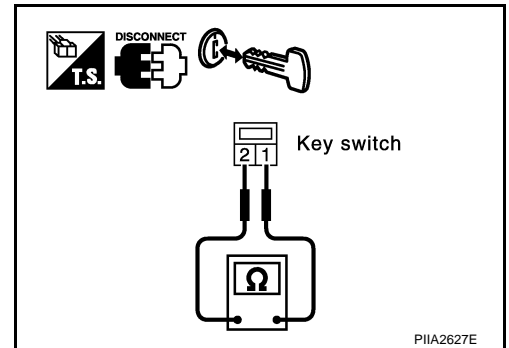
- 15A fuse (No. 22, located in fuse and fusible link block)
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.

## 3. CHECK KEY SWITCH (WITHOUT INTELLIGENT KEY)

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

Condition of key switch	Continuity
Key switch is "ON". (Key is inserted in IGN key cylinder.)	Yes
Key switch is "OFF". (Key is removed from IGN key cylinder.)	No



### OK or NG

OK >> Check the following.

- 15A fuse [No. 22, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.

# POWER DOOR LOCK SYSTEM

AIS004M3

## Check Door Lock and Unlock Switch

### 1. CHECK DOOR LOCK AND UNLOCK SWITCH INPUT SIGNAL

#### With CONSULT-II

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

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

**CDL LOCK SW : ON**

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

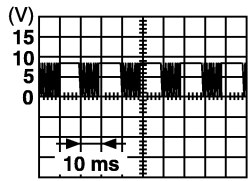
**CDL UNLOCK SW : ON**

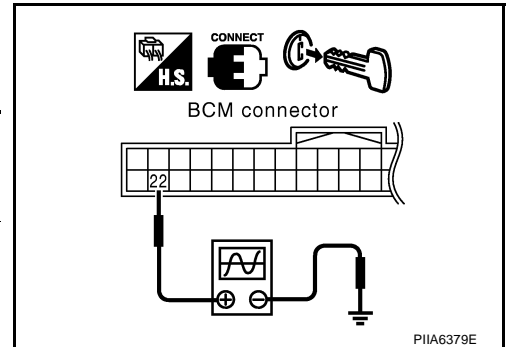
DATA MONITOR	
MONITOR	
CDL LOCK SW	OFF
CDL UNLOCK SW	OFF

PIIA6538E

#### Without CONSULT-II

- Remove key from ignition key cylinder.
- Check the signal between BCM connector M3 terminal 22 and ground with oscilloscope when door lock and unlock switch is turned "LOCK" or "UNLOCK".
- Make sure signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch is turned "LOCK" or "UNLOCK".

Connector	Terminal (Wire color)		Signal (Reference value)
	(+)	(-)	
M3	22(OR)	Ground	 <p>PIIA1297E</p>



#### OK or NG

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

# POWER DOOR LOCK SYSTEM

## 2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM, power window main switch and front power window switch connectors.
3. Check continuity between BCM connector M3 terminal 22 and power window main switch (door lock and unlock switch) connector D6 terminal 14.

**22 (OR) – 14 (Y) : Continuity should exist.**

4. Check continuity between power window main switch (door lock and unlock switch) connector D6 terminal 14 and ground.

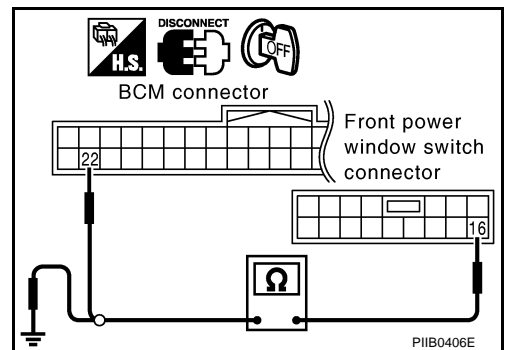
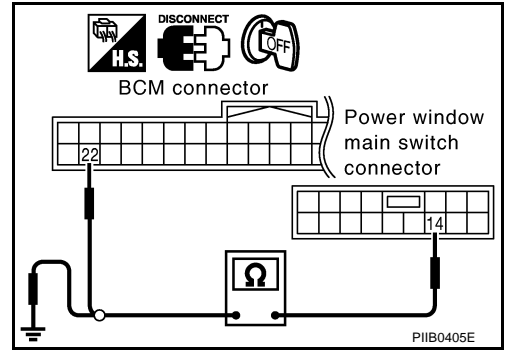
**14 (Y) – Ground : Continuity should not exist.**

5. Check continuity between BCM connector M3 terminal 22 and front power window switch (door lock and unlock switch) connector D36 terminal 16.

**22 (OR) – 16 (Y) : Continuity should exist.**

6. Check continuity between front power window switch (door lock and unlock switch) connector D36 terminal 16 and ground.

**16 (Y) – Ground : Continuity should not exist.**



### OK or NG

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

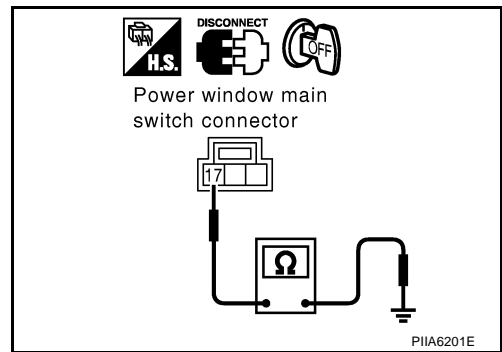
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# POWER DOOR LOCK SYSTEM

## 3. CHECK DOOR LOCK AND UNLOCK SWITCH GROUND HARNESS

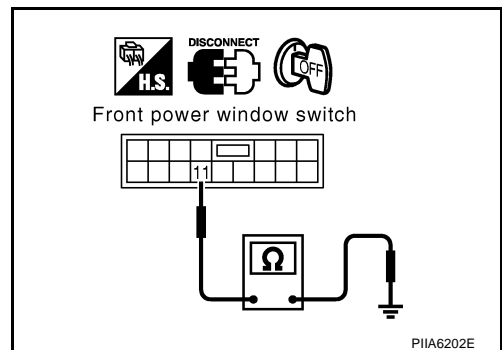
- Check continuity between power window main switch (door lock and unlock switch) connector D7 terminal 17 and ground.

**17 (B) – Ground : Continuity should exist.**



- Check continuity between power window sub-switch (front passenger side) (door lock and unlock switch) connector D36 terminal 11 and ground.

**11 (B) – Ground : Continuity should exist.**



### OK or NG

OK >> Replace power window main switch or power window sub-switch.

NG >> Repair or replace harness.

## Check Door Lock Actuator (Driver side)

AIS004M4

### 1. CHECK DOOR LOCK ACTUATOR HARNESS

- Turn ignition switch OFF.
- Disconnect BCM and front door lock actuator (driver side) connector.
- Check continuity between BCM connector M4 terminals 44, 50 and front door lock actuator (driver side) connector D10 terminals 2, 3.

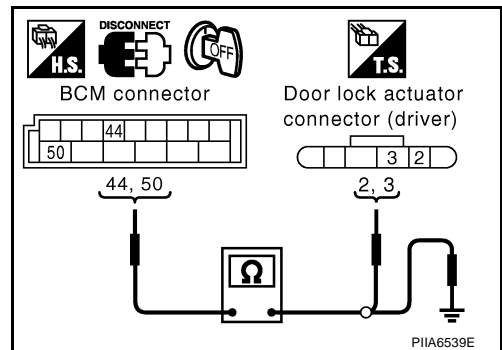
**44 (Y) – 2 (GY) : Continuity should exist.**

**50 (PU) – 3 (PU) : Continuity should exist.**

- Check continuity between BCM connector M4 terminals 44, 50 and ground.

**44 (Y) – Ground : Continuity should not exist.**

**50 (PU) – Ground : Continuity should not exist.**



### OK or NG

OK >> GO TO 2.

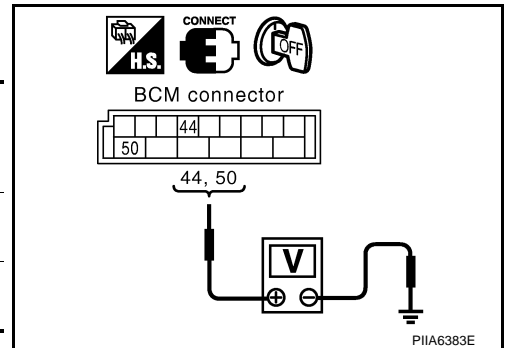
NG >> Repair or replace harness.

# POWER DOOR LOCK SYSTEM

## 2. CHECK OUTPUT SIGNAL

1. Connect BCM and door lock actuator (driver side) connector.
2. Check voltage between BCM connector M4 terminals 44, 50 and ground.

Con- nector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M4	44 (Y)	Ground	Driver door lock/unlock switch is turned to UNLOCK.	0 → Battery voltage
	50 (PU)		Driver door lock/unlock switch is turned to LOCK.	0 → Battery voltage



### OK or NG

- OK >> Check harness connection.  
 NG >> Replace BCM.

## Check Door Lock Actuator (Passenger Side and Rear LH/RH)

AIS004M5

### 1. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and each door lock actuator connectors.
2. Check continuity between BCM connector M4 terminals 50, 51 and front door lock actuator passenger side, rear door lock actuator LH/RH connectors D40, D52, D72 terminals 2, 3.

**50 (PU) – 3 (PU) : Continuity should exist.**

**51 (W/B) – 2 (L or Y) : Continuity should exist.**

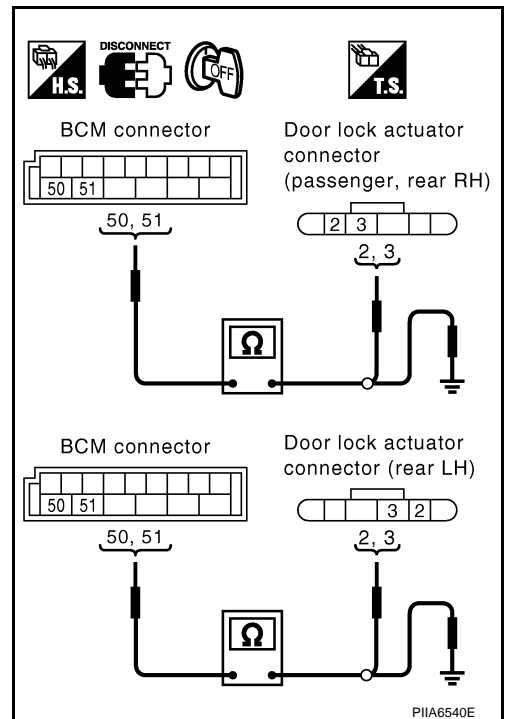
3. Check continuity between BCM connector M4 terminals 50, 51 and ground.

**50 (PU) – Ground : Continuity should not exist.**

**51 (W/B) – Ground : Continuity should not exist.**

### OK or NG

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

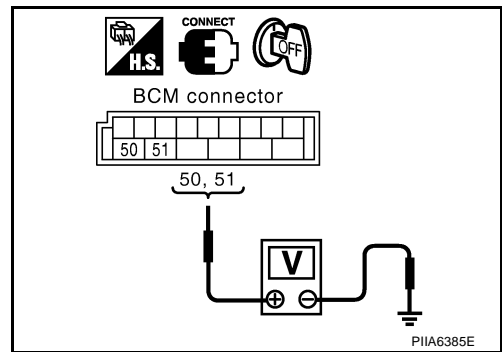


# POWER DOOR LOCK SYSTEM

## 2. CHECK DOOR LOCK ACTUATOR SIGNAL

Check voltage between BCM connector M4 terminals 50, 51 and ground.

Con- nector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M4	50 (PU)	Ground	Door lock/unlock switch is turned to LOCK.	0 → Battery voltage
	51 (W/B)		Door lock/unlock switch is turned to UNLOCK.	0 → Battery voltage



OK or NG

- OK >> Replace front door lock assembly (passenger side) or rear door lock actuator LH/RH.
- NG >> Replace BCM.

## Check Fuel Lid Opener Actuator

AIS004M6

### 1. CHECK FUEL LID OPENER ACTUATOR HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM and fuel lid lock actuator connector.
3. Check continuity between BCM connector M4 terminals 44, 50 and fuel lid lock actuator connector B70 terminals 1, 2.

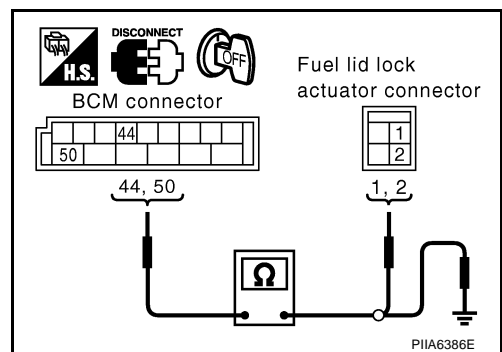
**44 (Y) – 2 (L) : Continuity should exist.**

**50 (PU) – 1 (PU) : Continuity should exist.**

4. Check continuity between BCM connector M4 terminals 44, 50 and ground.

**44 (Y) – Ground : Continuity should not exist.**

**50 (PU) – Ground : Continuity should not exist.**



OK or NG

- OK >> Replace fuel lid actuator.
- NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

## Check Front Door Key Cylinder Switch (Lock)

AIS004M7

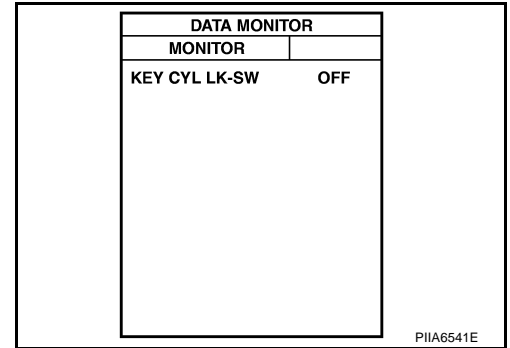
### 1. CHECK FRONT DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK SIGNAL)

#### With CONSULT-II

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

- When key cylinder switch is turned to "LOCK".

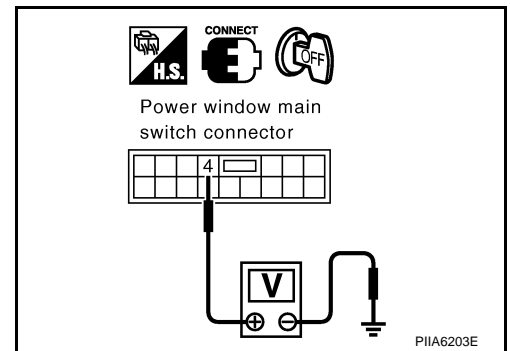
**KEY CYL LK-SW : ON**



#### Without CONSULT-II

Check voltage between power window main switch (door lock and unlock switch) connector D6 terminal 4 and ground.

Connector	Terminal (Wire color)		Front door key cylinder switch position	Voltage (V) (Approx.)
	(+)	(-)		
D6	4 (P)	Ground	Neutral / Unlock	5
			Lock	0



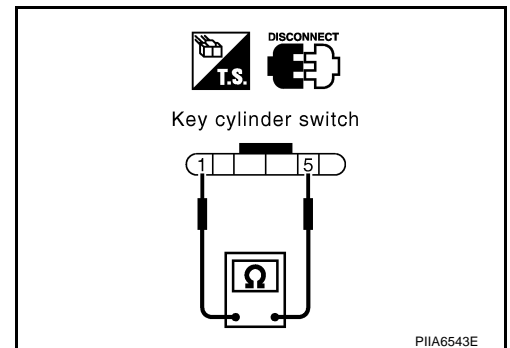
#### OK or NG

- OK >> Front door key cylinder switch circuit driver side (lock) is OK.
- NG >> GO TO 2.

### 2. CHECK FRONT DOOR KEY CYLINDER SWITCH

- Disconnect front door key cylinder switch driver side connector.
- Check continuity between front door key cylinder switch driver side terminals 1 and 5.

Front door key cylinder switch position	Continuity
Neutral / Unlock	No
Lock	Yes



#### OK or NG

- OK >> Check the following.
  - Front door key cylinder switch driver side ground circuit.
  - Harness for open or short between power window main switch (door lock and unlock switch) and front door key cylinder switch driver side.
- NG >> Replace front door key cylinder switch driver side.

# POWER DOOR LOCK SYSTEM

AIS004M8

## Check Front Door Key Cylinder Switch (Unlock)

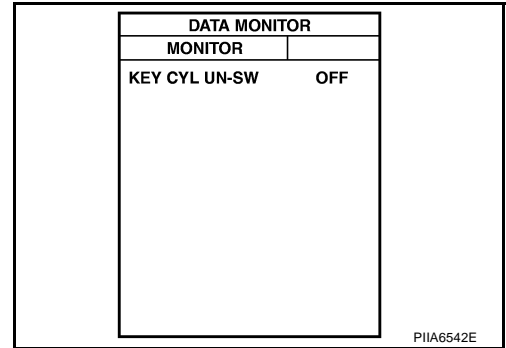
### 1. CHECK FRONT DOOR KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)

#### With CONSULT-II

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

- When key cylinder switch is turned to "UNLOCK".

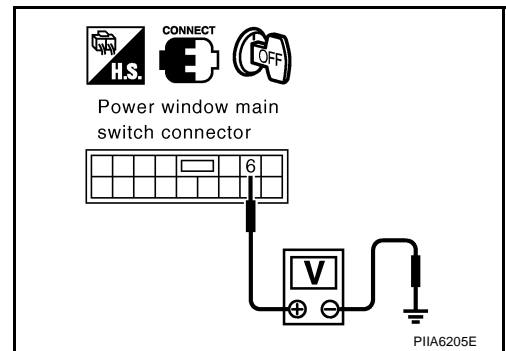
**KEY CYL UN-SW : ON**



#### Without CONSULT-II

Check voltage between main power window switch (door lock and unlock switch) connector D6 terminal 6 and ground.

Connector	Terminal (Wire color)		Front door key cylinder switch position	Voltage (V) (Approx.)
	(+)	(-)		
D6	6 (OR)	Ground	Neutral / Lock	5
			Unlock	0



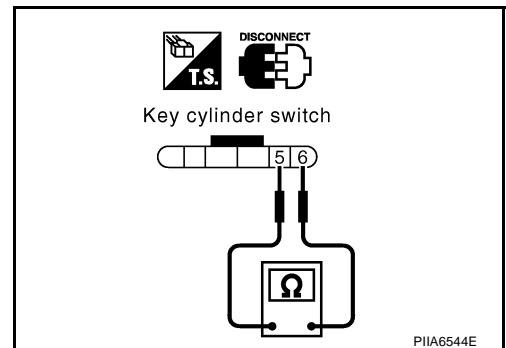
#### OK or NG

- OK >> Front door key cylinder switch circuit driver side (unlock) is OK.
- NG >> GO TO 2.

### 2. CHECK FRONT DOOR KEY CYLINDER SWITCH

- Disconnect front door key cylinder switch driver side connector.
- Check continuity between front door key cylinder switch driver side terminals 5 and 6.

Front door key cylinder switch position	Continuity
Neutral / Lock	No
Unlock	Yes



#### OK or NG

- OK >> Check the following.
  - Front door key cylinder switch driver side ground circuit
  - Harness for open or short between power window main switch (door lock and unlock switch) and front door key cylinder switch driver side
- NG >> Replace front door key cylinder switch driver side.

# POWER DOOR LOCK SYSTEM

AIS004M9

## Check Select Unlock Relay Circuit

### 1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM, door lock actuator (driver side), and passenger side select unlock relay connector.
3. Check continuity between BCM connector M4 terminal 50 and passenger side select unlock relay connector M30 terminal 4.

**50 (PU) – 4 (PU) : Continuity should exist.**

4. Check continuity between passenger side select unlock relay connector M30 terminal 4 and ground.

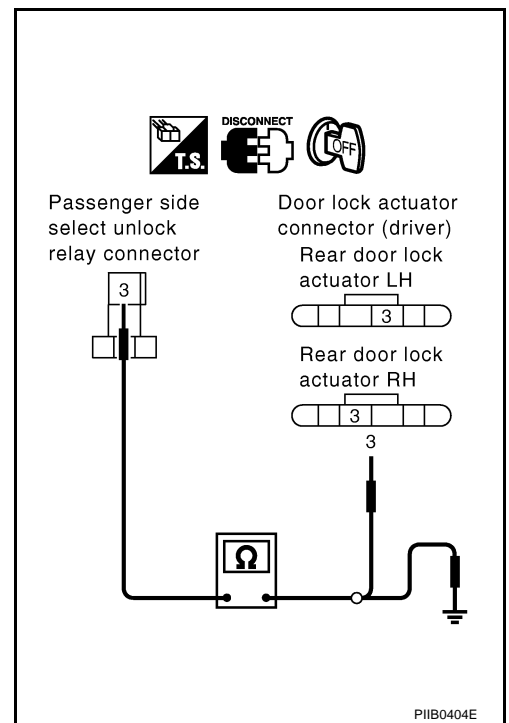
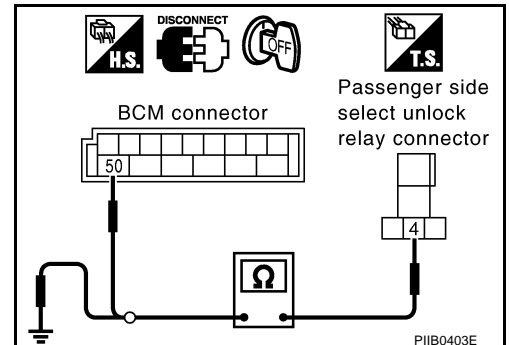
**4 (PU) – Ground : Continuity should not exist.**

5. Check continuity between passenger side select unlock relay connector M30 terminal 3 and door lock actuator connector D10 (driver side), D52 (rear LH), D72 (rear RH) terminal 3.

**3 (PU) – 3 (PU) : Continuity should exist.**

6. Check continuity between passenger side unlock relay connector M30 terminal 3 and ground.

**3 (PU) – Ground : Continuity should not exist.**



### OK or NG

- OK >> Check passenger side select unlock relay.  
NG >> Repair or replace harness.

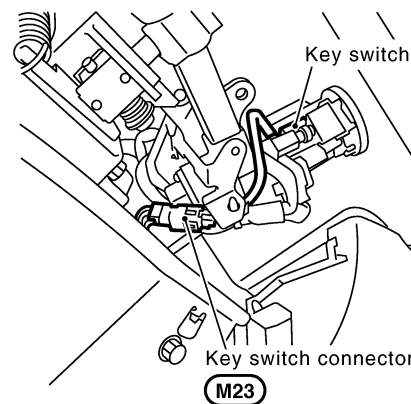
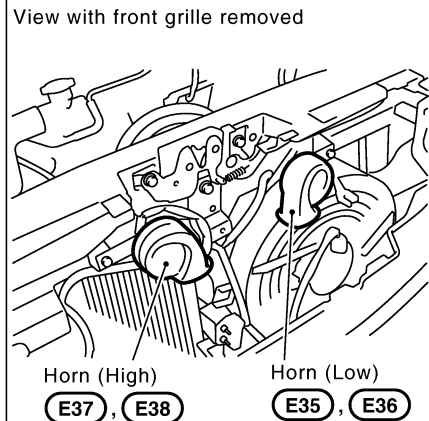
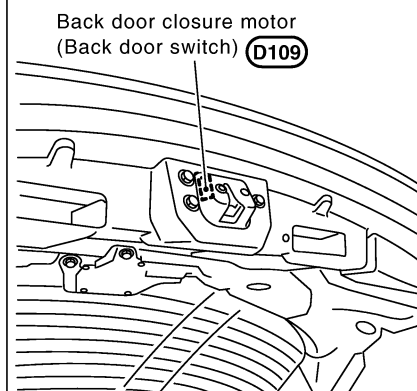
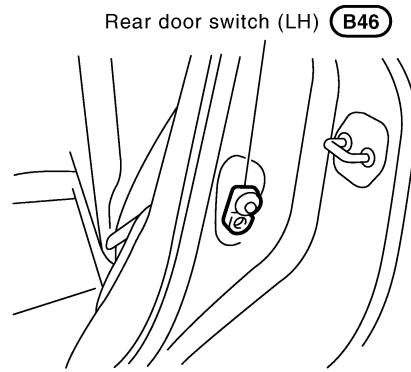
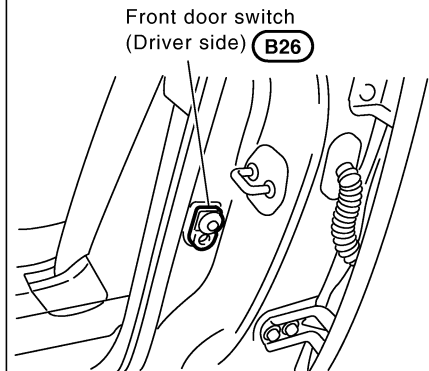
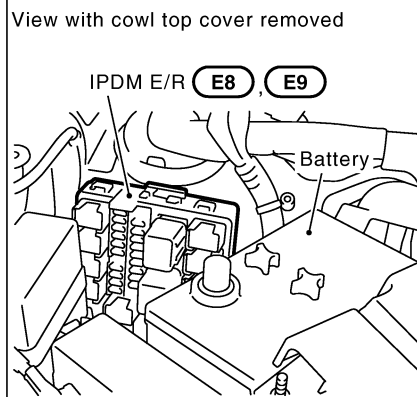
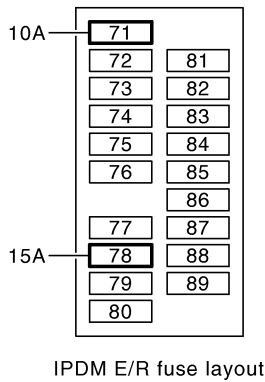
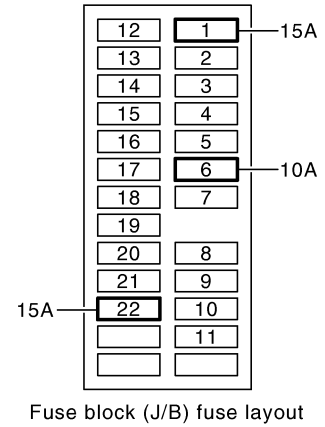
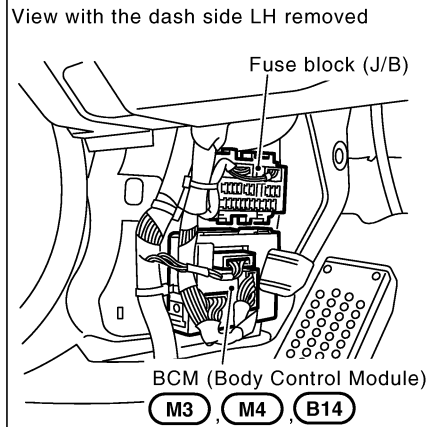
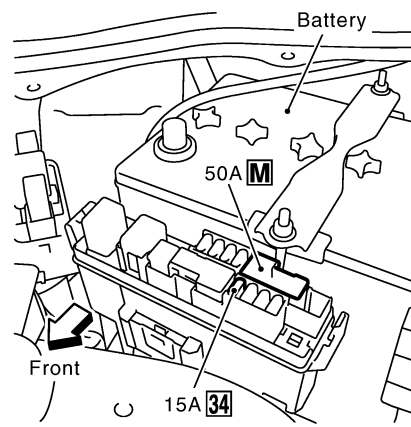
# REMOTE KEYLESS ENTRY SYSTEM

PFP:28596

AIS004MA

## REMOTE KEYLESS ENTRY SYSTEM

### Component Parts and Harness Connector Location



PIIA6413E

# REMOTE KEYLESS ENTRY SYSTEM

AIS004MB

## System Description

### INPUTS

Power is supplied at all times

- to BCM terminal 55
- through 50A fusible link (letter **M** , located in the fuse and fusible link box).
- to BCM terminal 42
- through 15A fuse (No. 22, located in the fuse and fusible link box).

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

- to BCM terminal 37
- through key switch terminal 1 and 2
- through 15A fuse (No. 22, located in the fuse and fusible link box).

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

- to BCM terminal 11
- through 10A fuse [No. 6, located in the fuse block (J/B)].

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

- to BCM terminal 38
- through 15A fuse [No. 1, located in the fuse block (J/B)].

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

- to BCM terminal 62
- through front door switch (driver side) terminal 1
- through front door switch (driver side) case ground.

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

- to BCM terminal 12
- through front door switch (passenger side) terminal 1
- through front door switch (passenger side) case ground.

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

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

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

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

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

- to BCM terminal 58
- through back door closure motor (door switch) terminals 7 and 8
- through body grounds B15 and B45

Key fob signal is inputted to BCM (the antenna of the system is combined with BCM).

The remote keyless entry system controls operation of the

- power door lock
- hazard and horn reminder
- auto door lock
- panic alarm
- keyless power window down (open)
- room lamp and key ring illumination

A

B

C

D

E

F

G

H

BL

J

K

L

M

# REMOTE KEYLESS ENTRY SYSTEM

## OPERATED PROCEDURE

### Power Door Lock Operation

BCM receives a LOCK signal from key fob. BCM locks all doors with input of LOCK signal from key fob. When an UNLOCK signal is sent from key fob once, driver's door will be unlocked. Then, if an UNLOCK signal is sent from key fob again within 5 seconds, all other door will be unlocked. Power door lock operation mode can be changed using "DOOR LOCK-UNLOCK SET" mode in "WORK SUPPORT" of "POWER DOOR LOCK SYSTEM".

Refer to [BL-67, "Work Support"](#) .

Power door lock operation mode can be changed also on the display.

Refer to [AV-58, "SETTING SCREEN"](#) . (without navigation system)

Refer to [AV-95, "Vehicle Electronic Systems"](#) . (with navigation system)

### Hazard and Horn Reminder

When the doors are locked or unlocked by key fob, power is supplied to hazard warning lamp and lamp flash as follows

- LOCK operation: C mode (flash twice) or S mode (flash twice)
- UNLOCK operation: C mode (flash once) or S mode (do not flash)

BCM outputs 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	—	—	—

Hazard and horn reminder do not operate if any door switch is ON (any door is OPEN).

### How to change hazard and horn reminder mode

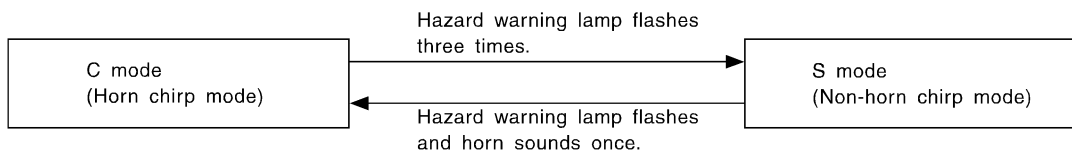
#### Ⓟ With CONSULT-II

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

Refer to [BL-67, "Work Support"](#) .

#### ⓧ Without CONSULT-II

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



SEL153WA

### Auto Door Lock Operation

Auto lock function signal is sent for operation when any of the following signals are not sent within 1 minute after the unlock signal is sent from the key fob:

- when door switch is turned ON for open.
- when the key switch is turned ON.
- when the lock signal is sent from the key fob.

Auto door lock mode can be changed using "AUTO LOCK SET" mode in "WORK SUPPORT".

Refer to [BL-67, "Work Support"](#) .

Auto door lock mode can be changed also on the display.

# REMOTE KEYLESS ENTRY SYSTEM

Refer to [AV-58, "SETTING SCREEN"](#) . (without navigation system)

Refer to [AV-95, "Vehicle Electronic Systems"](#) . (with navigation system)

## Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), BCM turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from key fob.

The alarm automatically turns off after 25 seconds or when BCM receives any signal from key fob.

Panic alarm operation mode can be changed using "PANIC ALARM SET" mode in "WORK SUPPORT".

Refer to [BL-67, "Work Support"](#) .

For detailed description, refer to [BL-181, "VEHICLE SECURITY \(THEFT WARNING\) SYSTEM"](#) .

## Keyless Power Window Down (open) Operation

When key fob unlock switch is turned ON with ignition switch OFF, and key fob unlock 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 key fob unlock switch is pressed.

Keyless power window down operation mode can be changed using "PW DOWN SET" mode in "WORK SUPPORT". Refer to [BL-67, "Work Support"](#)

## Room Lamp and Ignition Key ring Illumination Operation

When the following conditions come:

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

Remote keyless entry system turns on interior lamp (for 30 seconds) with input of UNLOCK signal from key fob. For detailed description, refer to [LT-157, "INTERIOR ROOM LAMP"](#) .

## CAN Communication System Description

AIS004MC

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

## CAN Communication Unit

AIS004RM

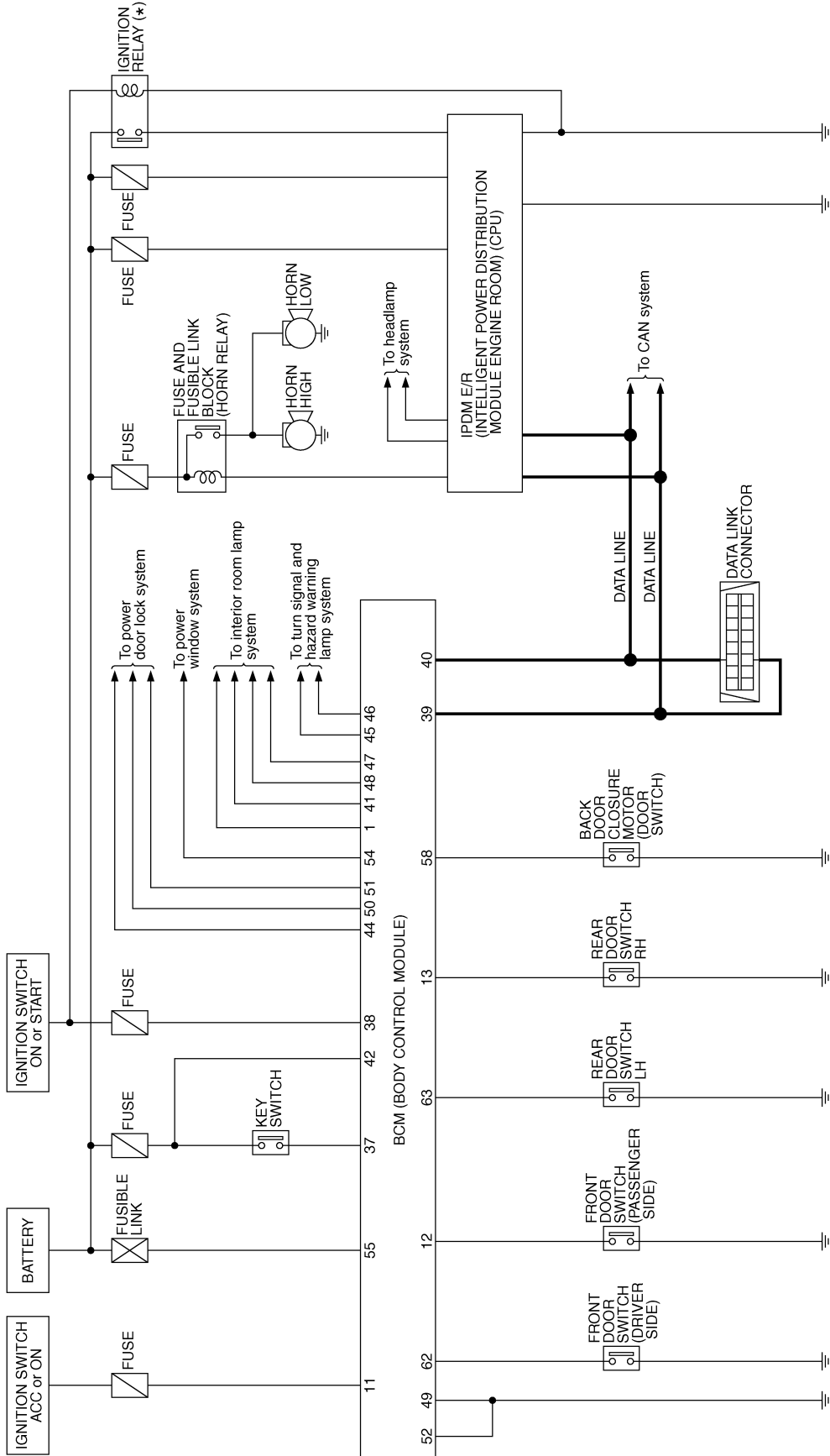
Refer to [LAN-6, "CAN COMMUNICATION"](#) .

# REMOTE KEYLESS ENTRY SYSTEM

## Schematic

AIS004MD

\* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).



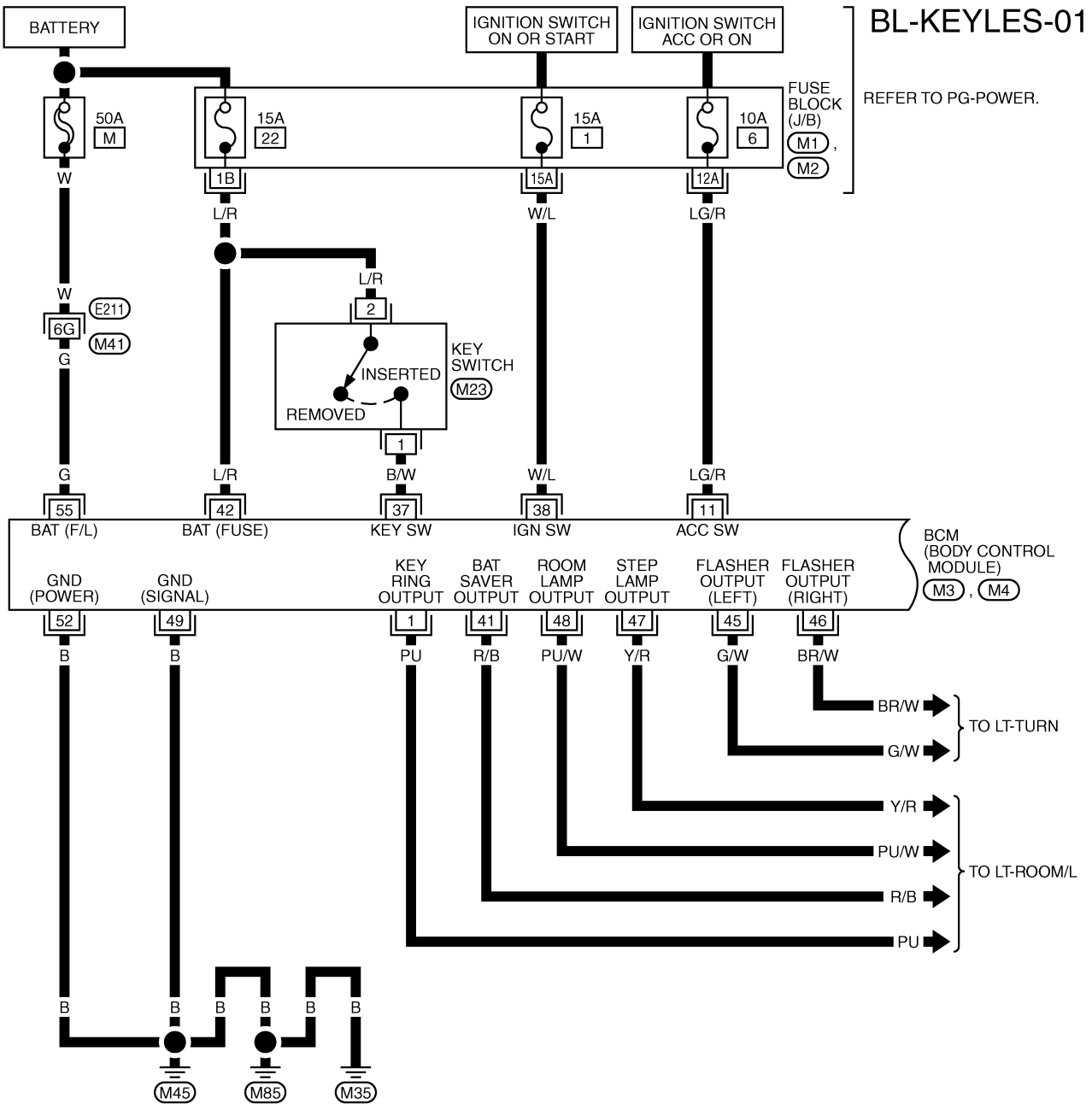
TIWM0327E



# REMOTE KEYLESS ENTRY SYSTEM

AIS004ME

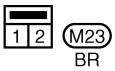
**Wiring Diagram — KEYLES—**  
**FIG. 1**



**BL-KEYLES-01**

REFER TO PG-POWER.

BCM  
(BODY CONTROL  
MODULE)  
(M3), (M4)



REFER TO THE FOLLOWING.  
 (E21) -SUPER MULTIPLE  
 JUNCTION (SMJ)  
 (M1), (M2) -FUSE BLOCK-  
 JUNCTION BOX (J/B)  
 (M3), (M4) -ELECTRICAL  
 UNITS

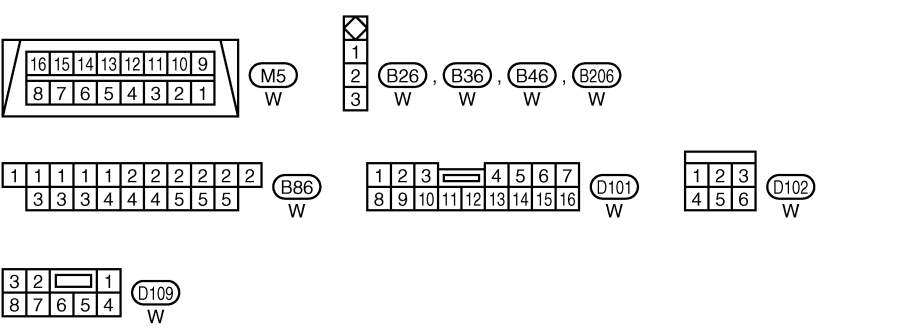
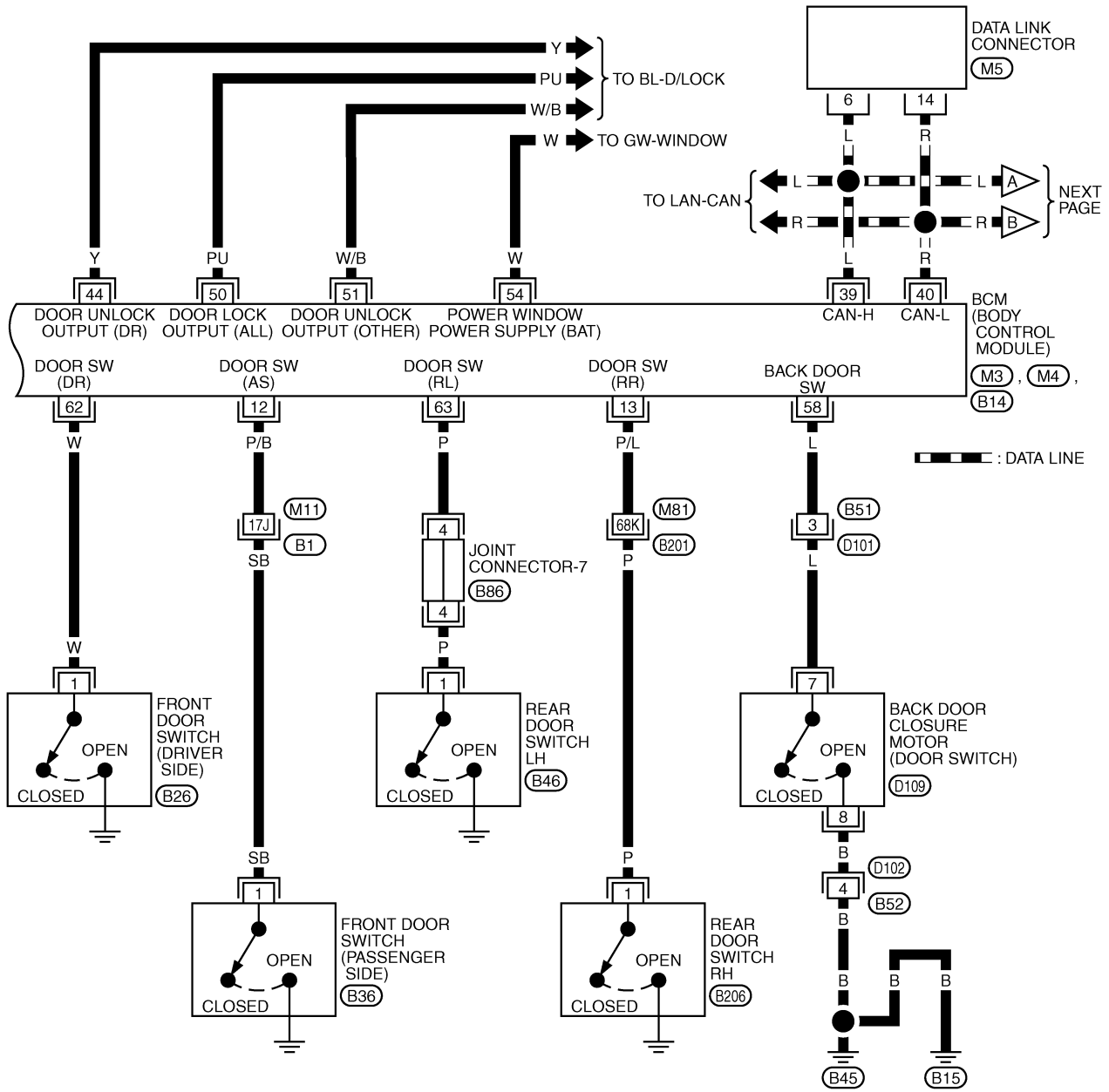
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# REMOTE KEYLESS ENTRY SYSTEM

FIG. 2

BL-KEYLES-02

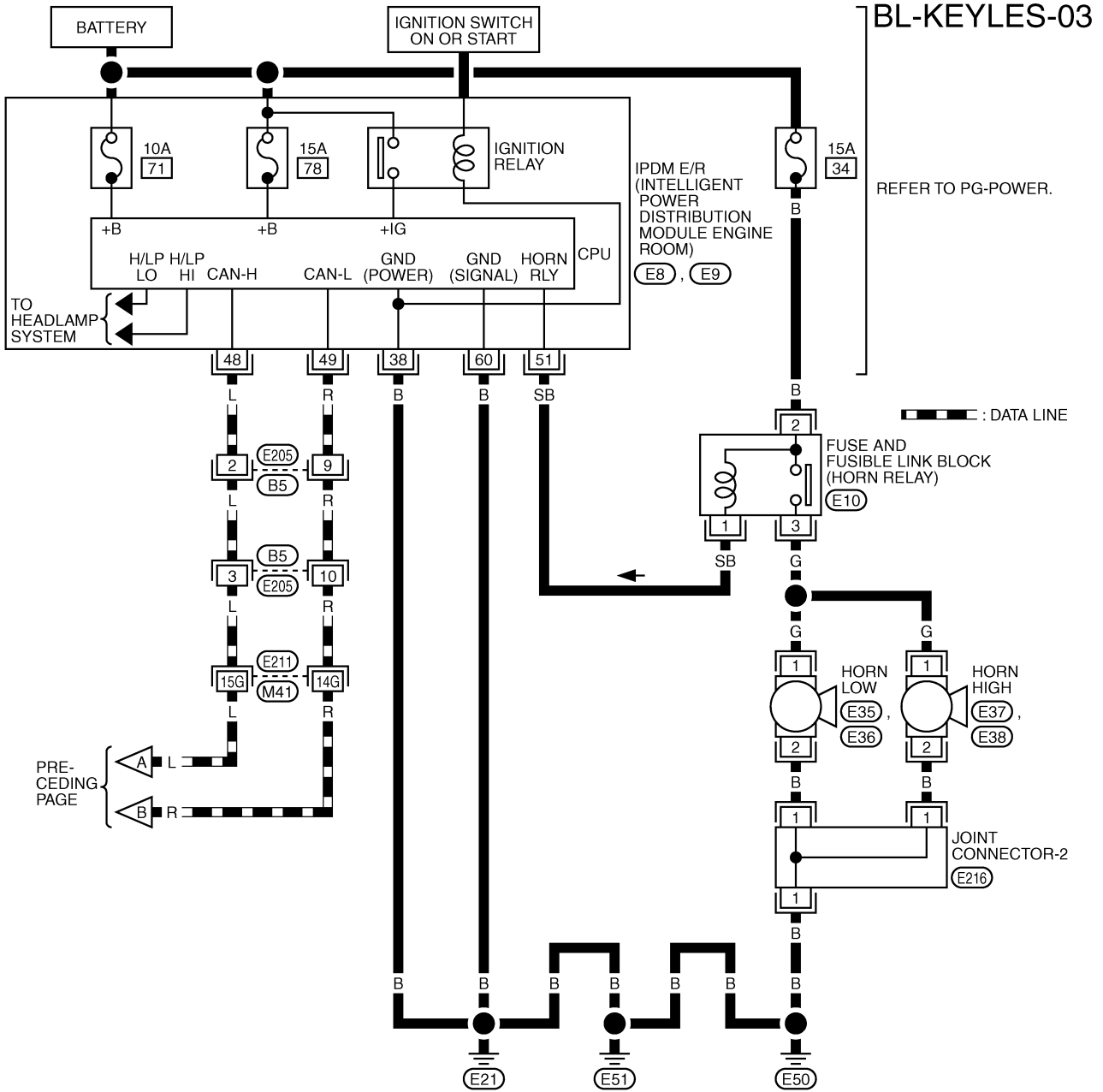


REFER TO THE FOLLOWING.  
 (B1), (B201) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M3), (M4), (B14) -ELECTRICAL UNITS

T1WH0040E

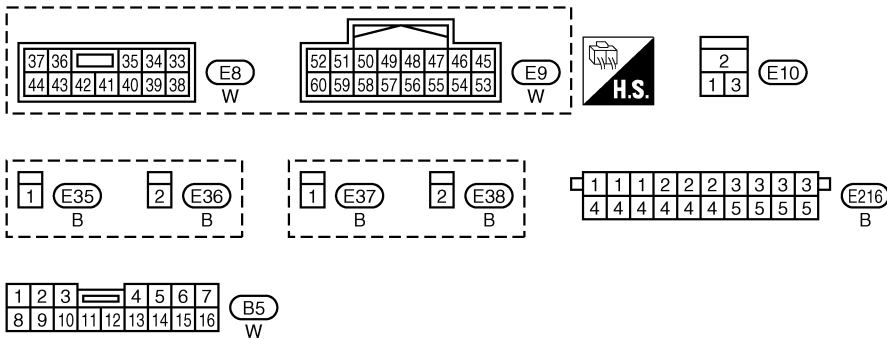
# REMOTE KEYLESS ENTRY SYSTEM

FIG. 3



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BL



# REMOTE KEYLESS ENTRY SYSTEM

## Terminals and Reference Value for BCM

AIS004MF

TERMI- NAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
1	PU	Key ring illumination output signal	Key ring illumination is lighting.	Battery voltage
			Key ring illumination is being turned off.	0
11	LG/R	Ignition switch	Ignition switch is in ACC or ON position	Battery voltage
12	P/B	Front door switch (Passenger side)	ON (door open) → OFF (door closed)	0 → Battery voltage
13	P/L	Rear door switch RH	ON (door open) → OFF (door closed)	0 → Battery voltage
37	B/W	Key switch	ON (Key is inserted in IGN key cylinder) → OFF (Key is removed from IGN key cylinder)	Battery voltage → 0
38	W/L	Ignition switch	Ignition switch is in ON or START position	Battery voltage
39	L	CAN H	—	—
40	R	CAN L	—	—
41	R/B	Battery saver output signal	30 minutes after ignition switch is turned to OFF	0
			Ignition switch is in ON position	Battery voltage
42	L/R	Battery power supply (fuse)	—	Battery voltage
44	Y	Driver door lock actuator (Unlock)	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage
45	G/W	Left turn signal lamp	When door lock or unlock is operated using key fob.*1 (ON → OFF)	Battery voltage → 0
46	BR/W	Right turn signal lamp	When door lock or unlock is operated using key fob.*1 (ON → OFF)	Battery voltage → 0
47	Y/R	Step lamp output signal	Step lamp is lighting.	0
			Step lamp is being turned off.	Battery voltage
48	PU/W	Room lamp output signal	Room lamp is lighting.*2	0
			Room lamp is being turned off.*2	Battery voltage
49, 52	B	Ground	—	0
50	PU	Door lock actuator (Lock)	Door lock / unlock switch (Free → Lock)	0 → Battery voltage
51	W/B	Passenger and rear doors lock actuator (Unlock)	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage
54	W	Battery power supply (power window)	—	Battery voltage
55	G	Battery power supply (Fusible link)	—	Battery voltage
58	L	Back door switch	OFF (Door close) → ON (Door open)	9 → 0
62	W	Front door switch (Driver side)	OFF (Door close) → ON (Door open)	Battery voltage → 0
63	P	Rear door switch LH	OFF (Door close) → ON (Door open)	Battery voltage → 0

\*1 : In the state that hazard reminder operates.

\*2 : In the state that room lamp switch is in "DOOR" position.

# REMOTE KEYLESS ENTRY SYSTEM

## Terminals and Reference Value for IPDM E/R

AIS004MG

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
38	B	Ground	—	0
48	L	CAN H	—	—
49	R	CAN L	—	—
51	SB	Horn relay	When door lock is operated using key fob* (OFF → ON)	Battery voltage → 0
60	B	Ground	—	0

\* : In the state that horn reminder operates.

## CONSULT-II Function

AIS004MH

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

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

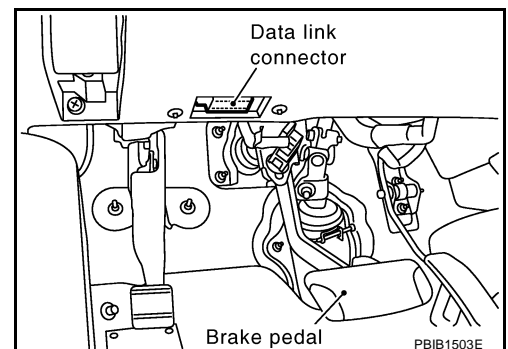
\*:Refer to [BCS-14. "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

## CONSULT-II INSPECTION PROCEDURE

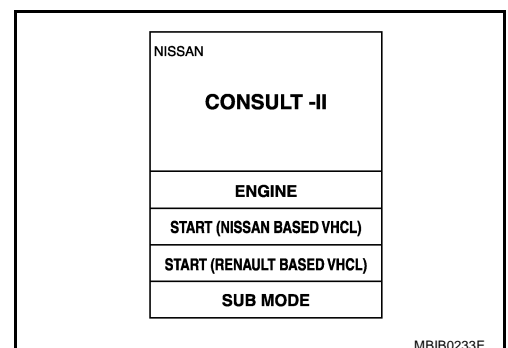
### CAUTION:

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.

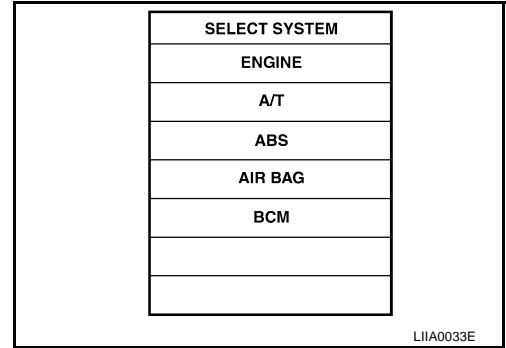


3. Turn ignition switch "ON".
4. Touch "START (NISSAN BASED VHCL)".

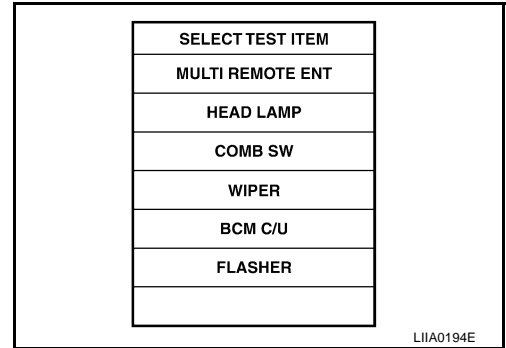


# REMOTE KEYLESS ENTRY SYSTEM

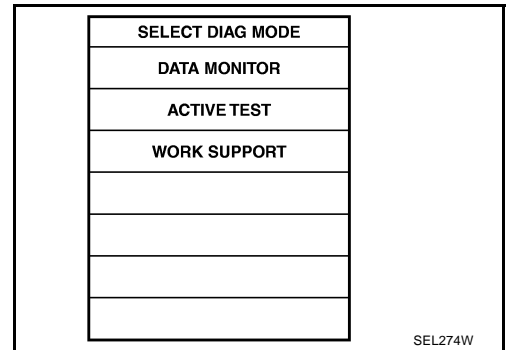
5. Touch "BCM".  
If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



6. Touch "MULTI REMOTE ENT".



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



## CONSULT-II APPLICATION ITEMS

### Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLWSS UNLOCK	Indicates [ON/OFF] condition of unlock signal from key fob.
KEYLESS PANIC	Indicates [ON/OFF] condition of panic signal from key fob.
KEYLESS TRUNK	This is displayed even when it is not equipped.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch driver side.
DOOR SW-AS	Indicates [ON/OFF] condition of door switch passenger side.
DOOR SW-RR	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
TRUNK OPN MNTR	This is displayed even when it is not equipped.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock and unlock switch.

# REMOTE KEYLESS ENTRY SYSTEM

Monitored Item	Description
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock and unlock switch.
RKE LCK-UNLOCK	Indicates [ON/OFF] condition of simultaneous signal of lock and unlock from key fob.
RKE KEEP UNLK	Indicates [ON/OFF] condition of unlock continuousness signal from key fob.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder switch.

## Active Test

Test Item	Description
FLASHER	This test is able to check right hazard reminder operation. The right hazard lamp turns on when "ON" on CONSULT-II screen is touched.
POWER WINDOW DOWN	This test is able to check power window open operation. The front power windows activate for 10 seconds after "ON" on CONSULT-II screen is touched.
HORN	This test is able to check panic alarm and horn reminder operations. The horn activate for 0.5 seconds after "ON" on CONSULT-II screen is touched.
DOOR LOCK	This test is able to check door lock actuator operation. <ul style="list-style-type: none"> <li>● The all door lock actuator are locked when "ALL LOCK" on CONSULT-II screen is touched.</li> <li>● The all door lock actuator are unlocked when "ALL UNLOCK" on CONSULT-II screen is touched.</li> <li>● The door lock actuator (driver side) is unlocked when "DR UNLOCK" on CONSULT-II screen is touched.</li> <li>● The all door lock actuator (except driver side) are unlocked when "OTHER UNLOCK" on CONSULT-II screen is touched.</li> </ul>
TRUNK/BACK DOOR	This is displayed even when it is not equipped.

## Work Support

Test Item	Description
HORN CHIRP SET*	Horn reminder mode can be changed in this mode. The horn reminder mode will be changed when "CHANGE SETT" on CONSULT-II screen is touched.
HAZARD LAMP SET*	Hazard reminder mode can be changed in this mode. The hazard reminder mode will be changed when "CHANGE SETT" on CONSULT-II screen is touched.
MULTI ANSWER BACK SET	Hazard and horn reminder mode can be changed in this mode. The hazard and horn reminder mode will be changed when "CHANGE SETT" on CONSULT-II screen is touched.
AUTO LOCK SET	Auto locking function mode can be changed in this mode. The function mode will be changed when "CHANGE 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 "CHANGE 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 "CHANGE SETT" on CONSULT-II screen is touched.

\*: Perform this mode always in the state of C mode. Refer to [BL-58. "Hazard and Horn Reminder"](#).

### HORN CHIRP SET\*

Horn chirp function	ON	OFF

\*: Perform this mode always in the state of C mode. Refer to [BL-58. "Hazard and Horn Reminder"](#).

This mode can be changed also on the display.

Refer to [AV-58. "SETTING SCREEN"](#). (without navigation system)

Refer to [AV-95. "Vehicle Electronic Systems"](#). (with navigation system)

### HAZARD LAMP BACK SET\*

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

\*: Perform this mode always in the state of C mode. Refer to [BL-58. "Hazard and Horn Reminder"](#).

This mode can be changed also on the display.

Refer to [AV-58. "SETTING SCREEN"](#). (without navigation system)

Refer to [AV-95. "Vehicle Electronic Systems"](#). (with navigation system)

# REMOTE KEYLESS ENTRY SYSTEM

## MULTI ANSWER BACK SET

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

## AUTO LOCK SET

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

## PANIC ALARM SET

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

## PW DOWN SET

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

## Work Flow

AIS004MI

1. Check the symptom and customer's requests.
2. Understand outline of system. Refer to [BL-57, "System Description"](#) .
3. Confirm that power door lock system operates normally.  
Refer to [BL-22, "POWER DOOR LOCK SYSTEM"](#) .
4. Repair or replace any malfunctioning parts.  
Refer to [BL-69, "Trouble Diagnosis Chart by Symptom"](#) .
5. INSPECTION END



# REMOTE KEYLESS ENTRY SYSTEM

AIS004MJ

## Trouble Diagnosis Chart by Symptom

### NOTE:

- Always check the "Work Flow" before troubleshooting. Refer to [BL-68, "Work Flow"](#) .
- Always check key fob battery before replacing key fob.

Symptom	Diagnoses/service procedure	Reference page
All function of remote keyless entry system do not operate.	1. Check key fob battery and function.	<a href="#">BL-71</a>
	2. Replace key fob. Refer to ID Code Entry Procedure. <b>NOTE:</b> If the result of key fob function check with CONSULT-II is OK, key fob is not malfunctioning.	<a href="#">BL-80</a>
	3. Replace BCM.	<a href="#">BCS-15</a>
The new ID of key fob cannot be entered.	1. Check key fob battery and function.	<a href="#">BL-71</a>
	2. Check key switch.	<a href="#">BL-77</a>
	3. Check door switch.	<a href="#">BL-73</a>
	4. Check ACC switch.	<a href="#">BL-72</a>
	5. Replace key fob. Refer to ID Code Entry Procedure. <b>NOTE:</b> If the result of key fob function check with CONSULT-II is OK, key fob is not malfunctioning.	<a href="#">BL-80</a>
	6. Replace BCM.	<a href="#">BCS-15</a>
Door lock or unlock does not function with key fob. (Power door lock system is "OK".)	1. Check key fob battery and function.	<a href="#">BL-71</a>
	2. Replace key fob. Refer to ID Code Entry Procedure. <b>NOTE:</b> If the result of key fob function check with CONSULT-II is OK, key fob is not malfunctioning.	<a href="#">BL-80</a>
	3. Replace BCM.	<a href="#">BCS-15</a>
Hazard and horn reminder does not activate properly when pressing lock or unlock button of key fob.	1. Check hazard and horn reminder mode.* *: Hazard and horn reminder mode can be changed. First check the hazard and horn reminder setting.	<a href="#">BL-67</a>
	2. Check door switch.	<a href="#">BL-73</a>
	3. Replace BCM.	<a href="#">BCS-15</a>
Hazard reminder does not activate properly when pressing lock or unlock button of key fob. (Horn reminder is "OK".)	1. Check hazard reminder mode.* *: Hazard reminder mode can be changed. First check the hazard reminder setting.	<a href="#">BL-67</a>
	2. Check hazard function with hazard switch.	<a href="#">BL-79</a>
	3. Replace BCM.	<a href="#">BCS-15</a>
Horn reminder does not activate properly when pressing lock button of key fob. (Hazard reminder is "OK".)	1. Check horn reminder mode.* *: Horn reminder can be changed. First check the horn chirp setting.	<a href="#">BL-67</a>
	2. Check horn function.	<a href="#">BL-79</a>
	3. Check IPDM E/R operation.	<a href="#">BL-78</a>
	4. Replace BCM.	<a href="#">BCS-15</a>

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# REMOTE KEYLESS ENTRY SYSTEM

Symptom	Diagnoses/service procedure	Reference page
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Check panic alarm mode.* *: Panic alarm mode can be changed. First check the panic alarm setting.	<a href="#">BL-67</a>
	2. Check key fob battery and function.	<a href="#">BL-71</a>
	3. Check headlamp function.	<a href="#">BL-79</a>
	4. Check horn function.	<a href="#">BL-79</a>
	5. Check IPDM E/R operation.	<a href="#">BL-78</a>
	6. Check key switch.	<a href="#">BL-77</a>
	7. Replace key fob. Refer to ID Code Entry Procedure. <b>NOTE:</b> If the result of key fob function check with CONSULT-II is OK, key fob is not malfunctioning.	<a href="#">BL-80</a>
	8. Replace BCM.	<a href="#">BCS-15</a>
Auto door lock operation does not activate properly. (All other remote keyless entry system function is OK.)	1. Check auto door lock operation mode.* *: Auto door lock operation mode can be changed. First check the auto door lock operation setting.	<a href="#">BL-67</a>
	2. Replace BCM.	<a href="#">BCS-15</a>
Keyless power window down (open) operation does not activate properly. (All other remote keyless entry system function is OK.)	1. Check power window down operation mode.* *: Power window down operation mode can be changed. First check the power window down setting.	<a href="#">BL-67</a>
	2. Check power window function.	<a href="#">GW-15</a>
	3. Replace BCM.	<a href="#">BCS-15</a>
Map lamp and ignition keyhole illumination operation does not activate properly.	1. Check map lamp and ignition keyhole illumination operation.	<a href="#">BL-79</a>
	2. Check door switch.	<a href="#">BL-73</a>
	3. Replace BCM.	<a href="#">BCS-15</a>

# REMOTE KEYLESS ENTRY SYSTEM

AIS004MK

## Check Key Fob Battery and Function

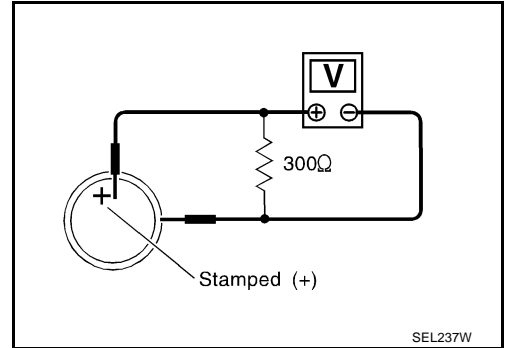
### 1. CHECK KEY FOB BATTERY

1. Remove key fob battery. Refer to [BL-83, "Key Fob Battery Replacement"](#).
2. Measure voltage between battery positive and negative terminals, (+) and (-).

**Voltage** : 2.5 – 3.0V

**NOTE:**

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



OK or NG

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

### 2. CHECK KEY FOB FUNCTION

**With CONSULT-II**

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

Condition	Monitor item
Pushing LOCK	KEYLESS LOCK : ON
Pushing UNLOCK	KEYLESS UNLOCK : ON
Keep pushing UNLOCK	RKE KEEP UNLK : ON
	*: UN BUTTON ON turns to ON three seconds after UNLOCK button keeps pushing.
Pushing PANIC	KEYLESS PANIC : ON
Pushing LOCK and UNLOCK at the same time	RKE LCK-UNLOCK : ON

DATA MONITOR	
MONITOR	
KEYLESS LOCK	OFF
KEYLESS UNLOCK	OFF
RKE KEEP UNLK	OFF
RKE LCK-UNLOCK	OFF
KEYLESS PANIC	OFF

PIA6468E

OK or NG

- OK >> Key fob is OK.
- NG >> Replace key fob.

# REMOTE KEYLESS ENTRY SYSTEM

AIS004ML

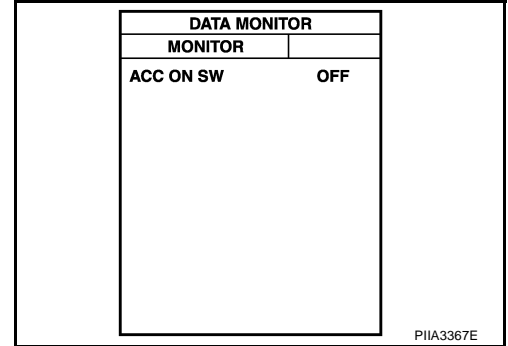
## Check ACC Switch

### 1. CHECK ACC SWITCH

#### With CONSULT-II

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

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

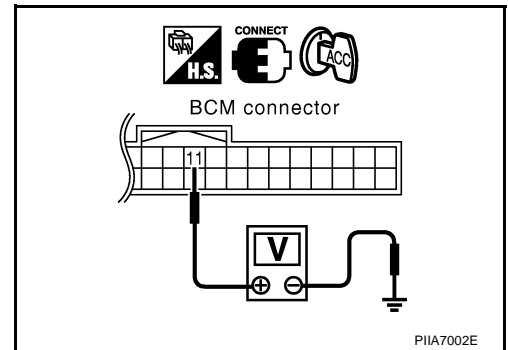


PIIA3367E

#### Without CONSULT-II

Check voltage between BCM connector and ground.

Item	(+) Terminal (Wire color)		(-)	Condition	Voltage (V) Approx.
	Con- nector	Terminal			
BCM	M3	11 (LG/R)	Ground	ACC or ON	Battery voltage
				OFF	0



PIIA7002E

#### OK or NG

OK >> ACC switch is OK.

NG >> Check the following.

- 10A fuse [No. 6, located in fuse block (J/B)]
- Harness for open or short between BCM and fuse.

# REMOTE KEYLESS ENTRY SYSTEM

AIS004MM

## Check Door Switch CHECK DOOR SWITCH (EXCEPT BACK DOOR SWITCH)

### 1. CHECK DOOR SWITCH INPUT SIGNAL

#### ④ With CONSULT-II

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

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

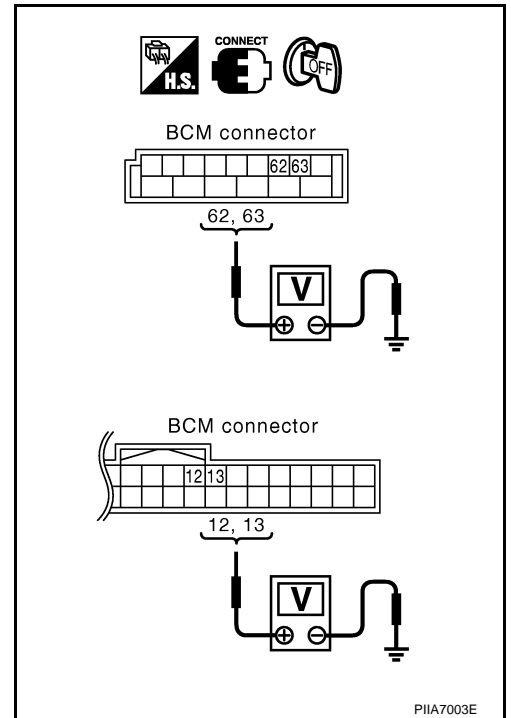
DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF
DOOR SW-AS	OFF
DOOR SW-RL	OFF
DOOR SW-RR	OFF

PIIA6469E

#### ⊗ Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Connector	Terminals (Wire color)		Door condition	Voltage (V) (Approx.)
		(+)	(-)		
Driver side	B14	62 (W)	Ground	CLOSE ↓ OPEN	Battery voltage ↓ 0
Rear LH		63 (P)			
Passenger side	M3	12 (P/B)			
Rear RH		13 (P/L)			



#### OK or NG

- OK >> Door switch circuit 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 connector.
3. Check continuity between door switch connector B26, B36, B46, B206 terminals 1 and BCM connector M3, B14 terminals 62, 12, 63, 13.

### Driver side door

1 (W) – 62 (W) : Continuity should exist.

### Passenger side door

1 (SB) – 12 (P/B) : Continuity should exist.

### Rear door LH

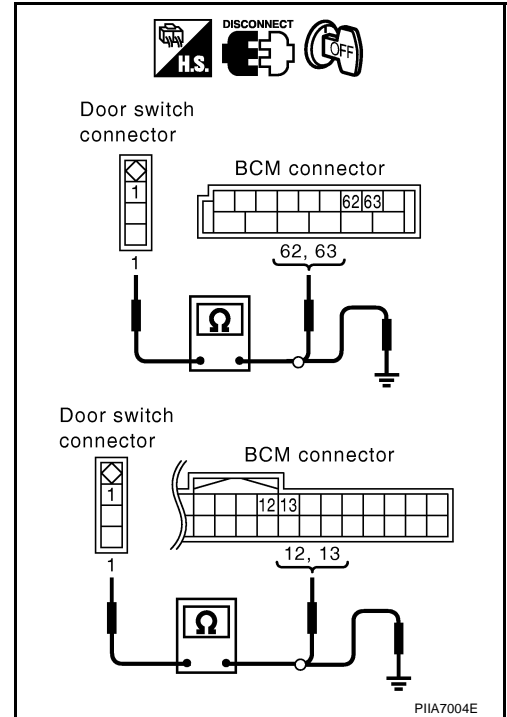
1 (P) – 63 (P) : Continuity should exist.

### Rear door RH

1 (P) – 13 (P/L) : Continuity should exist.

4. Check continuity between door switch connector B26, B36, B46, B206 terminal 1 and ground.

1 (W, SB, P) – Ground : Continuity should not exist.



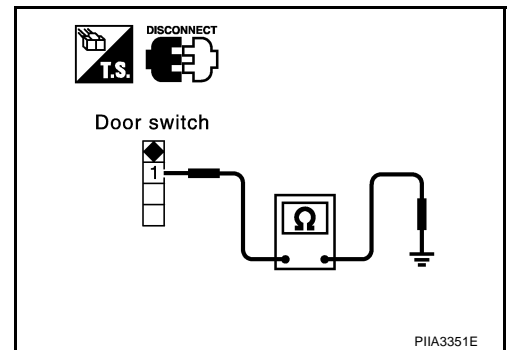
### OK or NG

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

## 3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and ground part of door switch.

Terminal	Door switch condition	Continuity
1	Pushed	No
	Released	Yes



### OK or NG

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

# REMOTE KEYLESS ENTRY SYSTEM

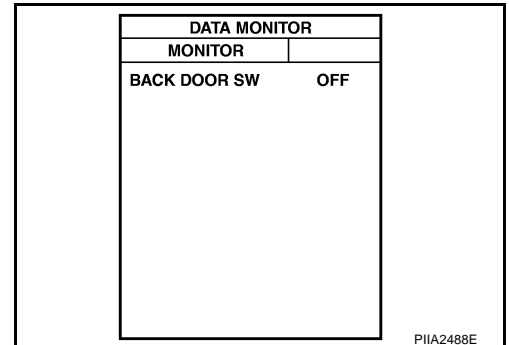
## CHECK BACK DOOR SWITCH

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

#### ⓑ With CONSULT-II

Check ("BACK DOOR SW") in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition	
BACK DOOR SW	OPEN	: ON
	CLOSE	: OFF



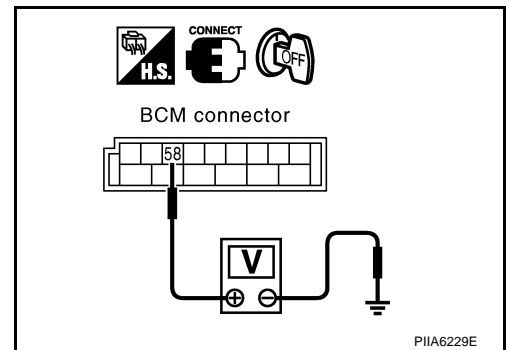
#### ⓧ Without CONSULT-II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B14	58 (L)	Ground	OPEN	0
			CLOSE	9

OK or NG

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



### 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and back door closure motor connector.
3. Check continuity between BCM connector B14 terminal 58 and back door closure motor connector D109 terminal 7.

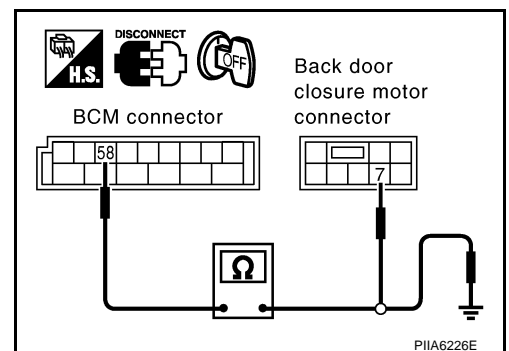
**58 (L) – 7 (L) : Continuity should exist.**

4. Check continuity between BCM connector B14 terminal 58 and ground.

**58 (L) – Ground : Continuity should not exist.**

OK or NG

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



# REMOTE KEYLESS ENTRY SYSTEM

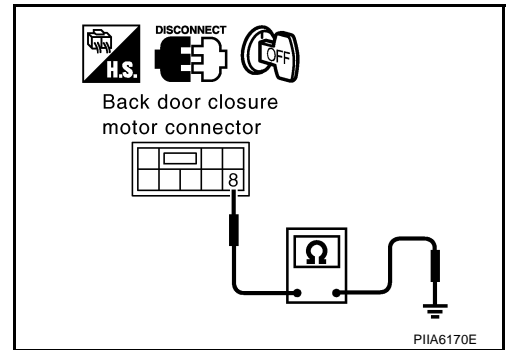
## 3. CHECK GROUND CIRCUIT

Check continuity between back door closure motor connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

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



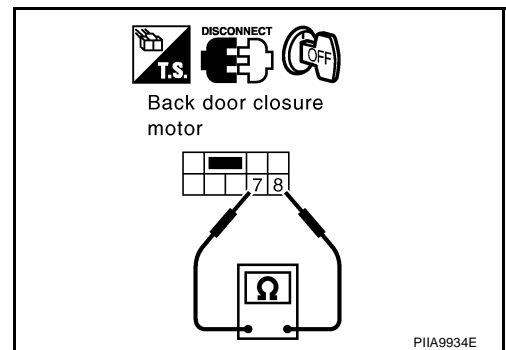
## 4. CHECK BACK DOOR SWITCH

Check continuity between back door closure motor D109 terminals 7 and 8.

Terminals		Back door condition	Continuity
7	8	Open	Yes
		Close	No

OK or NG

- OK >> GO TO 5.
- NG >> Replace back door closure motor.



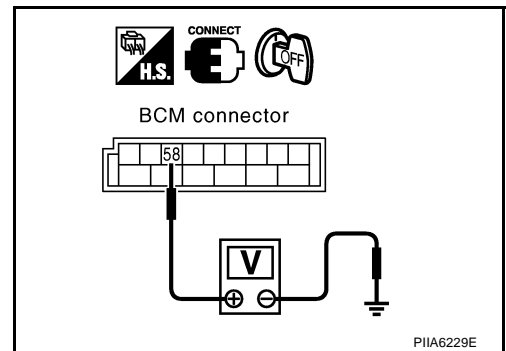
## 5. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector and ground.

**58 (L) – Ground : Approx. 9V**

OK or NG

- OK >> Check condition of harness and connector.
- NG >> Replace BCM.





# REMOTE KEYLESS ENTRY SYSTEM

AIS004MN

## Check Key Switch

### 1. CHECK KEY SWITCH INPUT SIGNAL

#### With CONSULT-II

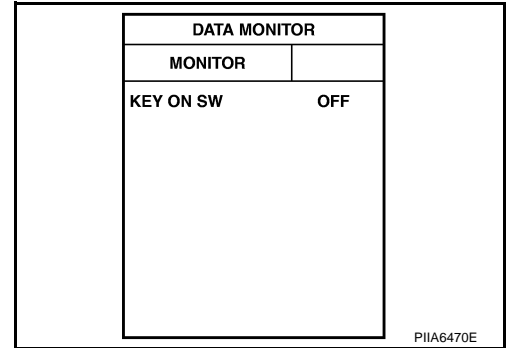
Check ignition key switch "KEY ON SW" in "DATA MONITOR" mode with CONSULT-II.

- When key is inserted in ignition key cylinder

**KEY ON SW : ON**

- When key is removed from ignition key cylinder

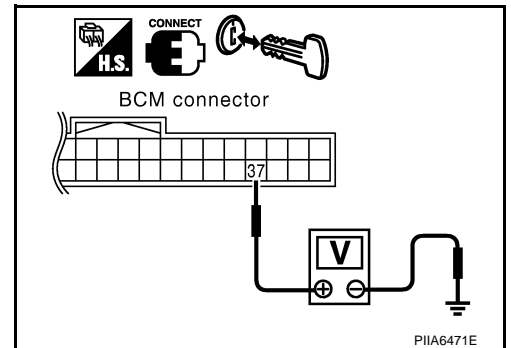
**KEY ON SW : OFF**



#### Without CONSULT-II

Check voltage between BCM connector M3 terminal 37 (B/W) and ground.

Condition of key switch	Voltage (V) Approx.
Key is inserted in ignition key cylinder.	Battery voltage
Key is removed from ignition key cylinder.	0



#### OK or NG

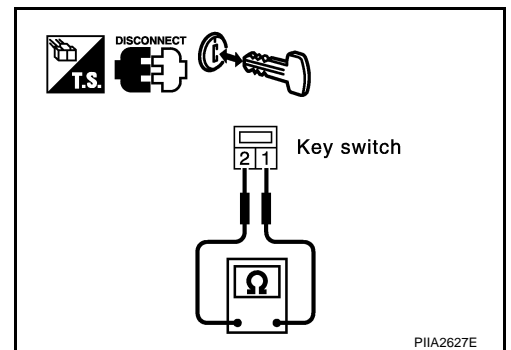
OK >> Key switch circuit is OK.

NG >> GO TO 2.

### 2. CHECK KEY SWITCH

- Disconnect key switch connector.
- Check continuity between key switch terminals 1 and 2.

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



#### OK or NG

OK >> Check the following.

- 15A fuse [No. 22, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.

# REMOTE KEYLESS ENTRY SYSTEM

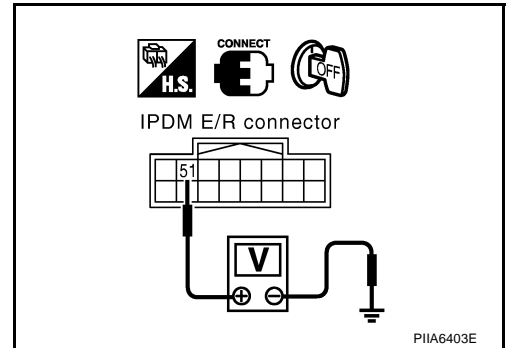
AIS004MO

## Check IPDM E/R Operation

### 1. CHECK IPDM E/R INPUT VOLTAGE

Check voltage between IPDM E/R connector E9 terminal 51 and ground.

**51 (SB) – Ground : Battery voltage**



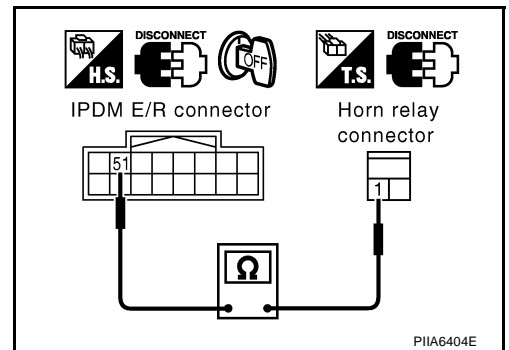
OK or NG

- OK >> Replace IPDM E/R.
- NG >> GO TO 2.

### 2. CHECK IPDM E/R HARNESS

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay connector.
3. Check continuity between IPDM E/R connector E9 terminal 51 and horn relay connector E10 terminal 1.

**51 (SB) – 1 (SB) : Continuity should exist.**



OK or NG

- OK >> Check harness connection.
- NG >> Repair or replace harness.

# REMOTE KEYLESS ENTRY SYSTEM

## Check Hazard Function

AIS004MP

### 1. CHECK HAZARD WARNING LAMP

Do hazard warning lamp flash with hazard switch?

YES or NO

YES >> Hazard warning lamp circuit is OK.

NO >> Check hazard circuit. Refer to [LT-89, "TURN SIGNAL AND HAZARD WARNING LAMPS"](#) .

## Check Horn Function

AIS004MQ

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated "SELF-DIAG RESULTS" of "BCM". Refer to [BCS-14, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CHECK HORN FUNCTION

Does horn sound with horn switch?

YES or NO

YES >> Horn circuit is OK.

NO >> Check horn circuit. Refer to [WW-56, "HORN"](#) .

## Check Headlamp Function

AIS004MR

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated "SELF-DIAG RESULTS" of "BCM". Refer to [BCS-14, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch "ON"?

YES or NO

YES >> Headlamp operation circuit is OK.

NO >> Check headlamp system. Refer to [LT-7, "HEADLAMP - XENON TYPE -"](#) .

## Check Map Lamp and Ignition Keyhole Illumination Function

AIS004MS

### 1. CHECK MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

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

**Map lamp and ignition keyhole illumination should illuminate.**

OK or NG

OK >> Replace BCM.

NG >> Check ignition illumination circuit. Refer to [LT-157, "INTERIOR ROOM LAMP"](#) .

# REMOTE KEYLESS ENTRY SYSTEM

AIS004MT

## ID Code Entry Procedure KEY FOB ID SET UP WITH CONSULT-II

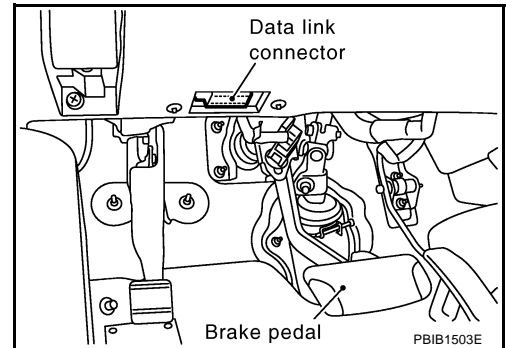
### NOTE:

- If a key fob is lost, the ID code of the lost key fob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost key fob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new key fobs must be re-registered.
- When registering an additional key fob, the existing ID codes in memory may or may not be erased. If four ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than five ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- Entry of maximum five ID codes is allowed. When more than four 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.

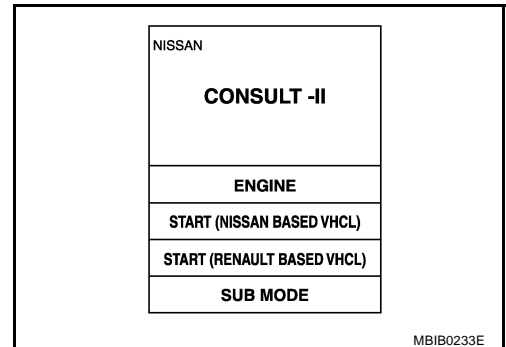
### CAUTION:

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.

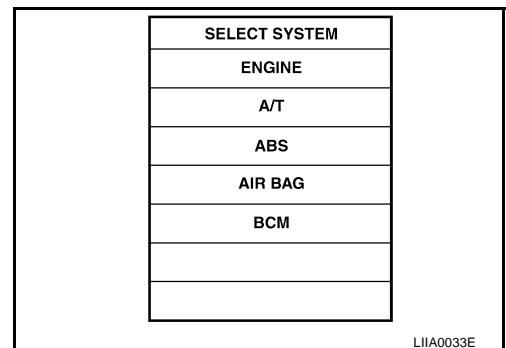
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



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

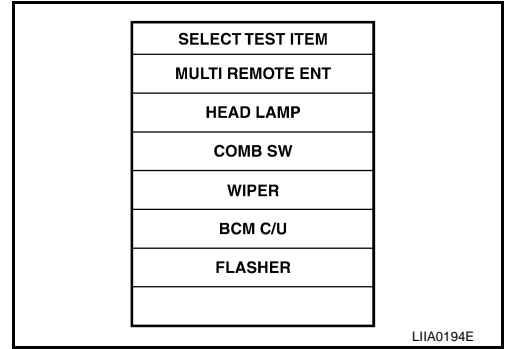


5. Touch "BCM".  
If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



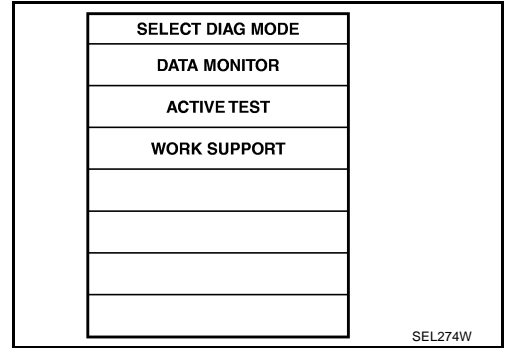
# REMOTE KEYLESS ENTRY SYSTEM

6. Touch "MULTI REMOTE ENT".



A  
B  
C

7. Touch "WORK SUPPORT".



D  
E  
F  
G

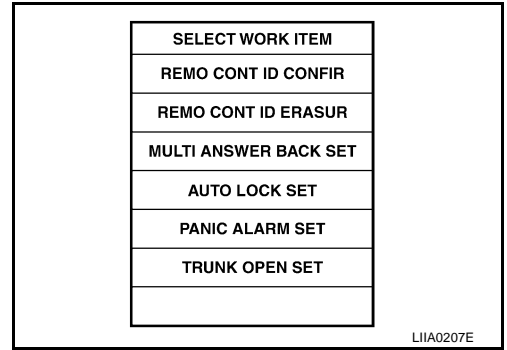
8. The items are shown on the figure can be set up.

- "REMO CONT ID CONFIR"  
Use this mode to confirm if a key fob ID code is registered or not.
- "REMO CONT ID REGIST"  
Use this mode to register a key fob ID code.

**NOTE:**

**Register the ID code when key fob or BCM is replaced, or when additional key fob is required.**

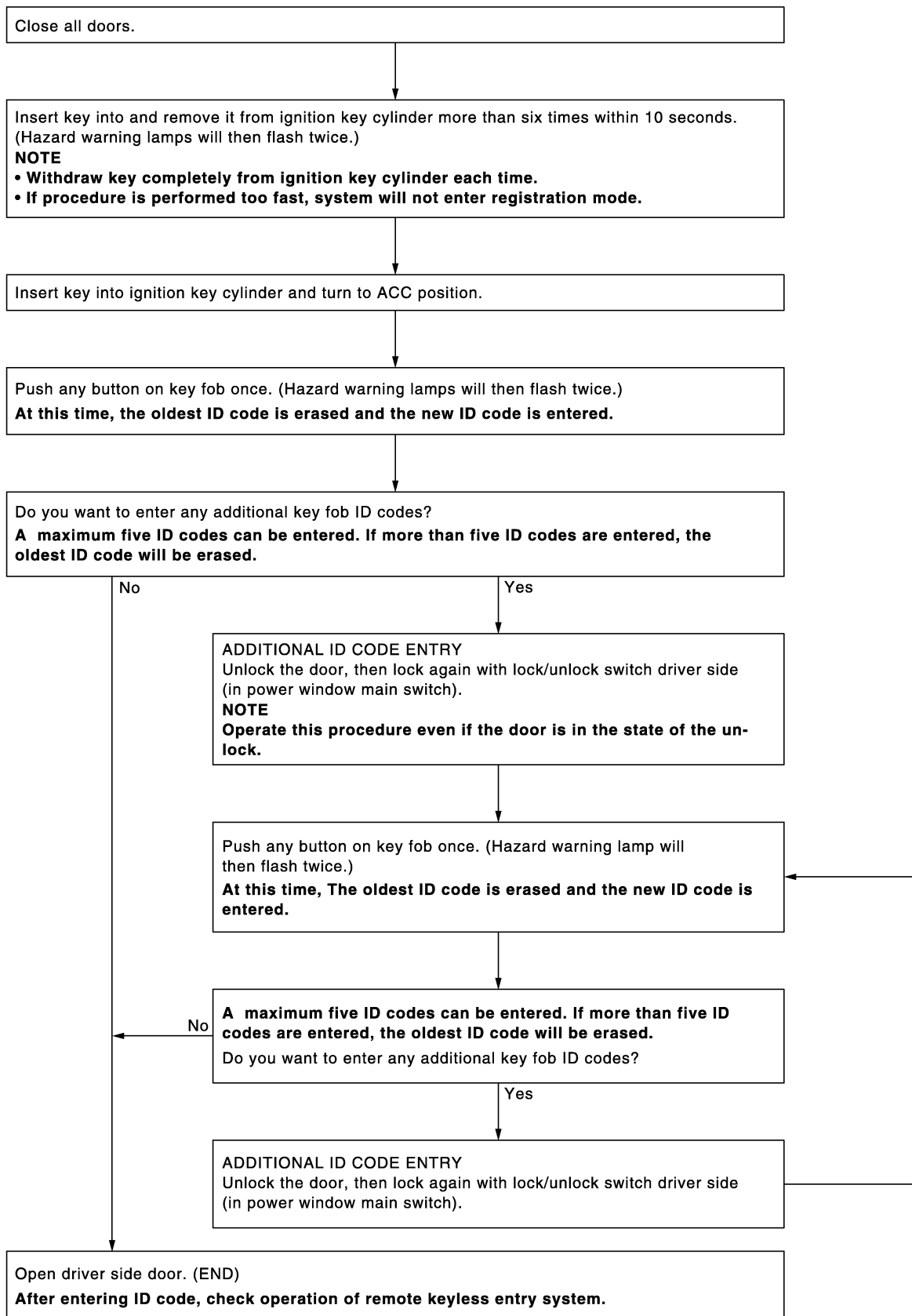
- "REMO CONT ID ERASUR"  
Use this mode to erase a key fob ID code.



H  
BL  
J  
K  
L  
M

# REMOTE KEYLESS ENTRY SYSTEM

## KEY FOB ID SET UP WITHOUT CONSULT-II



PIIA2839E

# REMOTE KEYLESS ENTRY SYSTEM

## NOTE:

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

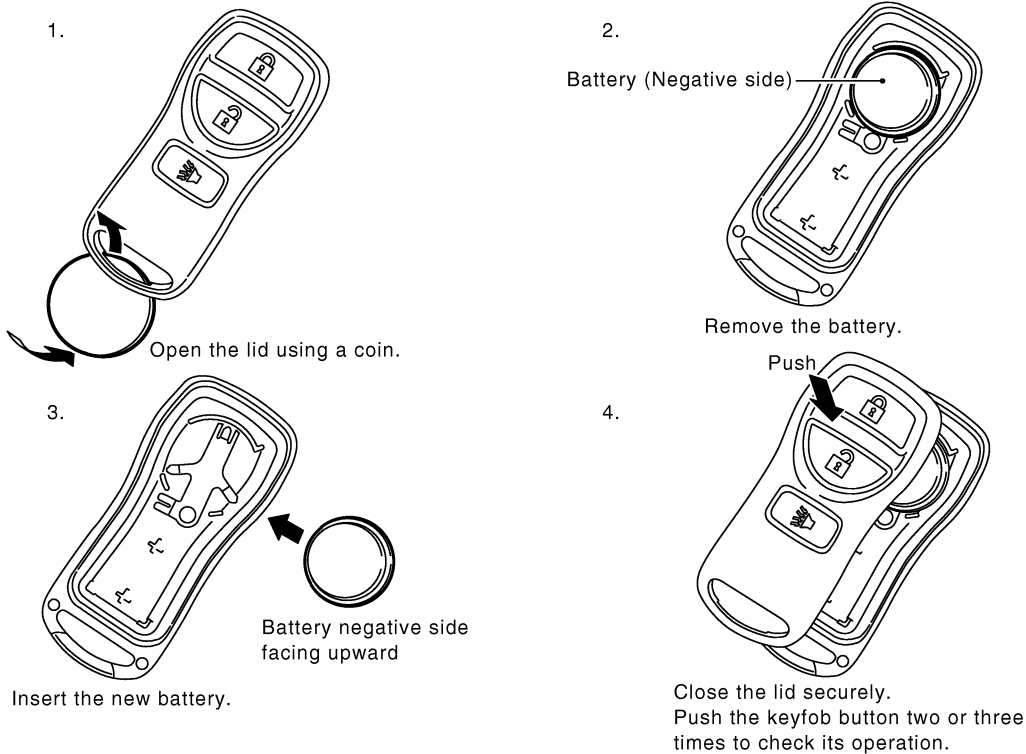
## Key Fob Battery Replacement

AIS004MU

### SEC. 998

#### NOTE:

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



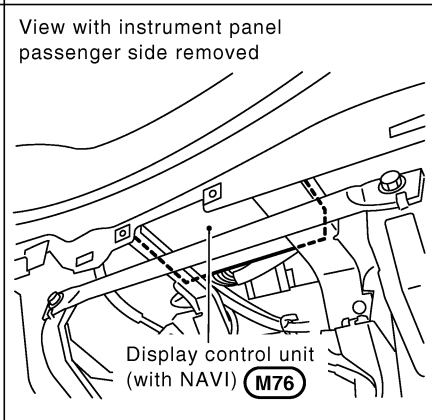
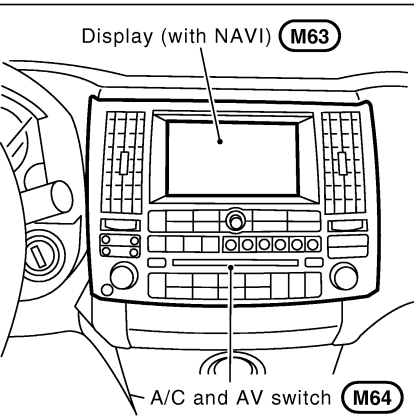
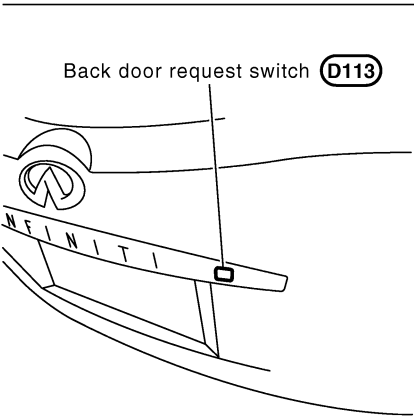
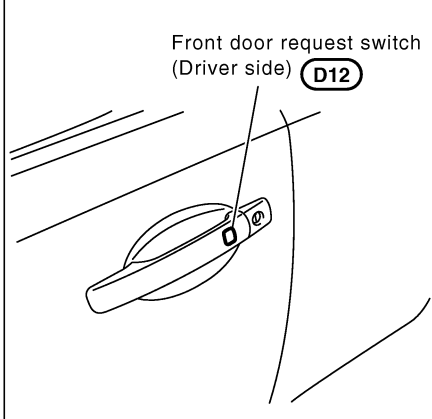
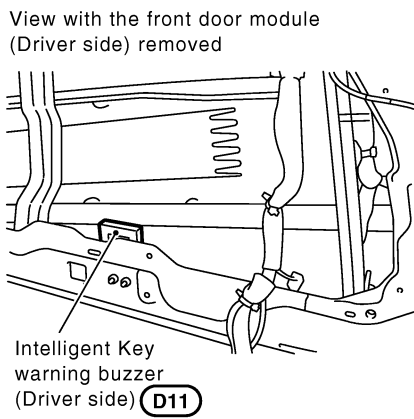
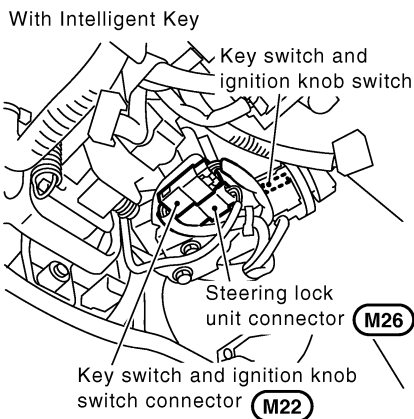
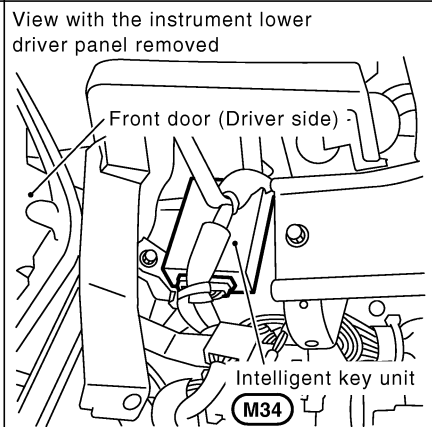
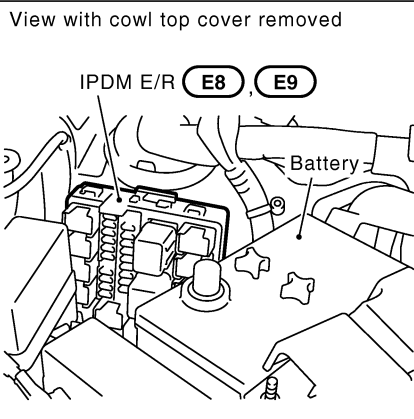
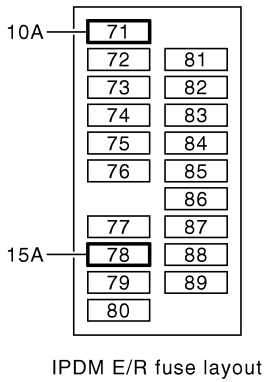
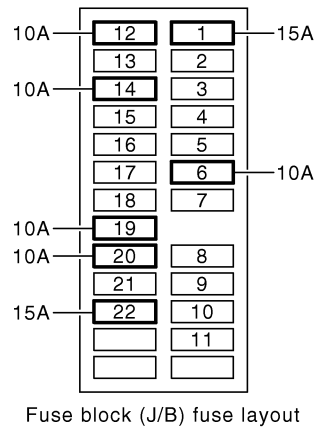
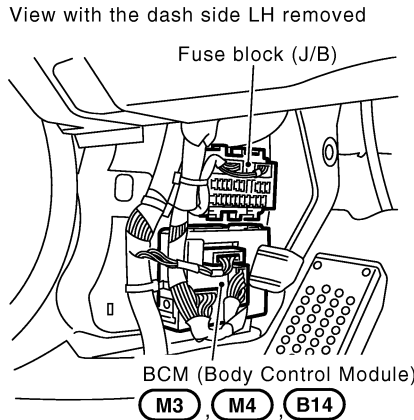
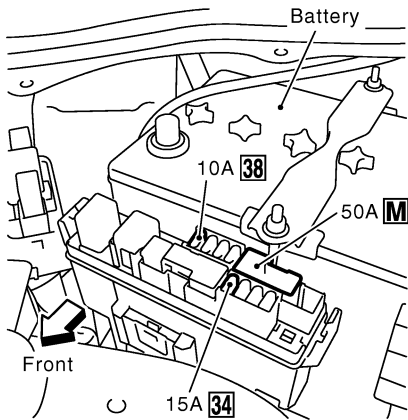
# INTELLIGENT KEY SYSTEM

PFP:285e2

AIS004MV

## INTELLIGENT KEY SYSTEM

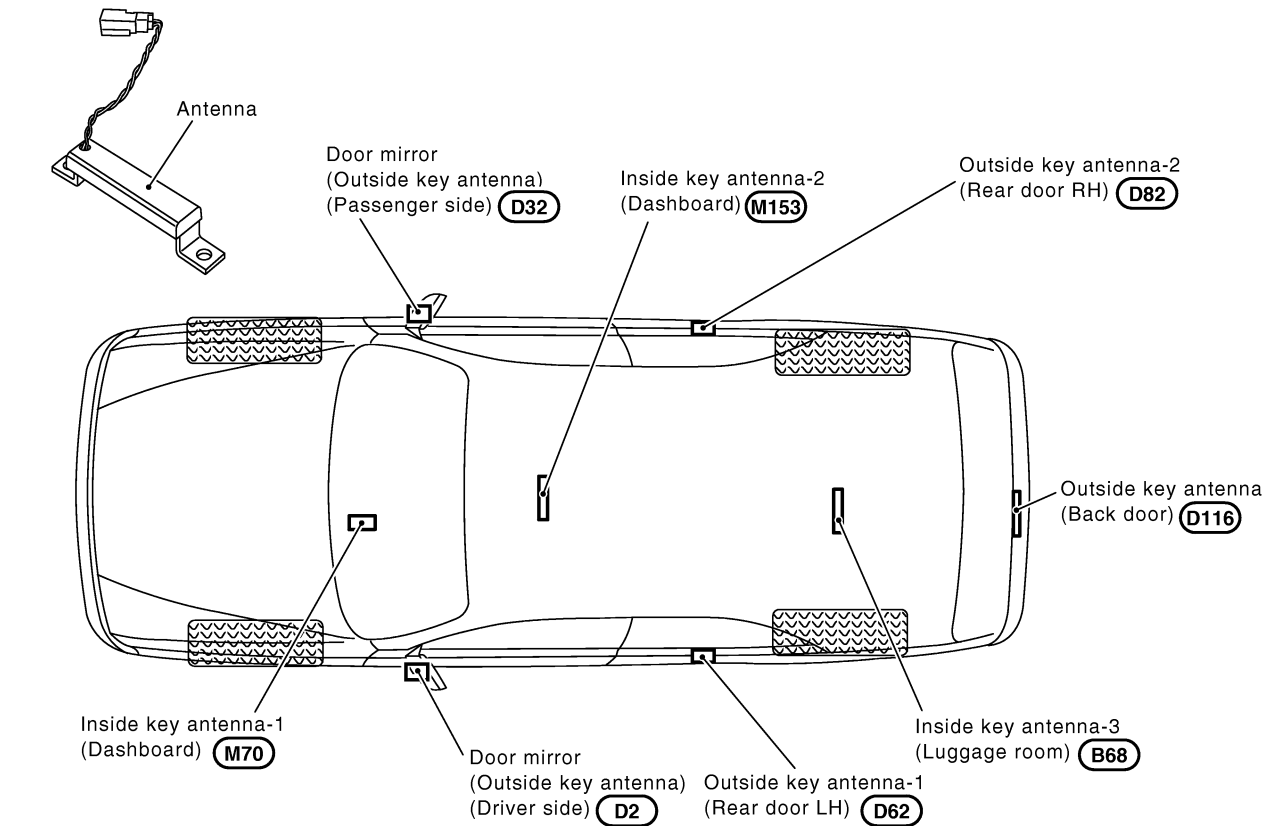
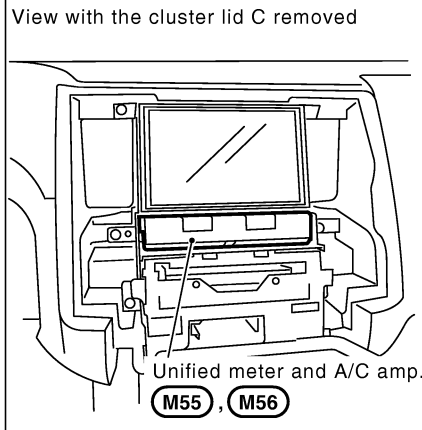
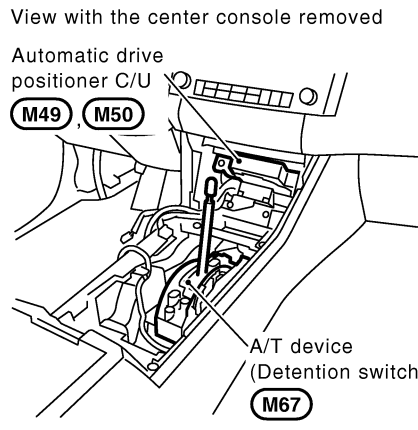
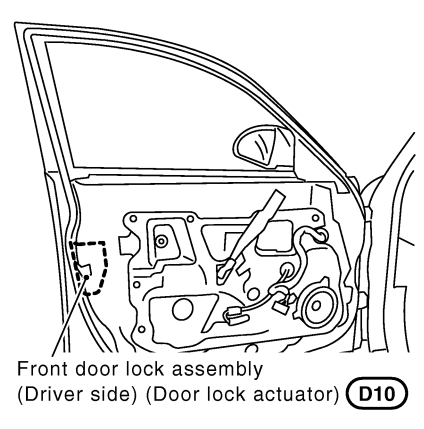
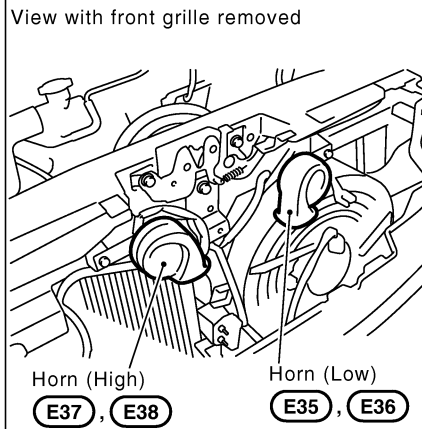
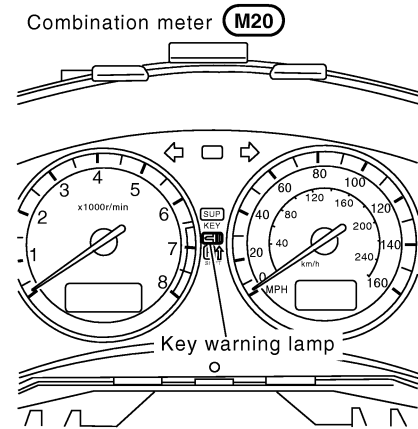
### Component Parts and Harness Connector Location



PIIA9927E



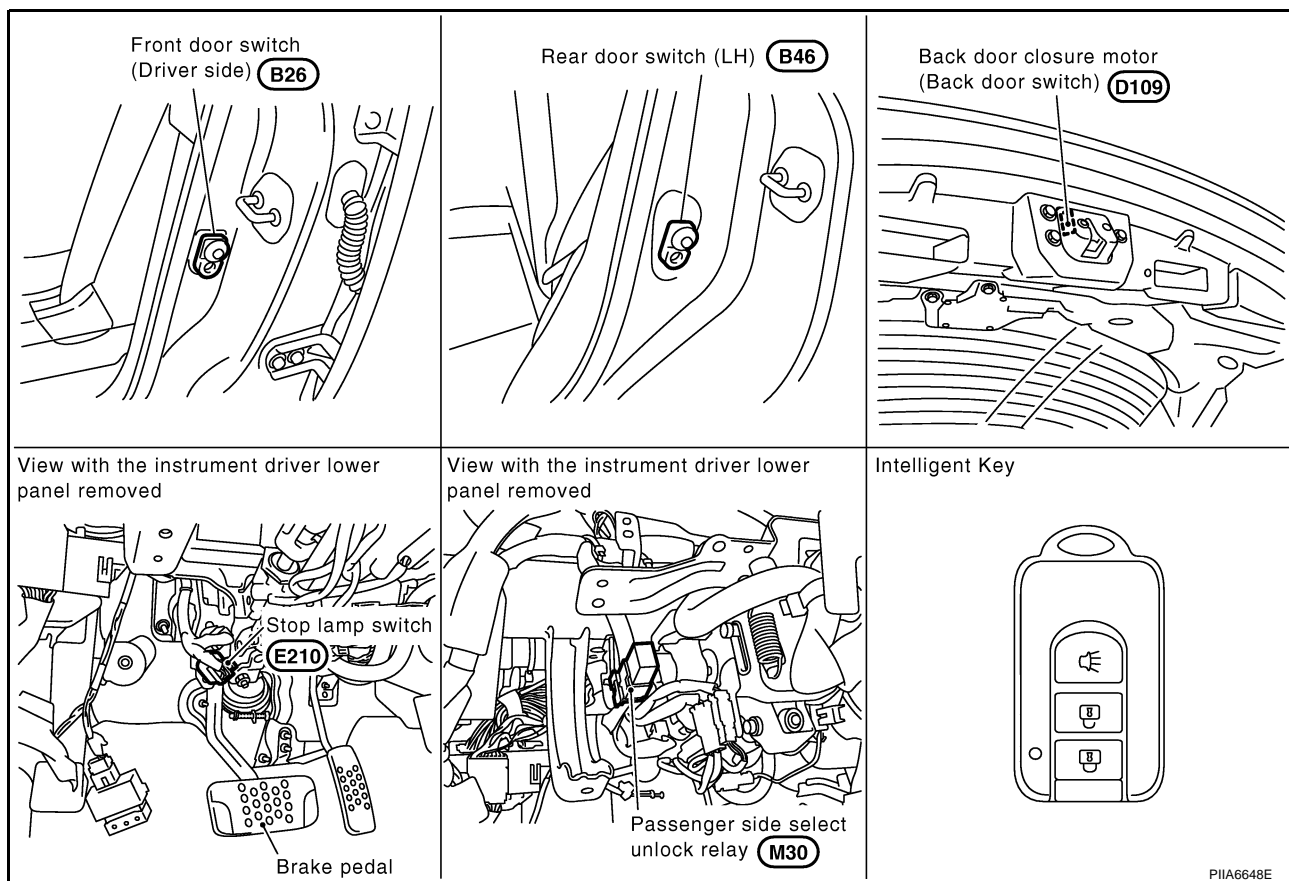
# INTELLIGENT KEY SYSTEM



PIIA9928E

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

# INTELLIGENT KEY SYSTEM



## System Description

AIS004MW

- The Intelligent Key system is a system which can lock and unlock the doors (door lock function) and start the engine (engine start function) by carrying around the Intelligent Key, which operates based on the results of electrical key-ID verification using two-way communications between the Intelligent Key and the vehicle
- Operation of the remote control buttons on the Intelligent Key also provides the same functions as the remote control entry system. (Remote control entry functions)
- As an ignition key warning function, when a door is locked or unlocked with entry switch or remote controller button operation, the hazard lamps flash and the Intelligent Key warning buzzer sounds.
- Even if the vehicle or Intelligent Key battery runs down, the door can be locked and unlocked and the engine started with the mechanical key built into the Intelligent Key.
- If an Intelligent Key was lost, a new Intelligent Key can be registered. A maximum of 4 Intelligent Keys can be registered.
- It has been made possible to diagnose the system, change the function setting and register an Intelligent Key with the CONSULT-II.

## DOOR LOCK FUNCTION

### Operation Description

- When the driver door, passenger door, or back door request switch is pressed, Intelligent Key unit sends a request signal from the transmission antenna corresponding to the pressed door request switch, key-ID verification is performed using two-way communication with Intelligent Key, and if ID is successfully verified, a door lock/unlock request signal is sent to BCM (Body Control Module) using CAN communication to lock/unlock the door lock.
- When door is locking, door is unlocked, when door is unlocking, door is locked.
- When door is locked/unlocked by door request switch operation, hazard lamps flash and Intelligent Key warning buzzer sounds.
- With the locking operation of door request switch, door lock actuators of all door are locked.

### Driver side door request switch operation

# INTELLIGENT KEY SYSTEM

- When door request switch (driver side) is pushed (unlock), driver side door lock actuator is unlocked. (Selective door unlock function)
- When door request switch (driver side) is pushed (unlock) for the second time within 5 seconds after the first operation, door lock actuators on passenger's and other's doors are unlocked.
- Unlock mode can be changed using "WORK SUPPORT" mode in "SELECTIVE UNLOCK FUNCTION". Refer to [BL-115, "WORK SUPPORT"](#).

## Passenger side door request switch operation

- When door request switch (passenger side) is pushed (unlock), passenger side door lock actuator is unlocked.
- When door request switch (passenger side) is pushed (unlock) for the second time with in 5 seconds after the first operation, door lock actuators on driver's and other's doors are unlocked.
- Unlock mode can be changed using "WORK SUPPORT" mode in "SELECTIVE UNLOCK FUNCTION". Refer to [BL-115, "WORK SUPPORT"](#).

## Back door request switch operation

- When back door request switch is pushed (unlock), back door lock actuator is unlocked.
- When back door request switch is pushed (unlock) for the second time with in 5 seconds after the first operation, door lock actuators on driver's and passenger's doors are unlocked.
- Unlock mode can be changed using "WORK SUPPORT" mode in "SELECTIVE UNLOCK FUNCTION". Refer to [BL-115, "WORK SUPPORT"](#).

## Operation Condition

Request switch operation	Operating conditions (When all the conditions below are met)
Door request switch (Driver side)	<ul style="list-style-type: none"> <li>● Closing all doors (door switch: OFF)</li> <li>● The Intelligent Key is in the antenna detection area for the door for which the door request switch (LOCK) was operated.</li> </ul>
Door request switch (passenger side)	
Door request switch (back door)	

## Auto Door Lock Function

After the door request switch in the driver or passenger or back door is operated and the vehicle door is unlocked, all the doors are automatically locked unless the mechanical key is inserted into the ignition knob, the ignition knob is pressed, any door request switch is pressed, any one of the doors is opened, or an Intelligent Key remote control button is operated within 30 seconds.

## Key Reminder Function

The hazard lamps will flash and the Intelligent Key warning buzzer will sound several times when the door lock is locked or unlocked by door request switch operation.

When ignition switch ON or any door is opened, key reminder function is not operate.

Vehicle operation	Hazard lamp	Intelligent Key warning buzzer
Door unlock operation	Once	Once
Door lock operation	Twice	Twice

## Intelligent Key Lock-in Prevention Function

When doors are locked using door lock and unlock switch or driver door lock knob while Intelligent key is in vehicle and doors open, Intelligent Key unit sends door unlock request signal to BCM via CAN communication to unlock all doors to prevent Intelligent Key from becoming locked in vehicle.

### CAUTION:

The above function operates when the Intelligent Key is inside the vehicle. However, there are cases that Intelligent Key cannot be detected and this function will not operate when Intelligent Key is on the instrument panel, rear parcel shelf, or in the glove box. Also, this system sometimes does not operate if the Intelligent Key is in the door pocket for the open door.

## REMOTE CONTROL ENTRY FUNCTIONS

### Door Lock Function

- Operating a remote controller button on the Intelligent Key sends the Intelligent Key-ID to the Intelligent Key unit. Intelligent Key unit conducts a verification of the received key-ID, and if the verification is accepted, a door lock or door unlock request signal is sent to BCM via CAN communication to lock/unlock the door.

# INTELLIGENT KEY SYSTEM

- When door lock/unlock is performed using Intelligent Key remote controller button operation, operation confirmation is conducted by making hazard lamps flash and Intelligent Key warning buzzer sound.

## OPERATION CONDITION

Door lock/unlock operation is necessary for all doors close.

## Map Lamp And Keyhole Illumination Function

When the following conditions come:

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

Remote control button of Intelligent Key turns on interior lamp (for 30 seconds) with input of UNLOCK signal from Intelligent Key.

## Panic Alarm Function

When key switch is OFF and ignition knob is not pushed (when mechanical key is not inserted in ignition knob), BCM turns ON and OFF horn and headlamp intermittently with input of PANIC ALARM signal from Intelligent Key. The alarm automatically turns off after 25 seconds or when Intelligent Key unit receives any signal from Intelligent Key.

Panic alarm operation mode can be changed using "WORK SUPPORT" mode in "PANIC ALARM DELAY". Refer to [BL-115, "WORK SUPPORT"](#).

## Remote Control Power Window Down (open) Operation

When Intelligent Key unlock switch is turned ON with ignition switch OFF, and Intelligent Key unlock 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 Intelligent Key unlock switch is pressed.

Remote control power window down operation mode can be changed using "P/W DOWN DELAY" mode in "WORK SUPPORT". Refer to [BL-115, "WORK SUPPORT"](#).

## Key Reminder Function

As an operation verification function, when doors are locked or unlocked using Intelligent Key remote controller button operation, hazard lamps flash and horn sounds.

Vehicle operation	Hazard lamp	Horn
Door unlocking operation	Once	—
Door locking operation	Twice	Once

## ENGINE STARTUP FUNCTION

### Operation Description

- When ignition knob is pressed, Intelligent Key unit sends request signal from inside key antenna, key-ID verification is conducted with Intelligent Key using two-way communication, and if verification is successful, an ignition rotation prohibition latch release signal is sent to steering lock unit. Steering lock unit releases ignition knob rotation prohibition latch. (Ignition knob can now be turned.)
- When it becomes possible to rotate the ignition knob, "KEY" warning lamp in combination meter lights up green to notify driver that ignition knob can be turned.

#### NOTE:

When it becomes impossible to rotate the ignition knob, "KEY" warning lamp in combination meter lights up red.

- When key-ID verification is successful and ignition knob switch is in the ON state, Intelligent Key unit uses CAN communication to send engine start permission signal to BCM.
- When BCM receives engine start permission signal, it uses CAN communication to sent starter request signal to IPDM E/R so that the engine will start when ignition knob is rotated to START position.

### Operation Range

Engine can be started when Intelligent Key is in the vehicle. However, sometimes engine might not start when Intelligent Key is on instrument panel, rear parcel shelf, or in glove box.

#### NOTE:

luggage room can enable detection of Intelligent Key by a CONSULT-II function. Refer to [BL-115, "WORK SUPPORT"](#).

# INTELLIGENT KEY SYSTEM

## Active Check Function

Confirm whether or not ignition knob can be rotated by checking the color of warning lamp in combination meter.

Condition	Operation
Ignition knob rotation possible	"KEY" warning lamp in combination meter is lit up green.
Ignition rotation not possible	"KEY" warning lamp in combination meter is lit up red.

## WARNING AND ALARM FUNCTION

### Operation Description

The warnings and alarms are as follows and are given to the user as warning information and warnings using combinations of Intelligent Key warning buzzer (in driver door and passenger door), inside vehicle buzzer (in combination meter), and warning lamps "KEY" and "LOCK."

- Ignition switch return forgotten warning  
With the ignition in OFF or ACC position, if the driver door is opened, this warning is issued.
- Selector lever return forgotten warning  
With the ignition in OFF position, if the selector lever is in except "P" position, this warning is issued.
- Key left in ignition warning (when mechanical key used)  
With the mechanical key in the ignition knob and the ignition switch is in the OFF, ACC, or LOCK position, if the driver door is opened, this warning is issued.
- Ignition switch OFF position warning (for inside car: when door closed)  
This warning is issued when the user forgets to return the ignition knob to the LOCK position.
- Ignition switch OFF position warning (for outside car: when door opened/closed)  
This warning is issued when the user leaves the car without returning the ignition knob to the LOCK position.
- Warning for removal of Intelligent Key to outside the car (when door open/closed)  
This warning is issued if the Intelligent Key is taken outside the car while the engine is running.
- Warning for removal of Intelligent Key to outside the car (from window)  
This warning is issued if the Intelligent Key is taken outside the car through a window while the engine is running.
- Door lock non-operation warning  
This warning is issued if the door lock (lock) operation by a door request switch is not effected.
- Intelligent Key low battery warning  
This warning is issued when it is detected that the battery in the Intelligent Key has been used up.

### Operation Condition

Warning and alarm names	Operating conditions (when all the conditions below are met)
Ignition knob return forgotten warning	<ul style="list-style-type: none"> <li>● The ignition switch is in the ACC, OFF, or LOCK position (knob pressed)</li> <li>● The driver door is opened.</li> </ul>
Selector lever return forgotten warning	<ul style="list-style-type: none"> <li>● The ignition switch is in the OFF position.</li> <li>● The selector lever is except "P" position.</li> </ul>
Ignition key warning (When mechanical key used)	<ul style="list-style-type: none"> <li>● The mechanical key is inserted in the ignition knob (key switch: ON)</li> <li>● The ignition switch is in the ACC, OFF, or LOCK position.</li> <li>● The driver door is opened</li> </ul>
Ignition knob OFF position warning (for inside car: when door closed)	<ul style="list-style-type: none"> <li>● The ignition switch is in the OFF or LOCK position (knob pressed)</li> <li>● In the above state, when the ACC switch is changed from ON to OFF and 1 second passes. (However, this warning is not issued if the mechanical key is inserted in the ignition knob, ignition knob is turned except OFF position or ignition or ignition knob is not pushed.)</li> </ul>
Ignition knob OFF position warning (for outside car: when door opened/closed)	<ul style="list-style-type: none"> <li>● The ignition switch is in the OFF or LOCK position (knob pressed)</li> <li>● In the above state, when the ACC switch is changed from ON to OFF and 1 second passes. (However, this warning is not issued if the mechanical key is inserted in the ignition knob, ignition knob is turned except OFF position or ignition or ignition knob is not pushed.)</li> <li>● Driver door open → closed</li> </ul>

# INTELLIGENT KEY SYSTEM

Warning and alarm names	Operating conditions (when all the conditions below are met)
Warning for take out of Intelligent Key to outside the car (when door open/closed)	<p><b>When Any of the Following Conditions Are Met</b></p> <ul style="list-style-type: none"> <li>● When the ignition knob is pressed in so that it can be rotated (or has been rotated), if any of the doors has been opened, when all the doors are closed, the Intelligent Key unit compares the key-ID with that of the Intelligent Key using the inside key antenna, if the results of the comparison are NG (the Intelligent Key is not found)</li> <li>● When the ignition knob is pressed in so that it can be rotated (or has been rotated), if any of the doors is open, the Intelligent Key unit compares the key-ID with that of the Intelligent Key every 5 seconds using the inside key antenna (center console), if the results of the comparison are NG (the Intelligent Key is not found)</li> </ul> <p><b>NOTE:</b> However, this warning is not issued if the mechanical key is inserted in the ignition knob.</p>
Warning for take out of Intelligent Key to outside the car (from window)	<p>When the ignition knob is pressed in so that it can be rotated (or has been rotated), if the vehicle speed is no greater than 5 km per hour, the Intelligent Key unit compares the key-ID with that of the Intelligent Key every 30 seconds using the inside key antenna, if the results of the comparison are NG (the Intelligent Key is not found)</p> <p>Note: The factory setting for this function is OFF.</p>
Door lock non-operation warning	<p>When any of the following conditions are met</p> <p><b>Intelligent Key Lock-in Prevention Warning</b></p> <ul style="list-style-type: none"> <li>● When the Intelligent Key is inside the car and the ignition knob is not pressed, when an attempt is made to lock a door lock with a door request switch</li> </ul> <p><b>NOTE:</b> This warning is issued even if the Intelligent Key is not in the outside key antenna detection area corresponding to the door request switch was operated.</p> <p><b>Knob Return Forgotten Warning</b></p> <ul style="list-style-type: none"> <li>● When the ignition knob is pressed, when an attempt is made to lock a door lock with a door request switch</li> </ul> <p><b>NOTE:</b> This warning is only issued if the Intelligent Key is in the outside key antenna detection area corresponding to the door request switch was operated.</p> <p><b>Door Ajar Alarm</b></p> <ul style="list-style-type: none"> <li>● When any of the doors is open, when an attempt is made to lock a door lock with a door request switch</li> </ul> <p><b>NOTE:</b> This warning is only issued if the Intelligent Key is in the outside key antenna detection area corresponding to the door request switch was operated.</p>
Intelligent Key low battery pre-warning	<p>This warning is issued when it is detected that the battery in the Intelligent Key has been used up.</p>

## Warning Procedure

Warning and alarm names	Buzzer		Warning lamp	
	Inside car	Outside car	"KEY"	"P" shift
Ignition switch return forgotten warning	Buzzer: Continuous	—	—	—
Selector lever return for gotten warning	—	—	—	Illuminate
Ignition key warning (When mechanical key used)	Buzzer: Continuous	—	—	—
Ignition switch OFF position warning (for inside car: when door closed)	Buzzer: Continuous	—	—	—
Ignition switch OFF position warning (for outside car: when door opened/closed)	Buzzer: Continuous	Buzzer (10 seconds)	—	—

# INTELLIGENT KEY SYSTEM

Warning and alarm names	Buzzer		Warning lamp	
	Inside car	Outside car	"KEY"	"P" shift
Warning for removal of Intelligent Key to outside the car (when door open/closed)	—	Buzzer (3 seconds)	Red illuminate	—
Warning for removal of Intelligent Key to outside the car (from window)	Buzzer (3 seconds)	—	Red illuminate	—
Door lock non-operation warning	—	Buzzer (2 seconds)	—	—
Intelligent Key low battery pre-warning	—	—	Green illuminate (30 seconds after ignition switch comes ON)	—

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BL

# INTELLIGENT KEY SYSTEM

## CHANGE SETTINGS FUNCTION

The settings for each function can be changed with the CONSULT-II or Intelligent Key operation.

### Changing Settings With the Intelligent Key

Intelligent Key remote controller button and door request switch operations change the engine startup function settings (startup enabled/disabled) for each Intelligent Key independently.

#### Settings Change Procedure

1. With the ignition switch is in the LOCK position (ignition knob not pressed), hold down both the LOCK and UNLOCK remote control buttons on the Intelligent Key at the same time for at least 10 seconds (The yardstick is that the Intelligent Key LED flashes 20 times.)
2. Within 5 seconds of releasing the Intelligent Key remote controller buttons, press the driver door request switch.
3. The KEY warning lamp in combination meter lights up for 3 seconds (engine starting enabled → starting disabled: lights up red, engine starting disabled → flashes green). This completes the settings change.

### Changing Settings Using CONSULT-II

The settings for the Intelligent Key system functions can be changed using CONSULT-II (WORK SUPPORT). Refer to [BL-115, "WORK SUPPORT"](#).

#### NOTE:

Once a function setting is changed, it will remain effective even if the battery is disconnected.

### Changing Settings Using Display Unit

The settings of the Intelligent Key system can be changed, using CONSULT-II, display unit, Intelligent Key and door request switch in the center of the instrument panel. Refer to [AV-95, "Vehicle Electronic Systems"](#).

×: Applicable –: Not applicable

Setting item	Description
Intelligent Key Lock Response-Sound	The sound pattern of the Intelligent Key operation can be set as desired. (Setting value: OFF, Beeper or Horn chirp)
Intelligent Key Unlock Response-Beep Sound	The beep sound when unlocking door with the Intelligent Key operation can be turned ON or OFF.
Intelligent Key Engine Start Function	This function can be performed to ON or OFF.
Intelligent Key Lock/Unlock Function	The door handle request switch lock/unlock operation with the Intelligent Key can be canceled or activated.
Return All Settings to Default	The all settings made by VEHICLE ELECTRONICS will return to default.

#### NOTE:

Once a function setting is changed, it will remain effective even if the battery is disconnected.

## INTELLIGENT KEY REGISTRATION

Intelligent Key-ID registration is executed using the CONSULT-II. Up to 4 can be registered.

#### CAUTION:

- After a new Intelligent Key-ID is registered, be sure to check the function.
- When registering an additional Intelligent Key-ID, take any Intelligent Keys already registered and Intelligent Keys for any other vehicles out of the vehicle before starting.

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

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

## STEERING LOCK UNIT REGISTRATION

### Steering Lock Unit ID Registration

#### CAUTION:

- The method for registering a steering lock unit ID depends on the status of the steering lock unit and Intelligent Key unit (new or old unit).
- After registration is completed, press ignition knob with a portable unit in the vehicle so that it can be rotated, and confirm that it cannot be rotated even when ignition switch is pressed without a portable unit in the vehicle.

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



# INTELLIGENT KEY SYSTEM

## CAN Communication System Description

AIS004MX

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

## CAN Communication Unit

AIS004RN

Refer to [LAN-6, "CAN COMMUNICATION"](#) .

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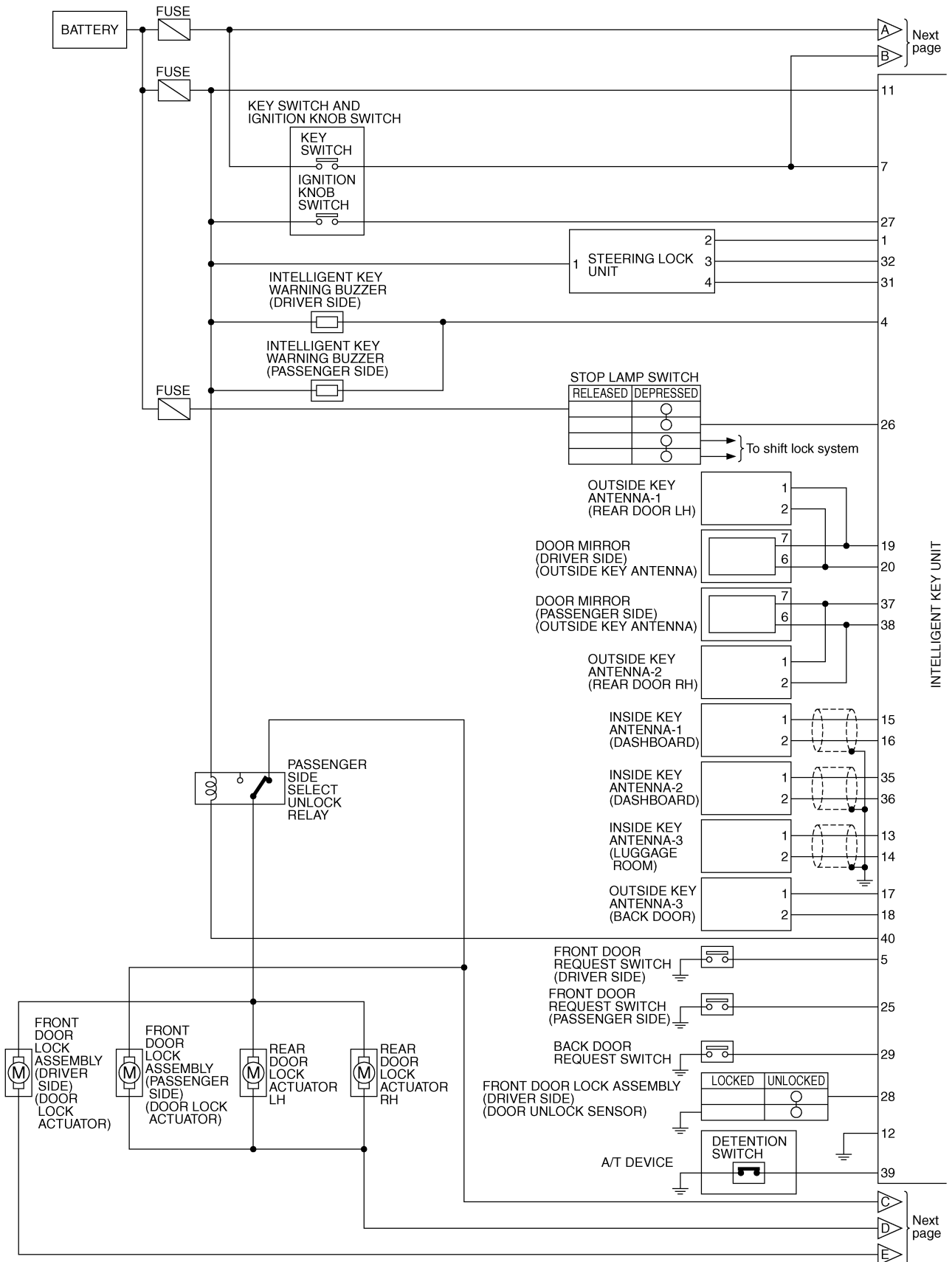
L

M

# INTELLIGENT KEY SYSTEM

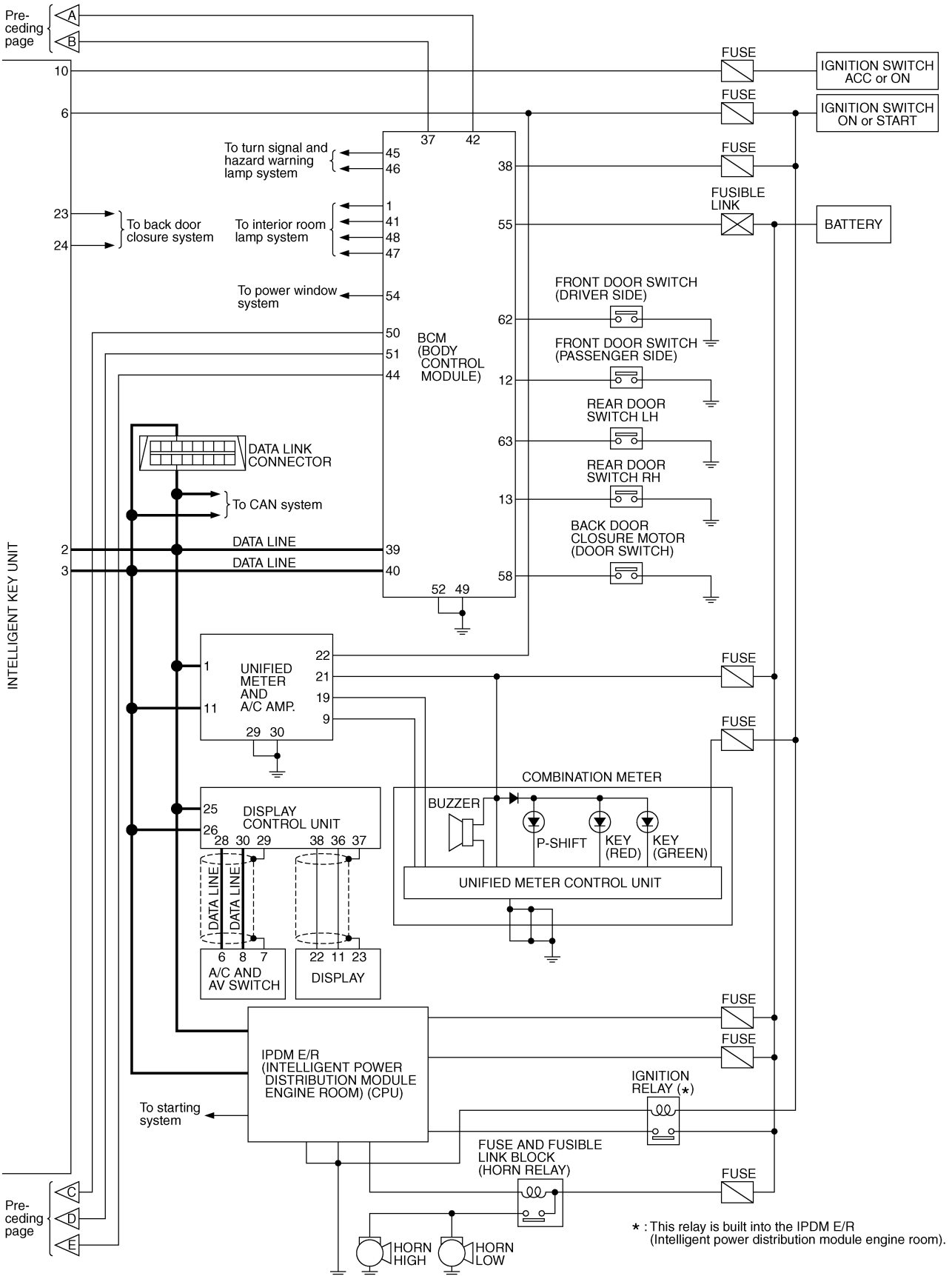
## Schematic

AIS004MY



TIWH0041E

# INTELLIGENT KEY SYSTEM



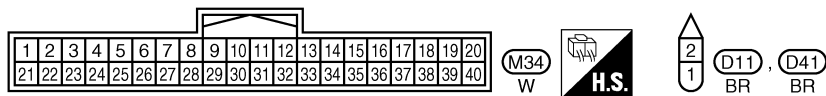
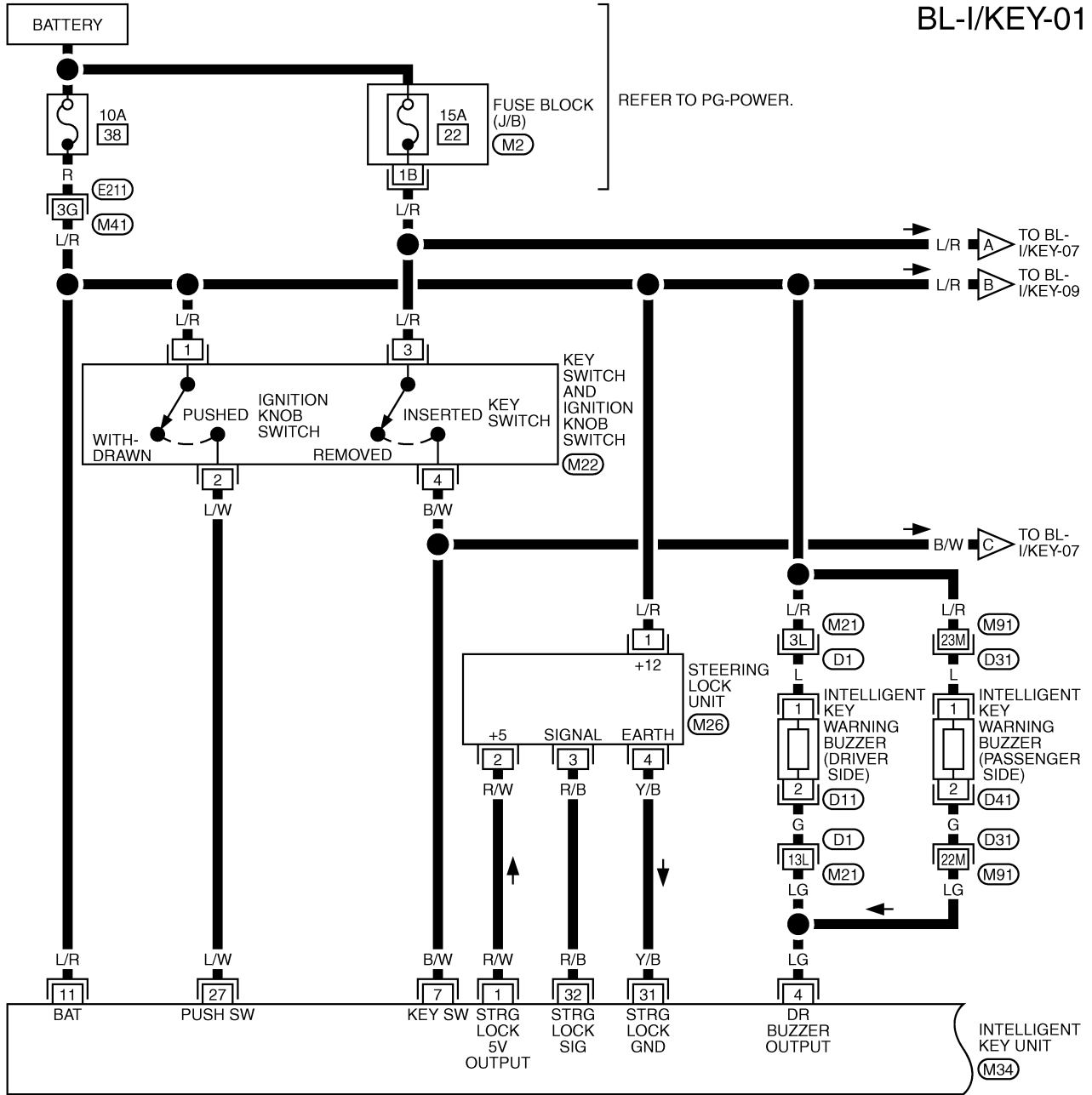
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# INTELLIGENT KEY SYSTEM

## Wiring Diagram — I/KEY—

AIS004MZ

BL-I/KEY-01

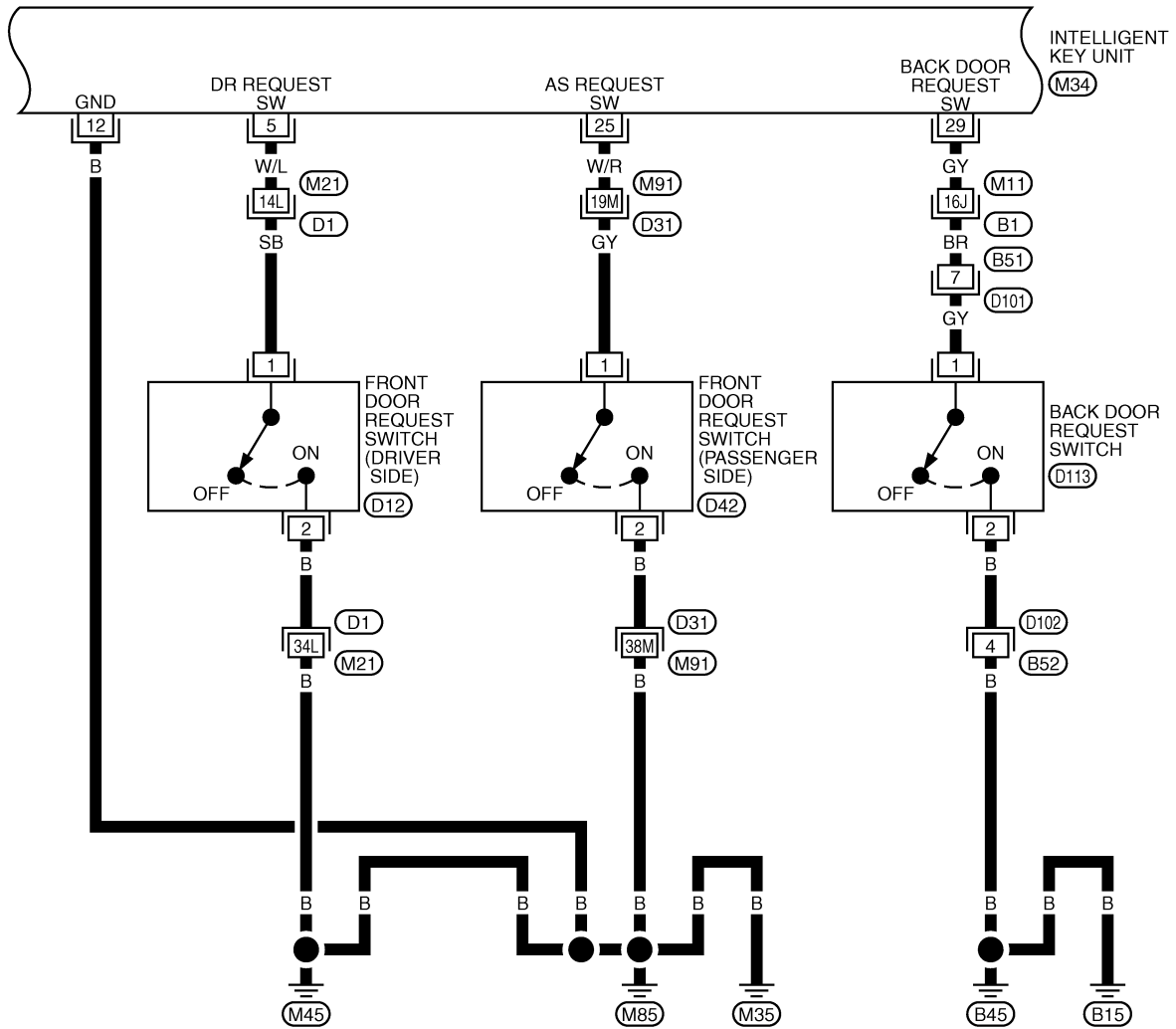


REFER TO THE FOLLOWING.  
 (E211), (D1), (D31) -SUPER  
 MULTIPLE JUNCTION (SMJ)  
 (M2) -FUSE BLOCK-JUNCTION  
 BOX (J/B)

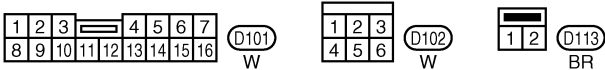
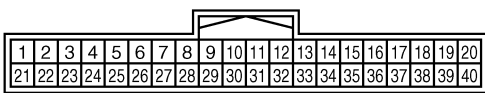
TIWM0426E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-02



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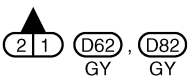
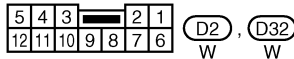
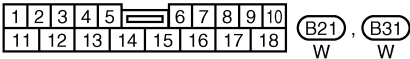
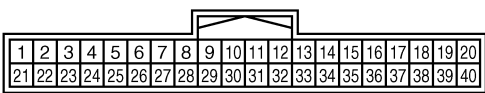
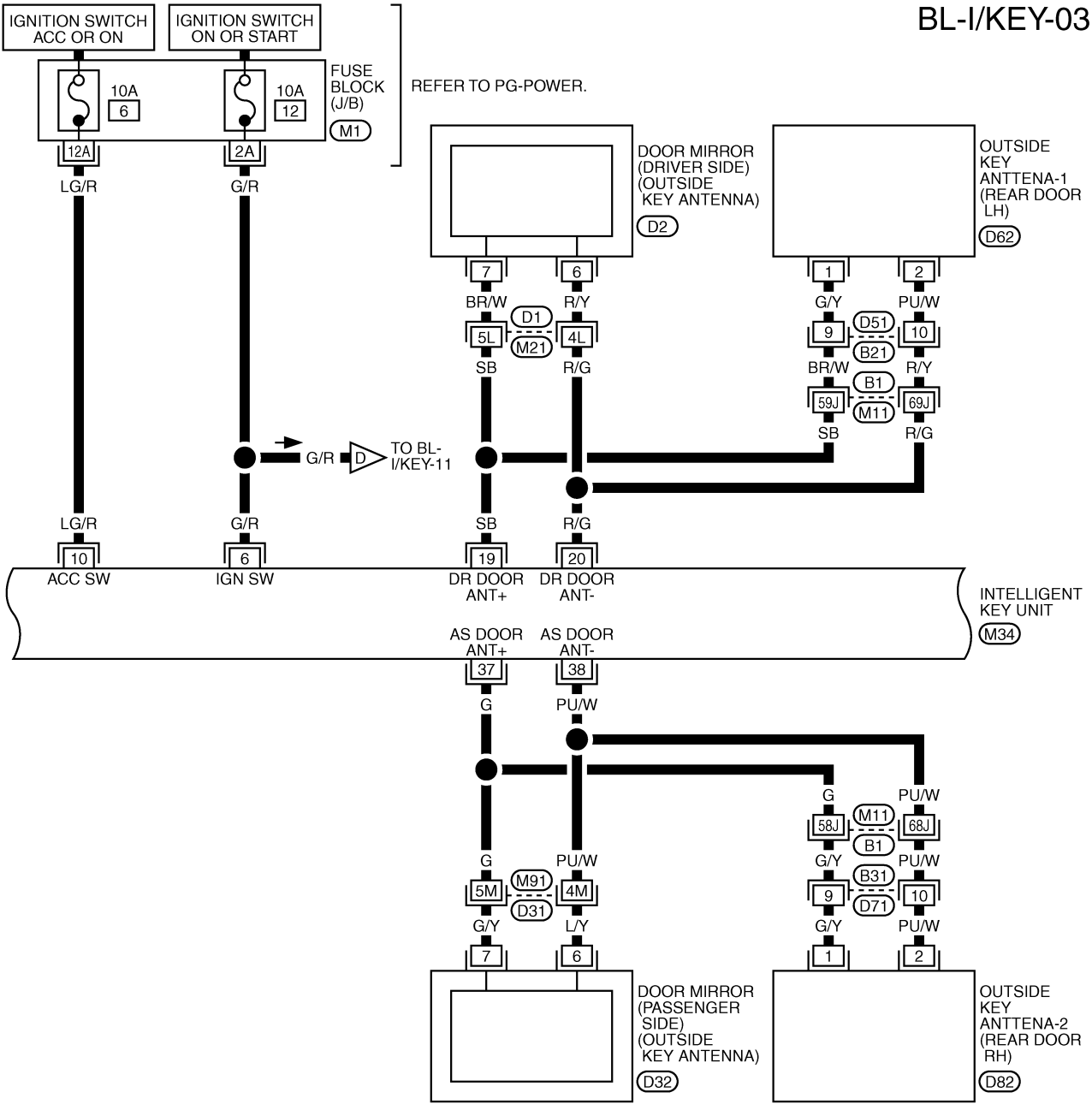


REFER TO THE FOLLOWING.  
 (B1), (D1), (D31) -SUPER  
 MULTIPLE JUNCTION (SMJ)

TIWH0042E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-03



REFER TO THE FOLLOWING.

(B1), (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)

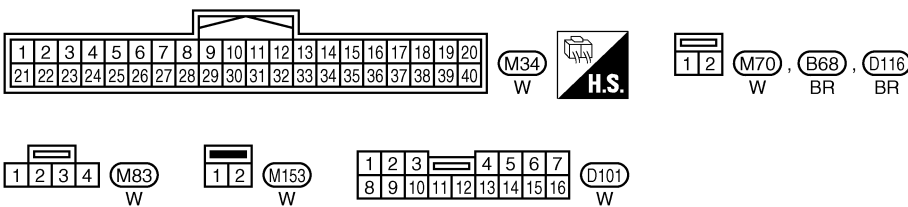
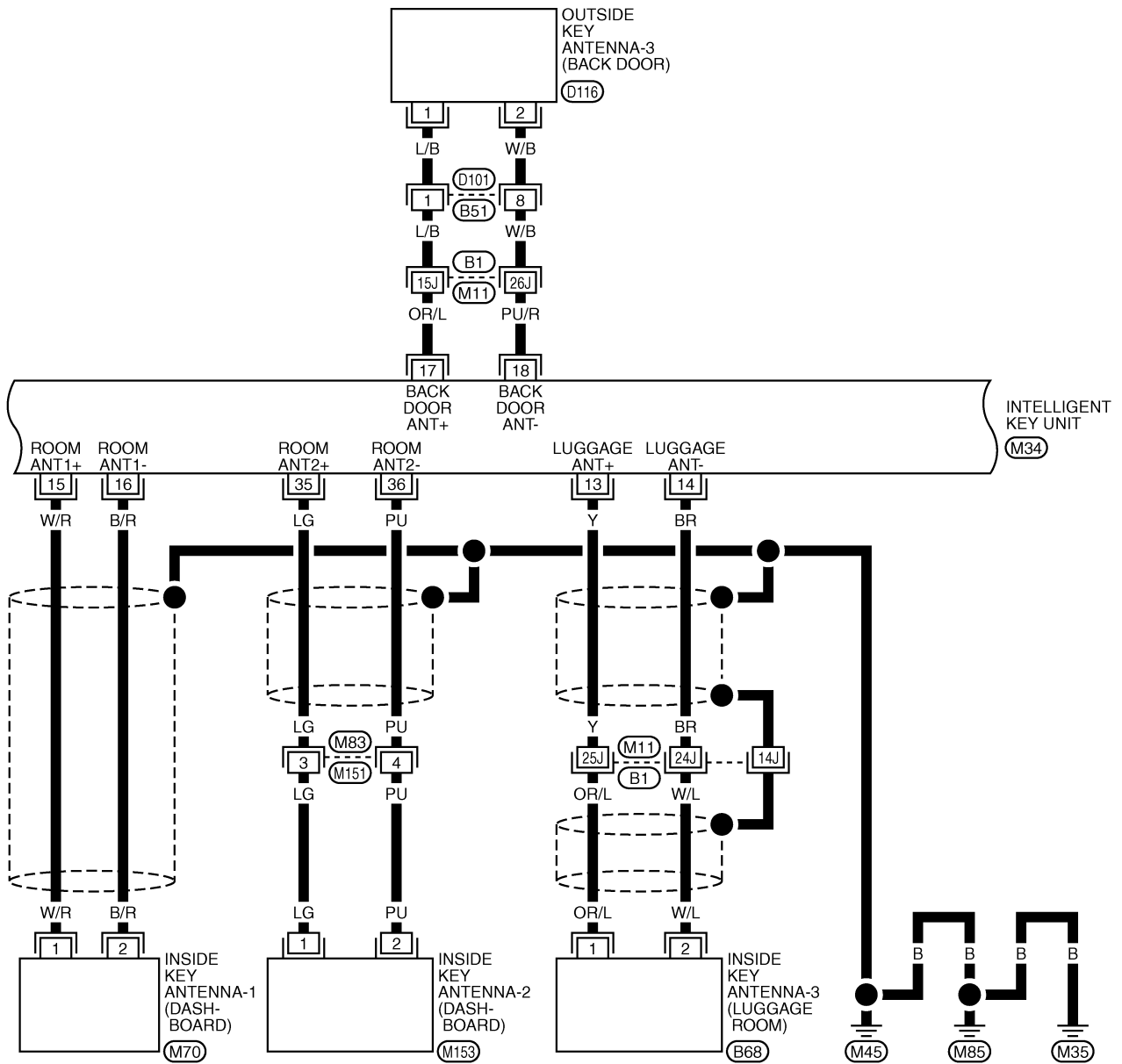
(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

TIWH0092E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-04

A  
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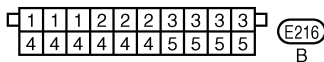
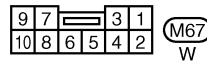
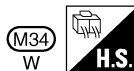
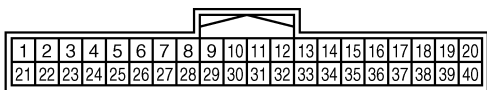
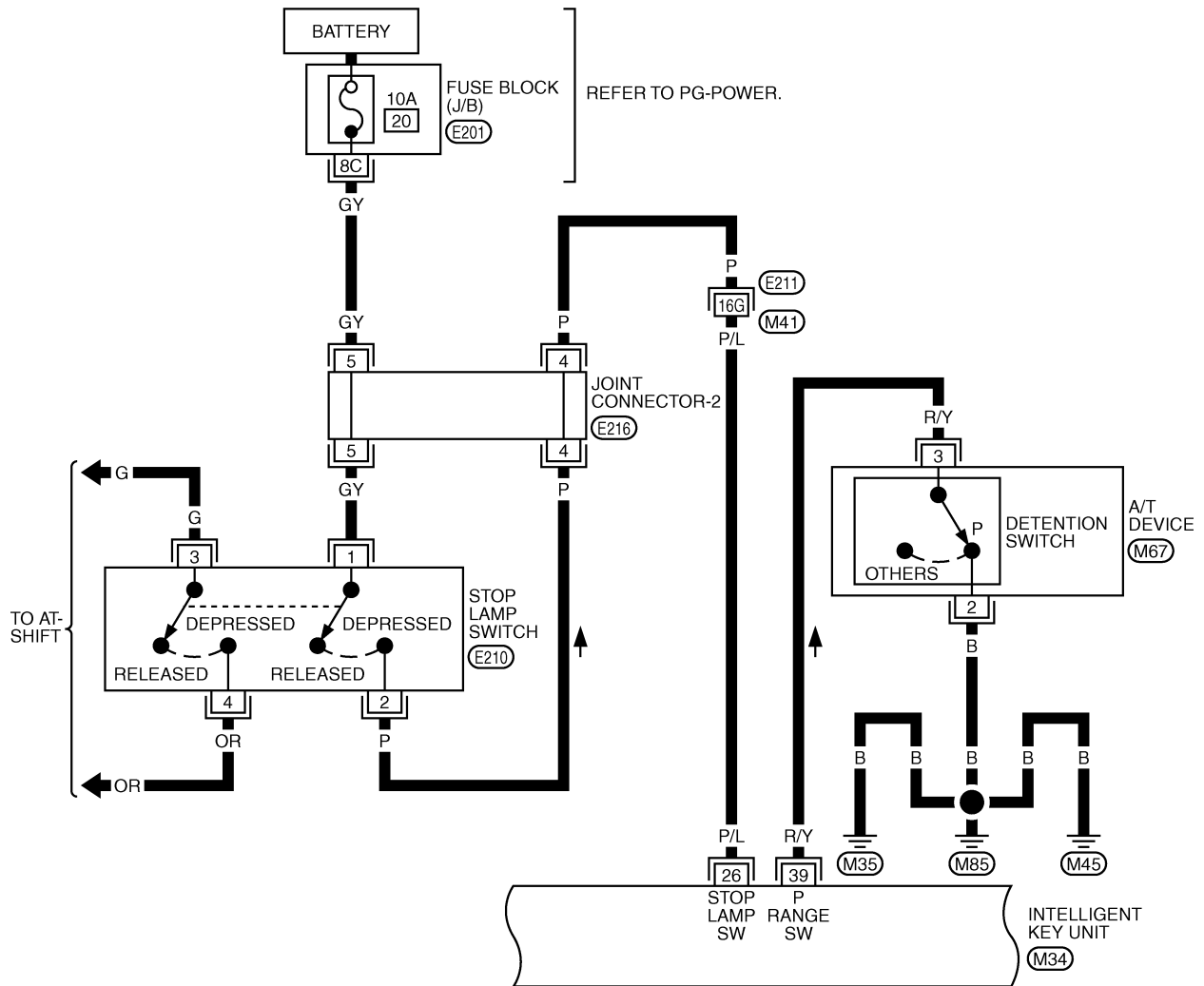


REFER TO THE FOLLOWING.  
 (B1) -SUPER MULTIPLE JUNCTION (SMJ)

TIWH0043E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-05



REFER TO THE FOLLOWING.

(E211) -SUPER MULTIPLE JUNCTION (SMJ)

(E201) -FUSE BLOCK-JUNCTION BOX (J/B)

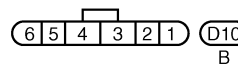
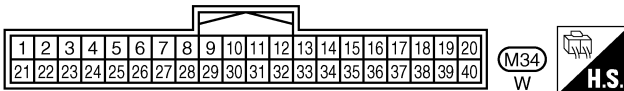
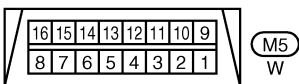
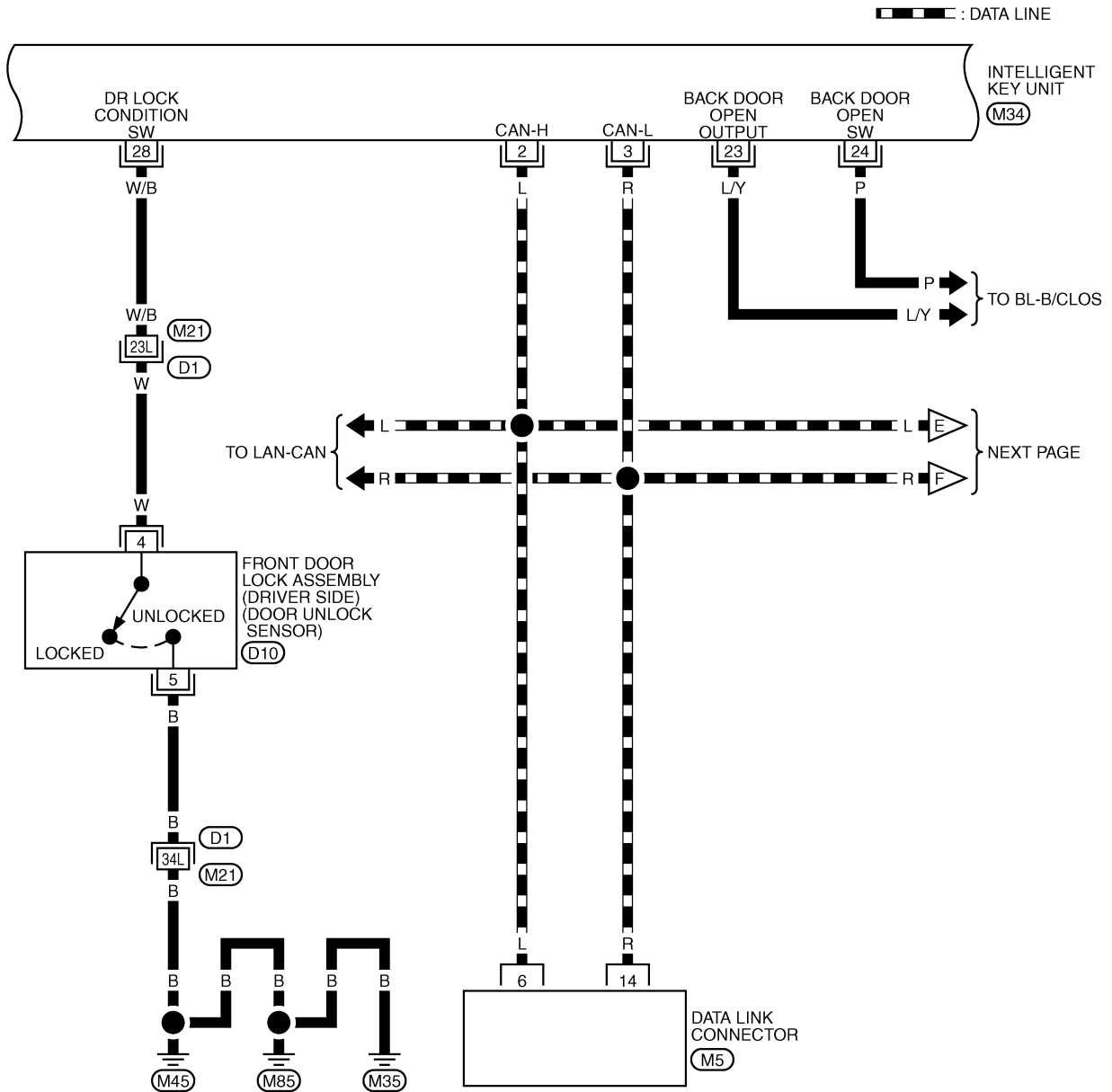
TIWM0377E



# INTELLIGENT KEY SYSTEM

BL-I/KEY-06

A  
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REFER TO THE FOLLOWING.  
(D1) -SUPER MULTIPLE JUNCTION (SMJ)

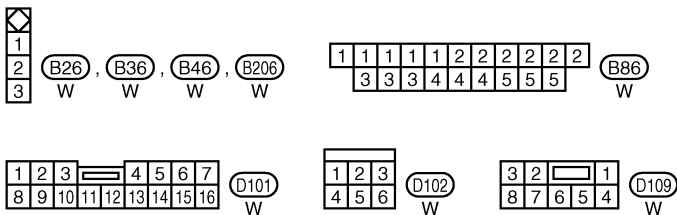
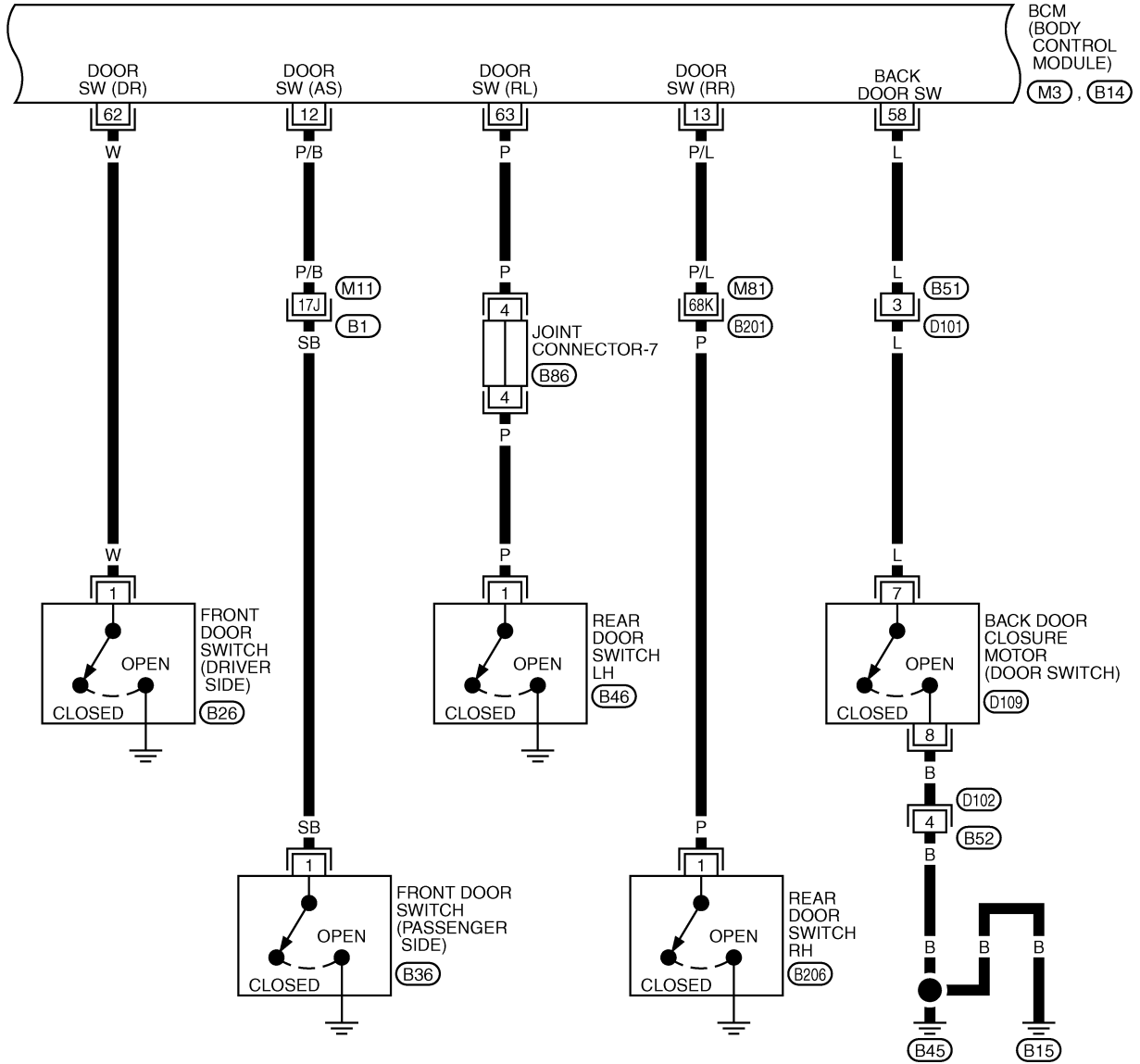
TIWM0428E



# INTELLIGENT KEY SYSTEM

BL-I/KEY-08

A  
B  
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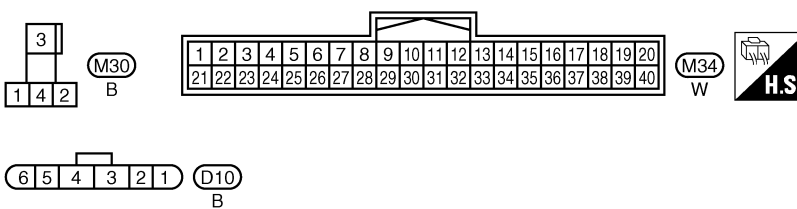
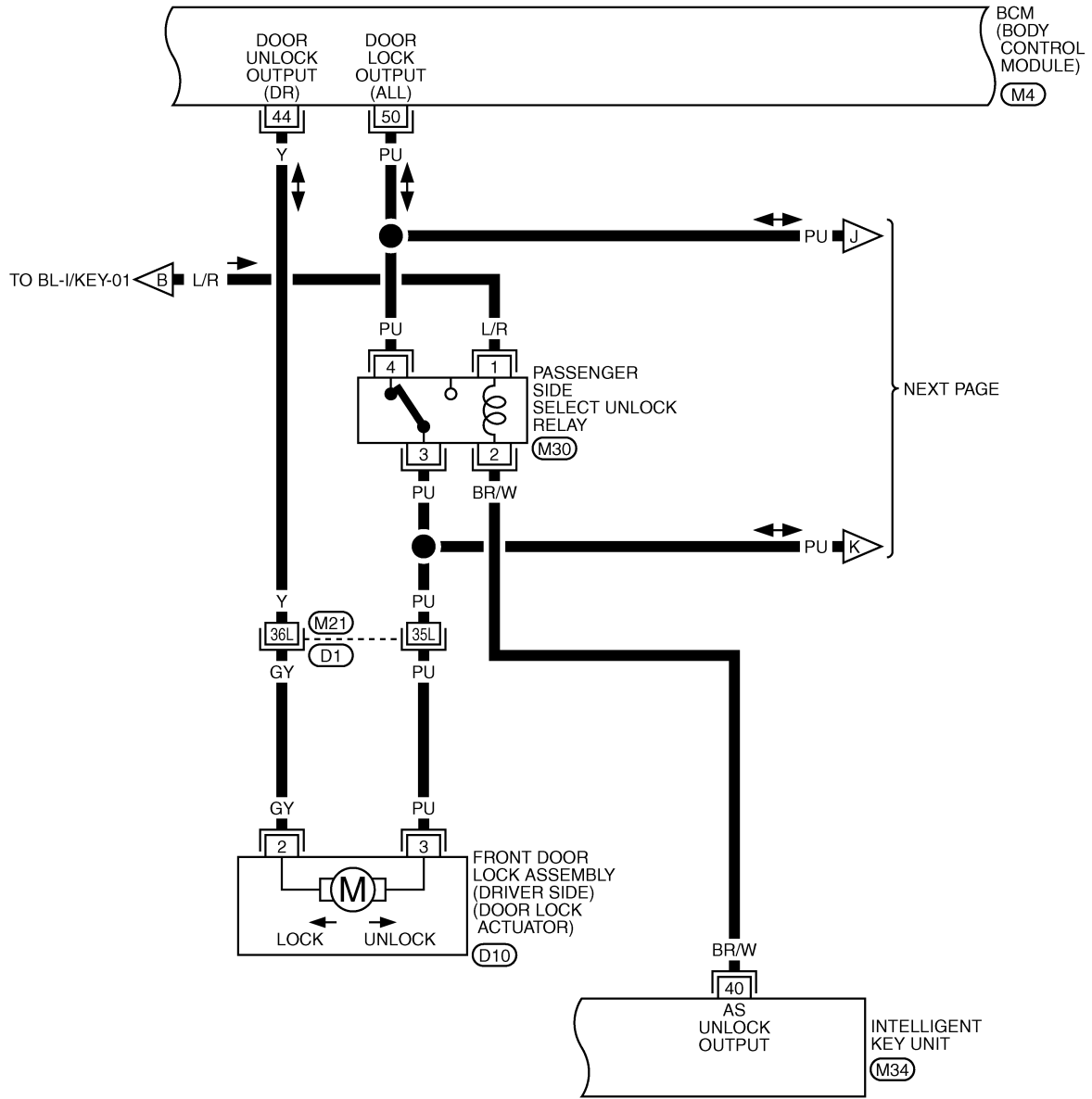


REFER TO THE FOLLOWING.  
 (B1), (B201) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M3), (B14) -ELECTRICAL UNITS

TIWH0044E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-09



REFER TO THE FOLLOWING.

(D1) -SUPER MULTIPLE JUNCTION (SMJ)

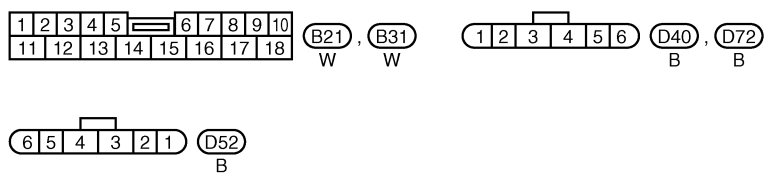
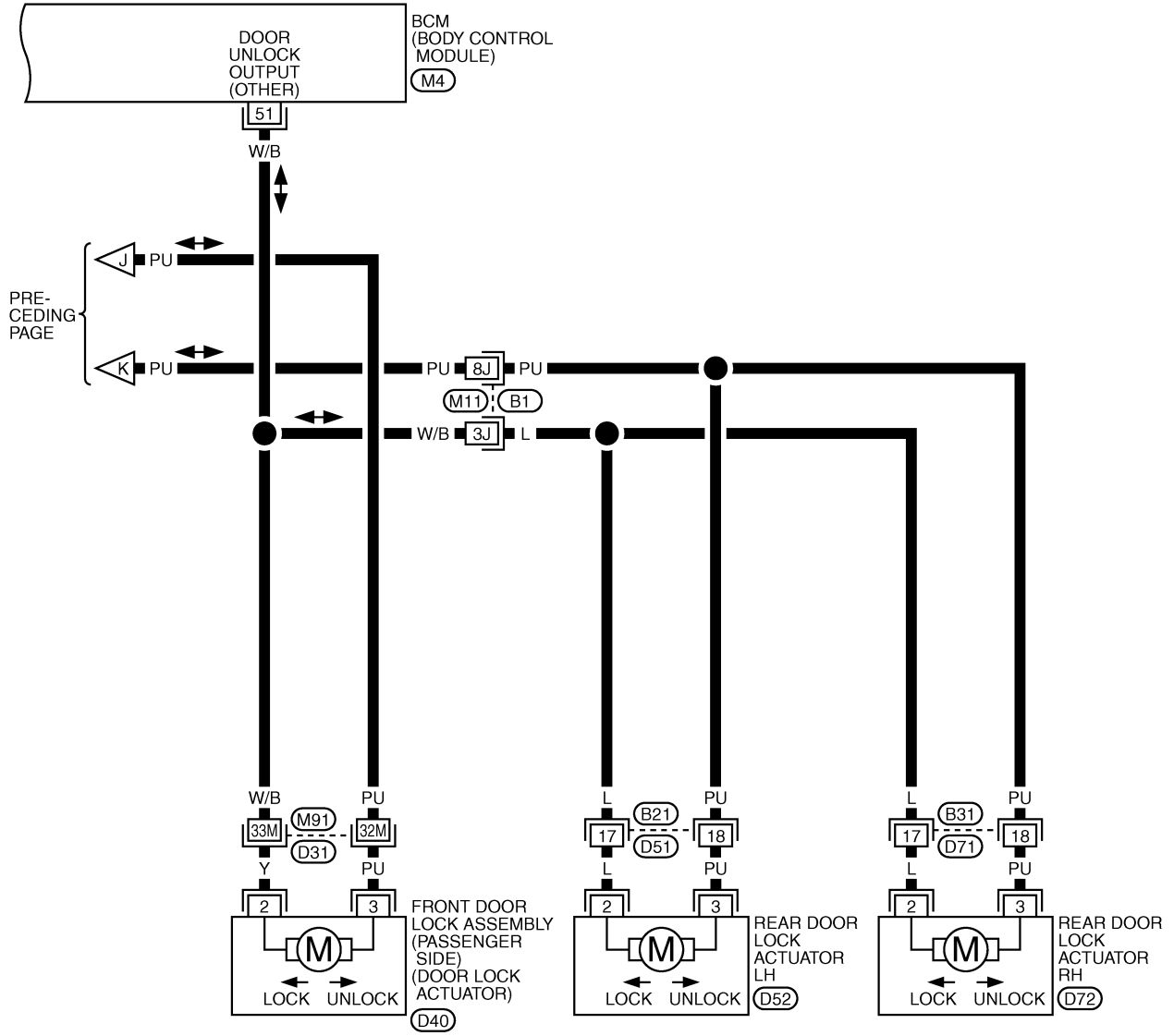
(M4) -ELECTRICAL UNITS

TIWH0045E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-10

A  
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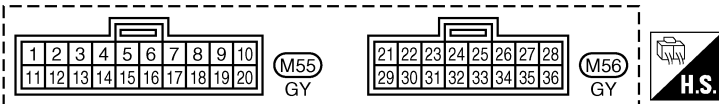
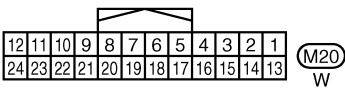
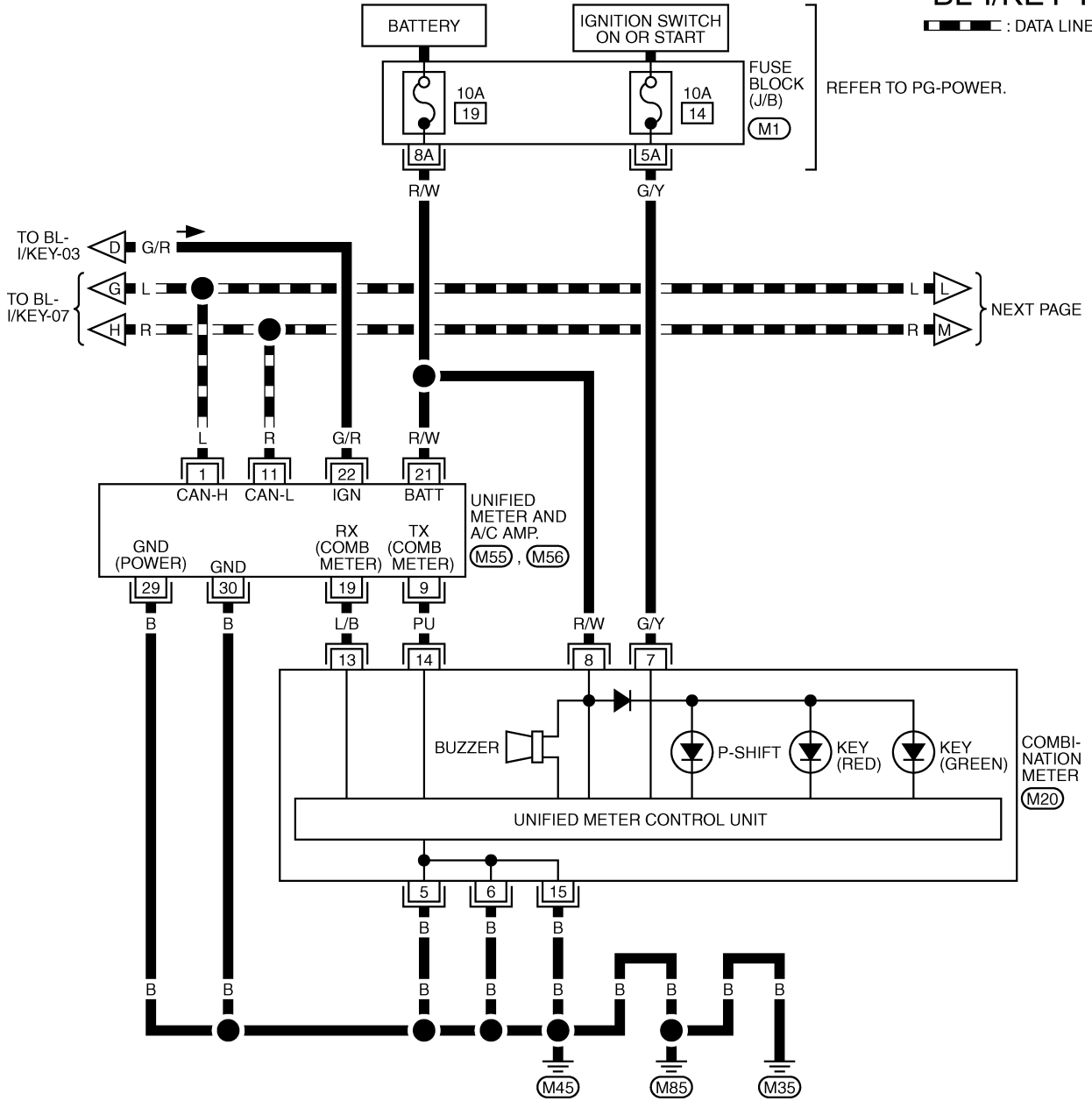
REFER TO THE FOLLOWING.  
 (B1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M4) -ELECTRICAL UNITS

TIWH0046E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-11

▬ : DATA LINE



REFER TO THE FOLLOWING.

(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

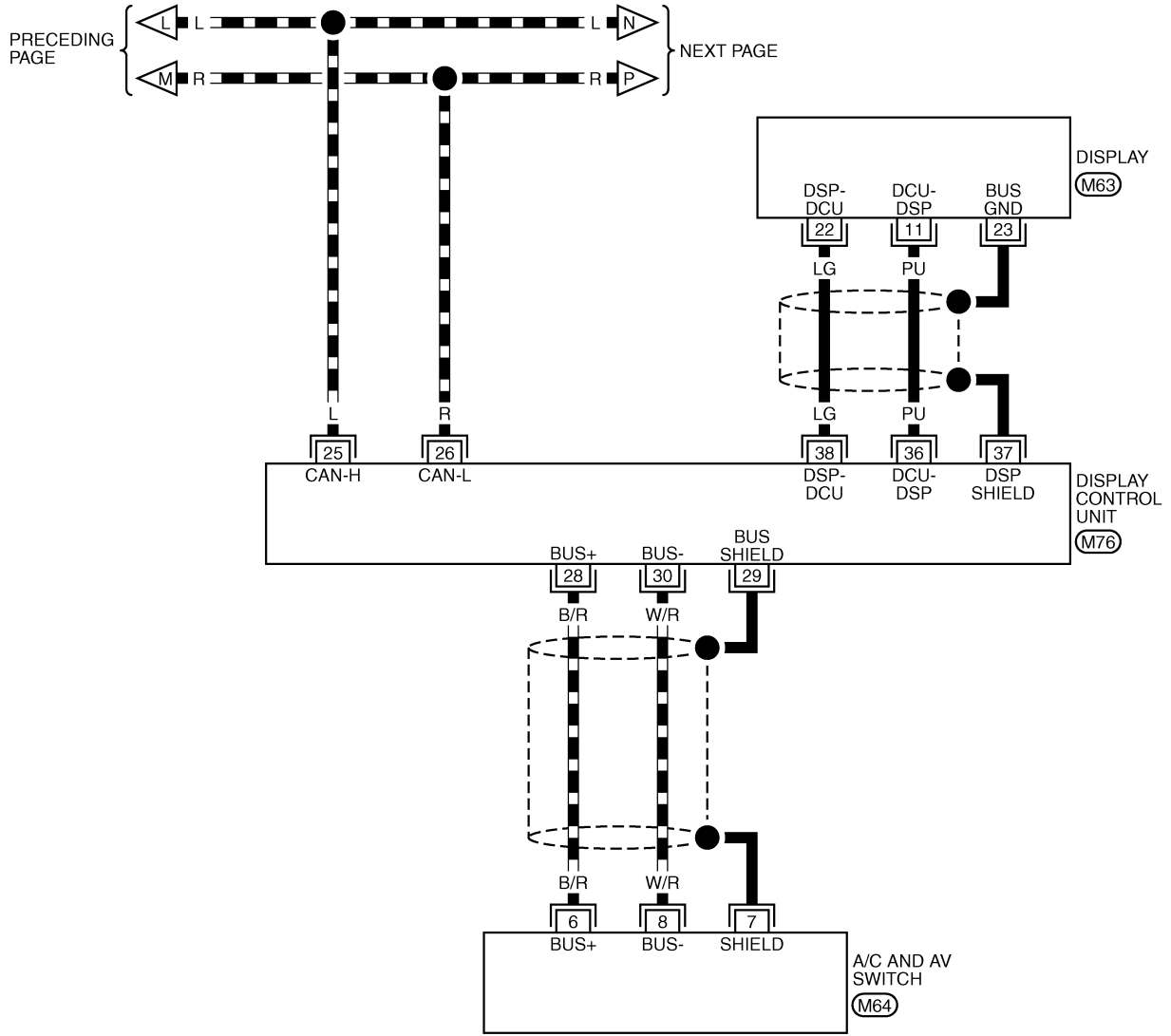
TIWM0432E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-12

A  
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I  
J  
K  
L  
M

▬ : DATA LINE



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

M63  
W

16	14	12	10	8	6	4	2
15	13	11	9	7	5	3	1

M64  
W

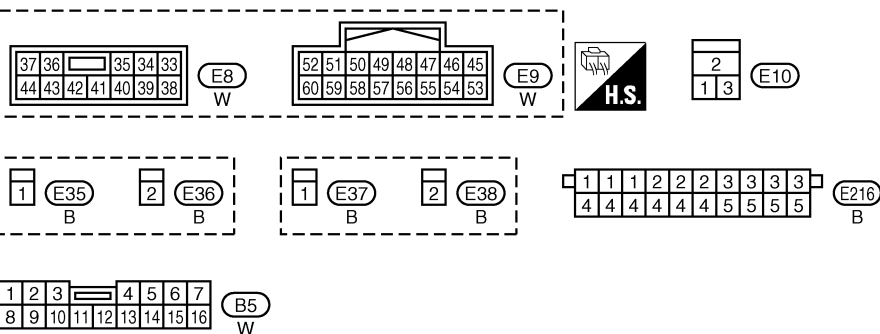
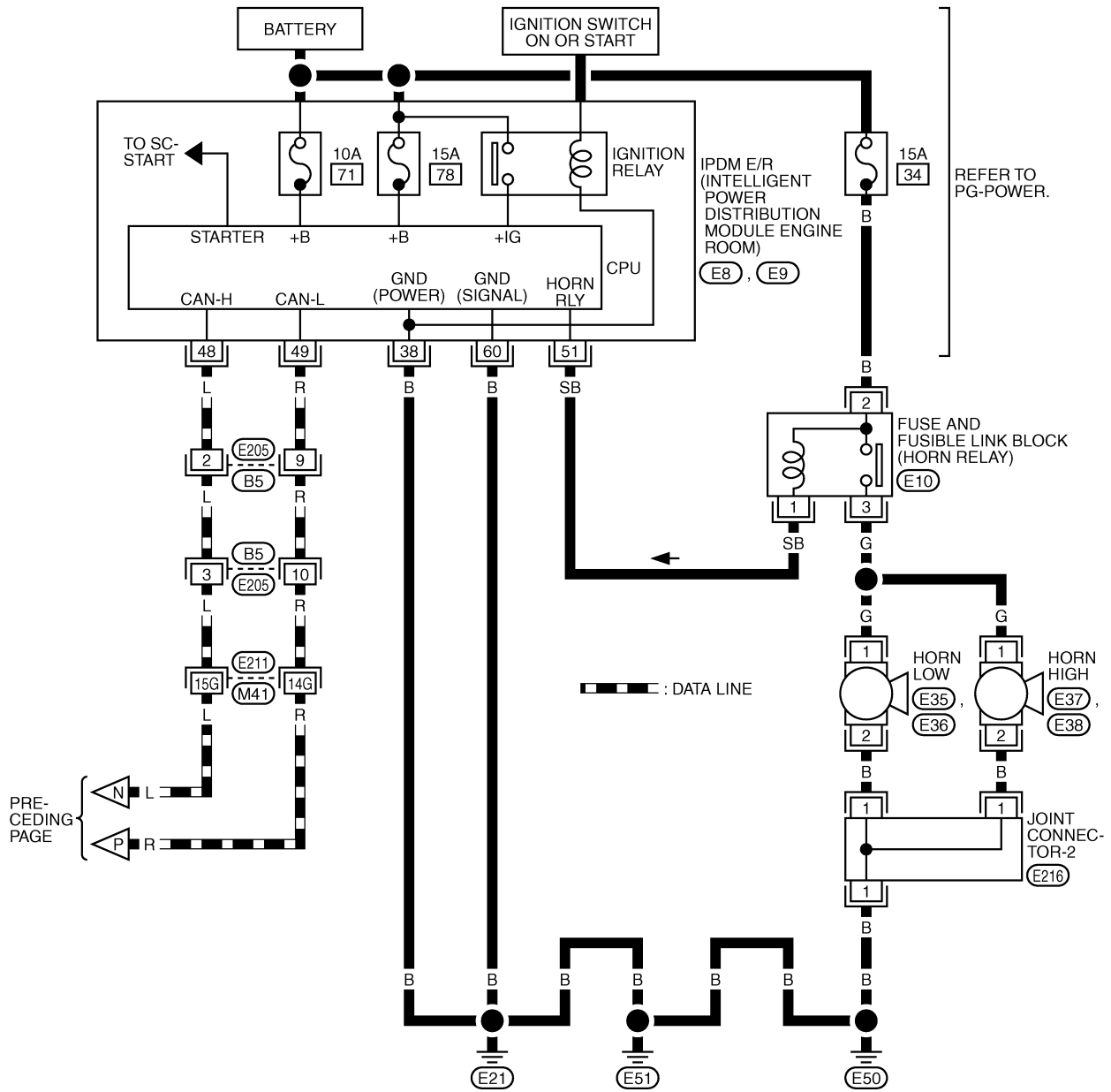
56	54	52	50	48	46	44	42	40	38	36	34	32	30	28	26
55	53	51	49	47	45	43	41	39	37	35	33	31	29	27	25

M76  
W

TIWM0433E

# INTELLIGENT KEY SYSTEM

BL-I/KEY-13



REFER TO THE FOLLOWING.  
 (E21) -SUPER MULTIPLE JUNCTION (SMJ)

TIWM0434E



# INTELLIGENT KEY SYSTEM

## Terminals and Reference Value for INTELLIGENT KEY UNIT

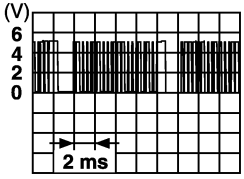
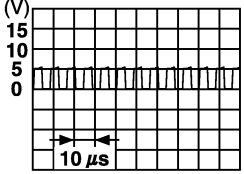
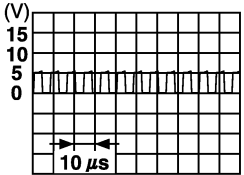
AIS004NO

Terminal No.	Wire color	Item	Measuring condition		Standard (V) Approx.	
			Ignition knob position	Operation or conditions		
1	R/W	Steering lock unit power supply	LOCK	—	5	
2	L	CAN-H	—	—	—	
3	R	CAN-L	—	—	—	
4	LG	Intelligent Key warning buzzer	LOCK	Operate remote controller button or door request switch.	Buzzer OFF	Battery voltage
					Sound buzzer	0
5	W/L	Door request switch (driver side)	—	Door request switch operation: Press (ON).		0
				Other than the above (OFF)		5
6	G/R	Ignition power supply	ON or START	—	Battery voltage	
7	B/W	key switch	LOCK	Insert mechanical key into ignition key cylinder.	Battery voltage	
				Remove mechanical key from ignition key cylinder.	0	
10	LG/R	ACC power supply	ACC or ON	—	Battery voltage	
11	L/R	Battery power supply	—	—	Battery voltage	
12	B	GND	—	—	0	
13	Y	Inside key antenna (+) (Luggage room)	LOCK	Any door open → all doors shut (Door switch: ON → OFF)	<p style="text-align: right; font-size: small;">SIIA1910J</p>	
14	BR	Inside key antenna (-) (Luggage room)				
15	W/R	Inside key antenna (+) signal (Dashboard)	LOCK	Any door open → Close (Door switch: ON → OFF) Ignition knob switch: ON (press ignition knob.)	<p style="text-align: right; font-size: small;">SIIA1910J</p>	
16	B/R	Inside key antenna (-) signal (Dashboard)				
17	OR/L	Back door antenna (+)	LOCK	Back door request switch operation (Switch: ON)	<p style="text-align: right; font-size: small;">SIIA1910J</p>	
18	PU/R	Back door antenna (-)				
19	SB	Outside antenna LH (+)	LOCK	Driver door request signal operation (Switch: ON)	<p style="text-align: right; font-size: small;">SIIA1910J</p>	
20	R/G	Outside antenna LH (-)				
25	W/R	Door request switch (passenger side)	—	Door request switch operation: Press (ON)	0	
				Other than the above (OFF)	5	

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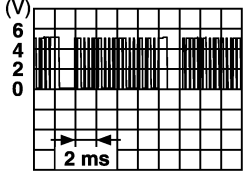
# INTELLIGENT KEY SYSTEM

Terminal No.	Wire color	Item	Measuring condition		Standard (V) Approx.
			Ignition knob position	Operation or conditions	
26	P/L	Stop lamp switch	—	Brake pedal depressed (ON)	5
				Brake pedal not depressed (OFF)	0
27	L/W	Ignition knob switch	—	Press ignition knob.	12
				Return ignition knob to LOCK position.	0
28	W/B	Door unlock sensor	—	Door is locking → unlock	5 → 0
29	GY	Door request switch (back door)	—	Back door request switch operation: Press (ON)	0
				Other than the above (OFF)	5
31	Y/B	Steering lock unit ground	—	—	0
32	R/B	Steering lock unit communication	LOCK	Press ignition knob with Intelligent Key inside vehicle.	 SIIA1911J
				Other than the above	5
35	LG	Inside key antenna (+) signal (Dashboard)	LOCK	Any door open → Close (Door switch: ON → OFF) Ignition knob switch: ON (press ignition knob.)	 SIIA1910J
36	PU	Inside key antenna (-) signal (Dashboard)			
37	G	Outside antenna RH (+)	LOCK	Passenger door request switch operation (Switch: ON)	 SIIA1910J
38	PU/W	Outside antenna RH (-)			
39	R/Y	Detention switch	LOCK	A/T selector lever in "P" position.	0
				A/T selector lever in other position.	Battery voltage
40	BR/W	Door lock relay	LOCK	Door request switch (passenger side) pressed	Battery voltage → 0 → Battery voltage

# INTELLIGENT KEY SYSTEM

## Terminals and Reference Value for Steering Lock unit

AIS004N1

Terminal number	Wire color	Signal Designation	Measuring condition		Standard (V)
			Ignition knob position	Operation or conditions	
1	L/R	Battery power supply	LOCK	—	Approx. 12
2	R/W	Steering lock unit power supply	LOCK	—	Approx. 5
3	R/B	Steering lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	 <p style="text-align: right; font-size: small;">SIA1911J</p>
				Other than the above	
4	Y/B	Steering lock unit ground	—	—	Approx. 0

## Terminals and Reference Value for BCM

AIS004N2

TERMI-NAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
1	PU	Key ring illumination output signal	Key ring illumination is lighting.	Battery voltage
			Key ring illumination is being turned off.	0
12	P/B	Front door switch (Passenger side)	Door open (ON) → Close (OFF)	0 → Battery voltage
13	P/L	Rear door switch RH	Door open (ON) → Close (OFF)	0 → Battery voltage
37	B/W	Key switch	Insert mechanical key from ignition key cylinder.	Battery voltage
			Remove mechanical key from ignition key cylinder.	0
38	W/L	Ignition switch	Ignition switch is in ON or START position	Battery voltage
39	L	CAN-H	—	—
40	R	CAN-L	—	—
41	R/B	Battery saver output signal	30 minutes after ignition switch is turned to OFF	0
			Ignition switch is in ON position	Battery voltage
42	L/R	Battery power supply (fuse)	—	Battery voltage
44	Y	Driver door lock actuator (Unlock)	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage
45	G/W	Left turn signal lamp	When door lock or unlock is operated using Intelligent Key.*1 (ON → OFF)	Battery voltage → 0
46	BR/W	Right turn signal lamp	When door lock or unlock is operated using Intelligent Key.*1 (ON → OFF)	Battery voltage → 0
47	Y/R	Step lamp output signal	Step lamp is lighting.	0
			Step lamp is being turned off.	Battery voltage
48	PU/W	Room lamp output signal	Room lamp is lighting.*2	0
			Room lamp is being turned off.*2	Battery voltage
49	B	Ground	—	0

# INTELLIGENT KEY SYSTEM

TERMI- NAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
50	PU	Door lock actuator (Lock)	Door lock / unlock switch (Free → Lock)	0 → Battery voltage
51	W/B	Passenger and rear doors lock actuator (Unlock)	Door lock / unlock switch (Free → Unlock)	0 → Battery voltage
52	B	Ground	—	0
54	W	Battery power supply (power window)	—	Battery voltage
55	G	Battery power supply (Fusible link)	—	Battery voltage
58	L	Back door switch	Back door open (ON) → Close (OFF)	0 → 9
62	W	Front door switch (Driver side)	Door open (ON) → Close (OFF)	0 → Battery voltage
63	P	Rear door switch LH	Door open (ON) → Close (OFF)	0 → Battery voltage

\*1: In the state that hazard reminder operates.

\*2: In the state that room lamp switch is in "DOOR" position.

## Terminals and Reference Value for IPDM E/R

AIS004N3

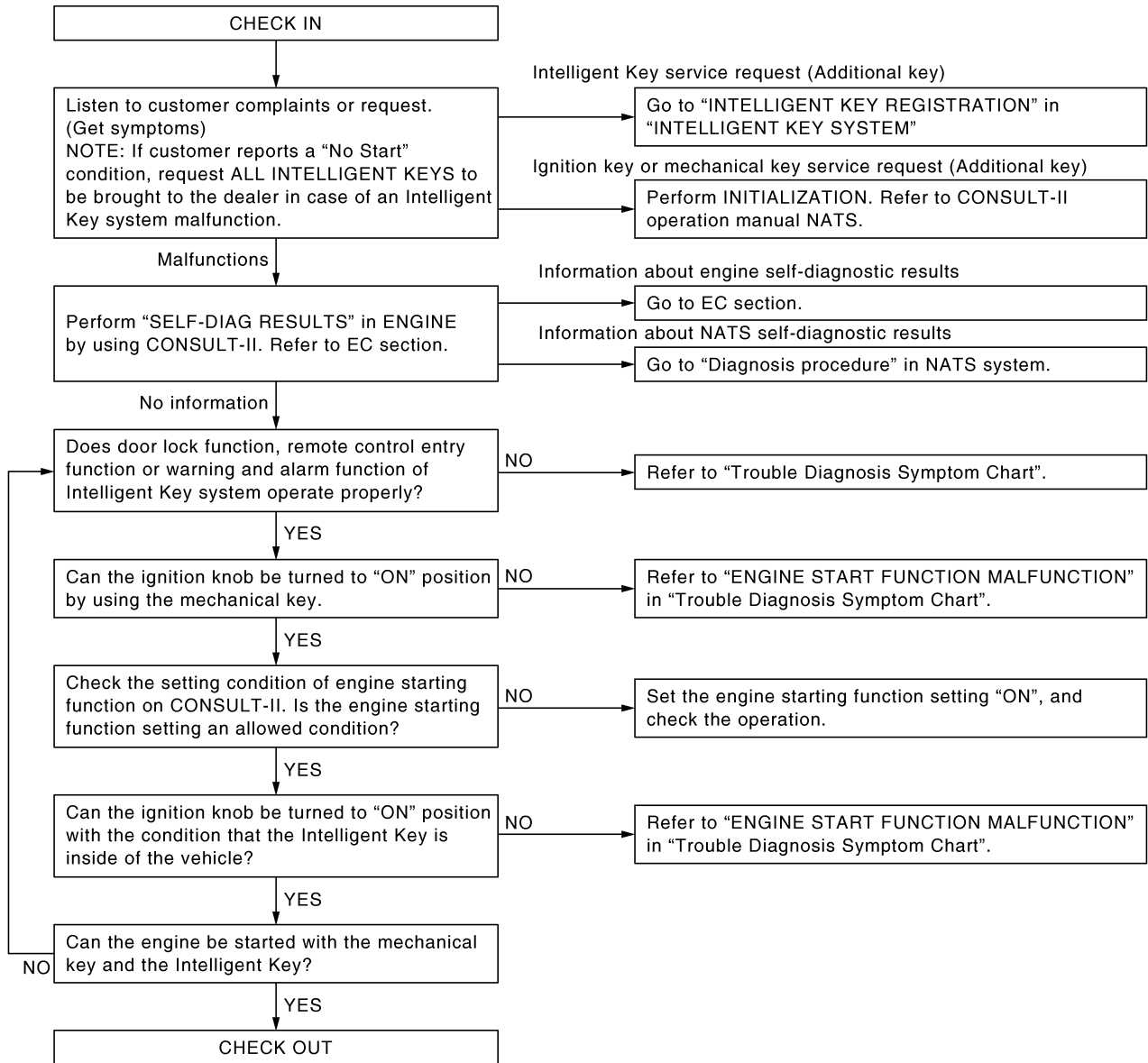
TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
38	B	Ground	—	0
48	L	CAN – H	—	—
49	R	CAN – L	—	—
51	SB	Horn relay	When panic alarm is operated using Intelligent Key (OFF → ON)	Battery voltage → 0
60	B	Ground	—	0

# INTELLIGENT KEY SYSTEM

AI5004N4

## Diagnosis Procedure WORK FLOW

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# INTELLIGENT KEY SYSTEM

## CONSULT-II Functions

AIS004N5

- CONSULT-II has display and inspection functions for work support, self-diagnosis, data monitor, and control unit part number by combining data reception and command transmission via communication lines from the Intelligent Key unit.

Part to be diagnosed	Inspection Item, Diagnosis Mode	Description
Intelligent Key	WORK SUPPORT	<ul style="list-style-type: none"> <li>Performs Intelligent Key-ID registration, check, and deletion.</li> <li>Performs steering lock unit ID registration.</li> <li>Changes settings for each function (ON/OFF).</li> </ul>
	SELF-DIAG RESULTS	Intelligent Key unit performs CAN communication diagnosis.
	DATA MONITOR	Displays Intelligent Key unit input data in real time.
	ACTIVE TEST	Sends drive signals door lock actuator, buzzer or combination meter to perform operation check.
	ECU PART NUMBER	Displays Intelligent Key unit part No.

## CONSULT-II Inspection Procedure

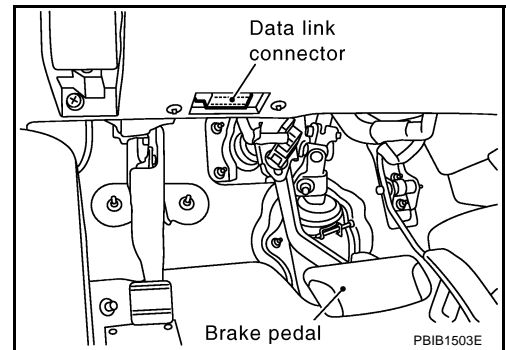
AIS004N6

### CAUTION:

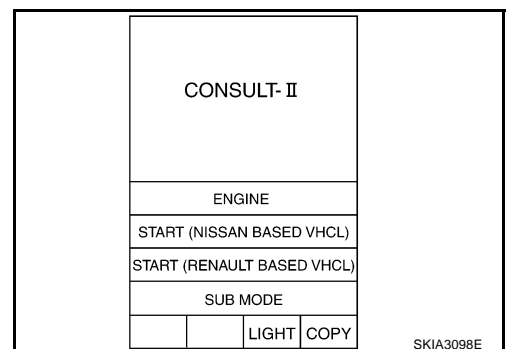
If CONSULT-II is used with no connection CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN Communication.

### BASIC OPERATION

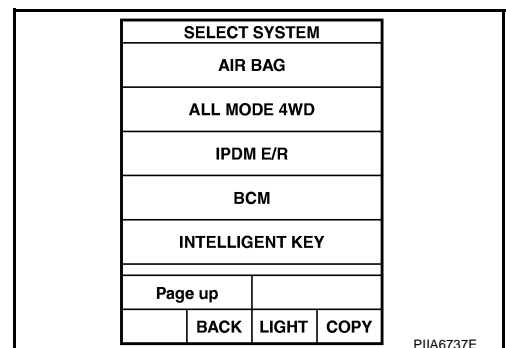
- Turn ignition knob to LOCK position.
- Connect CONSULT-II CONVERTER and CONSULT-II to data link connector.



- Use mechanical key to turn ignition switch to ON.
- Touch "START (NISSAN BASED VHCL)".



- Touch "INTELLIGENT KEY" on "SELECT SYSTEM" screen.
  - If "INTELLIGENT KEY" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).





# INTELLIGENT KEY SYSTEM

Monitor item [OPERATION]	Description
ACC SW [ON/OFF]	Displays status (Ignition switch ACC position: ON/Ignition switch OFF position: OFF) as judged from ignition switch signal.
DOOR STAT SW [ON/OFF]	Displays status from door unlock sensor ON/OFF condition.
STOP LAMP SW [ON/OFF]	Displays status (Brake pedal depress: ON/brake pedal not depress: OFF) as judged from stop lamp switch signal.
P RANGE SW [ON/OFF]	Displays status from park/neutral position switch ON/OFF condition.
BD OPEN SW [ON/OFF]	Displays status (Back door open: ON/Back door closed: OFF) as judged from back door opener switch signal.
CAN COMM [ON/OFF]	Display CAN communication system.
CAN CIRC 1 [ON/OFF]	Display CAN communication system.
CAN CIRC 2 [ON/OFF]	Display CAN communication system.
CAN CIRC 3 [ON/OFF]	Display CAN communication system.
CAN CIRC 4 [ON/OFF]	Display CAN communication system.

## ACTIVE TEST

Monitor item	Description
DOOR LOCK/UNLOCK	This test is able to check all door lock actuators lock/unlock operation. These actuators lock when "ON" on CONSULT-II screen is touched.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. The buzzer will be activated on when "ON" on CONSULT-II screen is touched.
INSIDE BUZZER	This test is able to check buzzer (bultin combination meter) operation. The buzzer will be activated on when "ON" on CONSULT-II screen is touched.
INDICATOR	This test is able to check warning lamp operation. The lamp will be turned on when "ON" on CONSULT-II screen is touched.



# INTELLIGENT KEY SYSTEM

## List of Operation Related Parts

AIS004NB

Parts marked with × are the parts related to operation.

Will not operate if there is a malfunction in the area where there is a ×.	Intelligent Key	Key switch	Ignition knob switch	ACC switch	Ignition switch	Door unlock sensor	Door switch	Door request switch	Inside key antenna	Out side key antenna	Intelligent Key warning buzzer	Intelligent Key unit	CAN communication system	BCM	Combination meter	Steering lock unit	Stop lamp switch	Detention switch	Passenger side select unlock relay
Door lock/unlock operation using Intelligent Key remote controller button operation	×					×	×				×	×	×	×					
Door lock/unlock operation using door request switch operation	×					×	×	×		×	×	×	×	×					
Selective door unlock function using door request switch operation	×					×	×	×				×	×	×					×
Selective door unlock function using Intelligent Key remote controller button operation	×					×	×					×	×	×					
Door lock/unlock operation using mechanical key														×					
Ignition knob rotation permission using Intelligent Key	×	×	×						×			×	×		×	×			
Ignition knob rotation permission using mechanical key		×	×									×	×	×	×	×			
Engine start using Intelligent Key	×				×				×			×	×	×		×	×	×	
Engine start using mechanical key					×	×							×	×		×	×	×	
Key reminder door lock operation	×					×	×		×		×	×	×	×					
Selector lever reminder operation		×			×							×	×		×			×	
Ignition switch return forgotten warning			×	×	×		×					×		×	×				
Ignition key warning (when using mechanical key)		×											×	×	×				
Ignition switch OFF position warning (for inside car: when door closed)		×	×	×	×							×	×		×				
Ignition switch OFF position warning (for outside car: when door opened/closed)		×	×	×	×		×				×	×	×	×	×				
Warning for removal of Intelligent Key to outside the car (when door open/closed)	×	×	×				×		×		×	×	×	×	×				
Warning for removal of Intelligent Key to outside the car (from window)	×	×	×				×		×			×	×		×				
Door lock non-operation warning	×					×	×	×		×	×	×	×	×					
Intelligent key low battery warning	×				×							×	×		×				

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# INTELLIGENT KEY SYSTEM

## Trouble Diagnosis Symptom Chart

AI5004N9

### ALL FUNCTIONS OF THE INTELLIGENT KEY ARE NOT OPERATING

Symptom	Diagnoses service procedure	Refer to page
"KEY" and "P shift" warning lamps in combination meter do not light up at all.	1. Check Intelligent Key unit power supply and ground circuit	<a href="#">BL-124</a>
	2. Check CAN communication	<a href="#">BL-123</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
"KEY" and "P shift" warning lamps in combination meter turn on, but doors cannot be locked/unlocked or the engine can not be started using Intelligent Key.	1. Use CONSULT-II to check if the Intelligent Key has been registered	Refer to CONSULT-II Operation Manual
	2. Use CONSULT-II setting change function to check if Intelligent Key system has been cancelled	<a href="#">BL-115</a>
	3. Intelligent Key inspection	<a href="#">BL-147</a>
	4. Replace Intelligent Key unit	<a href="#">BL-146</a>

### REMOTE CONTROL ENTRY FUNCTION MALFUNCTION

Symptom	Diagnoses service procedure	Refer to page
Door lock/unlock does not operate (other functions normal) when Intelligent Key remote controller button is operated.	1. Check door lock/unlock setting	<a href="#">BL-115</a>
	2. Intelligent Key inspection	<a href="#">BL-147</a>
	3. Check door unlock sensor	<a href="#">BL-131</a>
	4. Check door switch	<a href="#">BL-128</a>
	5. Replace BCM	<a href="#">BCS-15</a>
	6. Replace Intelligent Key unit	<a href="#">BL-146</a>
Driver side selective door unlock function does not operate, when Intelligent Key remote controller button is operated. (All other remote control entry function is OK.)	1. Check selective door unlock setting	<a href="#">BL-115</a>
	2. Replace BCM	<a href="#">BCS-15</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Panic alarm (horn and headlamp) do not activate, when panic alarm button is continuously pressed. (All other remote control entry function is OK.)	1. Check panic alarm mode	<a href="#">BL-115</a>
	2. Check headlamp function	<a href="#">BL-145</a>
	3. Check horn function	<a href="#">BL-145</a>
	4. Check IPDM E/R operation	<a href="#">BL-145</a>
	5. Check key switch (Intelligent Key unit input)	<a href="#">BL-124</a>
	6. Check ignition knob switch	<a href="#">BL-127</a>
	7. Replace Intelligent Key unit	<a href="#">BL-146</a>
Hazard lamps do not flash during door lock operation using Intelligent Key remote controller button operated. (Turn signal lamp operation is OK.) (All other remote control entry function is OK.)	1. Check key reminder setting	<a href="#">BL-115</a>
	2. Replace BCM	<a href="#">BCS-15</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Hazard lamps do not flash during door lock operation using Intelligent Key remote controller button operated. (Turn signal lamps do not operate.)	Check hazard function	<a href="#">BL-145</a>
Intelligent Key warning buzzer does not sound during door lock/unlock operation using Intelligent Key remote controller button is operated. (All other remote control entry function is OK.)	1. Check if the operation confirmation Intelligent Key warning buzzer was cancelled by the CONSULT-II settings change function	<a href="#">BL-115</a>
	2. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>

# INTELLIGENT KEY SYSTEM

## DOOR LOCK FUNCTION MALFUNCTION

Before conducting the diagnosis in the following table, check all power door lock system function. Refer to [BL-22, "POWER DOOR LOCK SYSTEM"](#) .

Symptom	Diagnoses service procedure	Refer to page
Door lock/unlock does not operate when door request switch operation is used (power door lock system is normal).	1. Check door lock/unlock setting	<a href="#">BL-115</a>
	2. Check outside key antenna	<a href="#">BL-135</a>
	3. Intelligent Key inspection	<a href="#">BL-147</a>
	4. Replace Intelligent Key unit	<a href="#">BL-146</a>
Door lock/unlock do not operate using door request switch operated (power door lock system is normal).	1. Check door switch	<a href="#">BL-128</a>
	2. Check key switch (Intelligent Key unit input)	<a href="#">BL-124</a>
	3. Check ignition knob switch	<a href="#">BL-127</a>
	4. Replace Intelligent Key unit	<a href="#">BL-146</a>
Driver side selective door unlock function does not operate, when door request switch is operated. (All other door lock function is OK.)	1. Check selective door unlock setting	<a href="#">BL-115</a>
	2. Replace BCM	<a href="#">BCS-15</a>
Passenger side selective door unlock function does not operate, when door request switch is operated. (All other door lock function is OK.)	1. Check selective door unlock setting	<a href="#">BL-115</a>
	2. Check passenger side select unlock relay	<a href="#">BL-144</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Hazard lamps do not flash during door lock operation using door request switch operated. (Turn signal lamp operation is normal.) (All other door lock function is OK.)	1. Check key reminder setting	<a href="#">BL-115</a>
	2. Replace BCM	<a href="#">BCS-15</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Hazard lamps do not flash during door lock operation using door request switch operated. (Turn signal lamps do not operate.)	Check hazard function	<a href="#">BL-145</a>
Intelligent Key warning buzzer does not sound during door lock/unlock operation using Intelligent Key (regardless of whether Intelligent Key remote controller button or request switch operation is used).	1. Check if the operation confirmation Intelligent Key warning buzzer was cancelled by the CONSULT-II settings change function	<a href="#">BL-115</a>
	2. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Door lock/unlock operation confirmation Intelligent Key warning buzzer sounds, but door lock actuator does not operate. (And hazard lamps do not flash.)	1. Check CAN communication	<a href="#">BL-123</a>
	2. Replace Intelligent Key unit	<a href="#">BL-146</a>

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# INTELLIGENT KEY SYSTEM

## ENGINE START FUNCTION MALFUNCTION

### Intelligent Key Operation Inspection

Symptom		Diagnoses service procedure	Refer to page
Ignition knob can not turn	KEY warning lamp on combination meter lights up in red when ignition knob is pressed. (door lock functions normal)	1. Intelligent Key inspection	<a href="#">BL-147</a>
		2. Check inside key antenna	<a href="#">BL-138</a>
		3. Replace Intelligent Key unit	<a href="#">BL-146</a>
	KEY warning lamp on combination meter lights up in green when ignition knob is pressed.	1. Check ignition knob switch	<a href="#">BL-127</a>
		2. Check steering lock unit	<a href="#">BL-139</a>
		3. Check Intelligent Key unit power supply and ground circuit	<a href="#">BL-124</a>
		4. Replace Intelligent Key unit	<a href="#">BL-146</a>
	Ignition knob turns even without both Intelligent Key and mechanical key.	Replace steering lock unit	—
	Security indicator will still flash when ignition knob is pressed.	1. Check key switch (Intelligent Key unit input)	<a href="#">BL-124</a>
		2. Replace Intelligent Key unit	<a href="#">BL-146</a>
	Security indicator does not flash with ignition knob released at LOCK position. (push switch OFF)	1. CAN communication system	<a href="#">BL-123</a>
		2. Ignition knob switch system	<a href="#">BL-127</a>
3. Intelligent Key unit power supply and ground circuit		<a href="#">BL-124</a>	
Starter motor does not cranking. (Ignition knob can turn)	1. Check detention switch	<a href="#">BL-142</a>	
	2. Check stop lamp switch	<a href="#">BL-141</a>	
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>	

### Mechanical Key Operation Inspection

Symptom		Diagnoses service procedure	Refer to page
Ignition knob can not turn	Security indicator remains flashing with mechanical key inserted.	1. Check key switch (BCM input)	<a href="#">BL-126</a>
		2. Replace Intelligent Key unit	<a href="#">BL-146</a>
Ignition knob can not turn	KEY indicator and security indicator does not flashing with mechanical key inserted.	1. Check stop lamp switch	<a href="#">BL-141</a>
		2. Replace Intelligent Key unit	<a href="#">BL-146</a>
Starter motor does not cranking. (Ignition knob can turn)		1. Check detention switch	<a href="#">BL-142</a>
		2. Check stop lamp switch	<a href="#">BL-141</a>
		3. Replace Intelligent Key unit	<a href="#">BL-146</a>

## WARNING CHIME FUNCTION MALFUNCTION

Before conducting the diagnosis in the following table, check “key reminder function” with power door lock system.

Symptom	Diagnoses service procedure	Refer to page
Ignition key warning chime is inoperative. (When mechanical key used)	1. Check CAN communication	<a href="#">BL-123</a>
	2. Check key switch (Intelligent Key unit input)	<a href="#">BL-124</a>
	3. Check door switch	<a href="#">BL-128</a>
	4. Inspect combination meter (warning)	<a href="#">DI-4</a>
	5. Replace Intelligent Key unit	<a href="#">BL-146</a>
Ignition knob OFF position warning chime (for inside vehicle) does not sound. (Ignition key warning chime operates)	1. Check CAN communication	<a href="#">BL-123</a>
	2. Check ignition knob switch	<a href="#">BL-127</a>
	3. Check key switch (Intelligent Key unit input)	<a href="#">BL-124</a>
	4. Replace Intelligent Key unit	<a href="#">BL-146</a>

# INTELLIGENT KEY SYSTEM

Symptom	Diagnoses service procedure	Refer to page
Ignition knob OFF position warning chime (for outside vehicle: after door open/closed) does not sound.	1. Check CAN communication	<a href="#">BL-123</a>
	2. Check ignition knob switch	<a href="#">BL-127</a>
	3. Check door switch	<a href="#">BL-128</a>
	4. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	5. Replace Intelligent Key unit	<a href="#">BL-146</a>
Intelligent Key take out warning chime (when door open/closed) does not sound.	1. Check CAN communication	<a href="#">BL-123</a>
	2. Intelligent Key inspection	<a href="#">BL-147</a>
	3. Check ignition knob switch	<a href="#">BL-127</a>
	4. Check door switch	<a href="#">BL-128</a>
	5. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	6. Replace Intelligent Key unit	<a href="#">BL-146</a>
Intelligent Key take out warning chime (when door opened/closed) sounds even though Intelligent Key is in vehicle.	1. Check inside key antenna	<a href="#">BL-138</a>
	2. Intelligent Key inspection	<a href="#">BL-147</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
P position selecting warning lamp does not light up	1. Check detention switch	<a href="#">BL-142</a>
	2. Check combination meter	<a href="#">DI-4</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Intelligent Key take out warning chime (when selector lever is except P position) does not sound.	1. Check CAN communication	<a href="#">BL-123</a>
	2. Check detention switch	<a href="#">BL-142</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>
Intelligent Key take out warning chime (through window) does not sound	1. Check if Intelligent Key removal warning (take out from window) was canceled by CONSULT-II settings change function	<a href="#">BL-115</a>
	2. Check CAN communication	<a href="#">BL-93</a>
	3. Intelligent Key inspection	<a href="#">BL-147</a>
	4. Check ignition knob switch	<a href="#">BL-127</a>
	5. Replace Intelligent Key unit	<a href="#">BL-146</a>
Intelligent Key take out warning chime (through window) sounds even though Intelligent Key is in vehicle.	1. Check inside key antenna	<a href="#">BL-138</a>
	2. Intelligent Key inspection	<a href="#">BL-147</a>
	3. Replace Intelligent Key unit	<a href="#">BL-146</a>

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# INTELLIGENT KEY SYSTEM

Symptom	Diagnoses service procedure	Refer to page
Door lock non-operation warning does not sound.	<b>Intelligent Key warning chime does not sound</b>	
	1. Intelligent Key inspection	<a href="#">BL-147</a>
	2. Check door request switch	<a href="#">BL-132</a>
	3. Check inside key antenna	<a href="#">BL-138</a>
	4. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	5. Replace Intelligent Key unit	<a href="#">BL-146</a>
	<b>Ignition knob OFF position warning chime does not sound</b>	
	1. Intelligent Key inspection	<a href="#">BL-147</a>
	2. Check door request switch	<a href="#">BL-132</a>
	3. Check outside key antenna	<a href="#">BL-135</a>
	4. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	5. Check ignition knob switch	<a href="#">BL-127</a>
	6. Replace Intelligent Key unit	<a href="#">BL-146</a>
	<b>Door ajar alarm</b>	
	1. Check CAN communications	<a href="#">BL-123</a>
	2. Check door request switch	<a href="#">BL-132</a>
	3. Check outside key antenna	<a href="#">BL-135</a>
	4. Check Intelligent Key warning buzzer	<a href="#">BL-134</a>
	5. Check door switch	<a href="#">BL-128</a>
	6. Intelligent Key inspection	<a href="#">BL-147</a>
	7. Replace Intelligent Key unit	<a href="#">BL-146</a>

# INTELLIGENT KEY SYSTEM

## Check CAN Communication System Inspection

AIS004NA

### 1. SELF-DIAGNOSTIC RESULT CHECK

#### 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.

#### Ⓜ With CONSULT-II

- Connect CONSULT-II, and turn ignition switch ON.
- Touch "INTELLIGENT KEY" on "SELECT SYSTEM" screen.
- Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
- Check display content in self-diagnostic results.

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

#### Contents displayed

NO MALFUNCTION>>CAN communication system is normal.

CAN communications or CAN system>>Print self-diagnostic results and GO TO 2.

### 2. SYMPTOM CHECK

- Touch "CAN diagnosis support monitor" in data monitor.
- Select "START" and check display content.

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

>> After printing the monitor items, GO TO [LAN-4, "Precautions When Using CONSULT-II"](#) .

# INTELLIGENT KEY SYSTEM

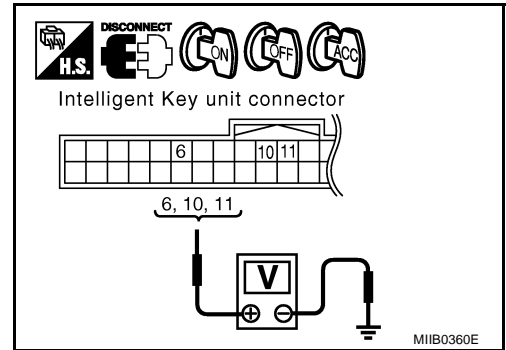
## Check Intelligent Key Unit Power Supply and Ground Circuit

AIS004NB

### 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition knob OFF position.
2. Disconnect Intelligent Key unit connector M34 and measure the connector terminal (+) and ground (-) shown in the following table.

Terminal (wire color)	Signal Designation	Ignition switch	Voltage (V) (Approx.)
6 (G/R)	Ignition power supply	ON	Battery voltage
10 (LG/R)	ACC power supply	ACC	Battery voltage
11 (L/R)	Battery power supply	OFF	Battery voltage



OK or NG

- OK >> GO TO 2.  
NG >> Repair or replace Intelligent Key power supply circuit.

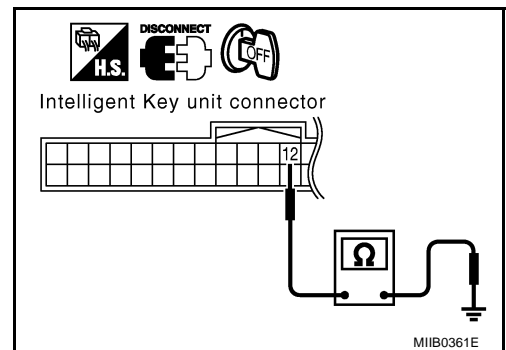
### 2. CHECK GROUND CIRCUIT

Check continuity between Intelligent Key unit connector M34 terminal 12 (B) and ground.

**12 (B) - Ground : Continuity should exist.**

OK or NG

- OK >> Power supply and ground circuits are normal.  
NG >> Repair or replace the Intelligent Key unit ground circuit.



## Check Key Switch (Intelligent Key Unit Input)

AIS004NC

### 1. KEY SWITCH INSPECTION

 **With CONSULT-II**

Display "KEY SW" on DATA MONITOR screen, and check if ON-OFF display is linked to insertion of mechanical key in ignition knob.

**When key is inserted in ignition knob : ON**

**When key is removed in ignition knob : OFF**

OK or NG

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



# INTELLIGENT KEY SYSTEM

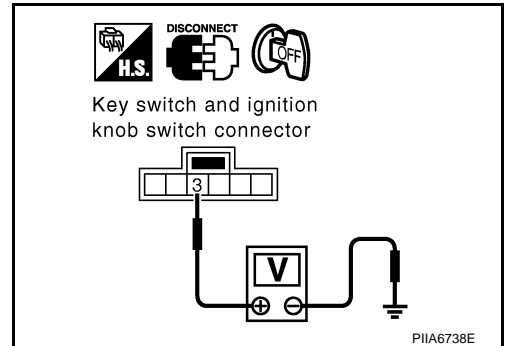
## 2. KEY SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Remove mechanical key from ignition knob.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M22 terminal 3 (L/R) and ground.

**3 (L/R) - Ground : Battery voltage**

OK or NG

- OK >> GO TO 3.  
 NG >> Repair or replace key switch power supply circuit.



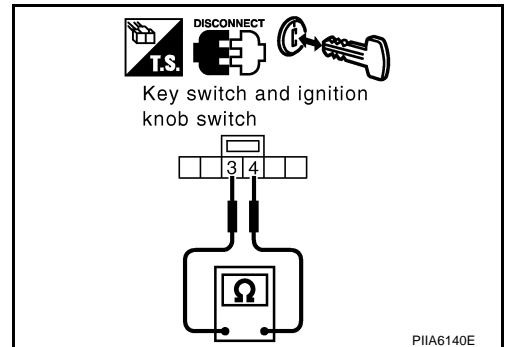
## 3. KEY SWITCH OPERATION INSPECTION

Check continuity between key switch and ignition knob switch terminals 3 and 4.

Terminals	Condition	Continuity
3 - 4	Key is inserted in ignition key cylinder.	Yes
	Key is removed from ignition key cylinder.	No

OK or NG

- OK >> GO TO 4.  
 NG >> Replace key switch.



## 4. KEY SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M34 terminal 7 (B/W) and key switch and ignition knob switch connector M22 terminal 4 (B/W).

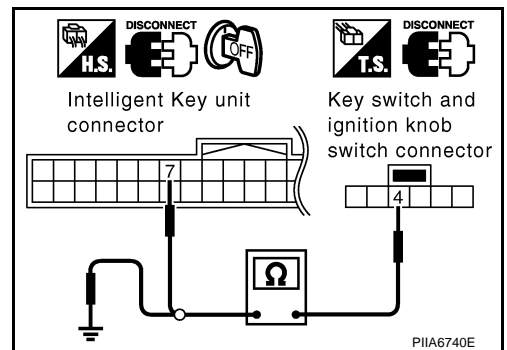
**7 (B/W) - 4 (B/W) : Continuity should exist.**

3. Check continuity between key switch and ignition knob switch connector M22 terminal 4 (B/W) and ground.

**4 (B/W) - Ground : Continuity should not exist.**

OK or NG

- OK >> Replace Intelligent key unit.  
 NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.



# INTELLIGENT KEY SYSTEM

AIS004ND

## Check Key Switch (BCM Input)

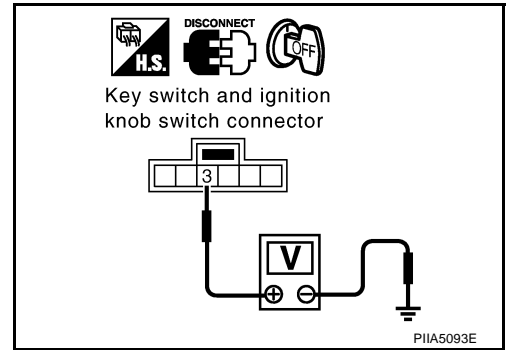
### 1. KEY SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition knob OFF position.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M22 terminal 3 (L/R) and ground.

**3 (L/R) – Ground : Battery voltage.**

OK or NG

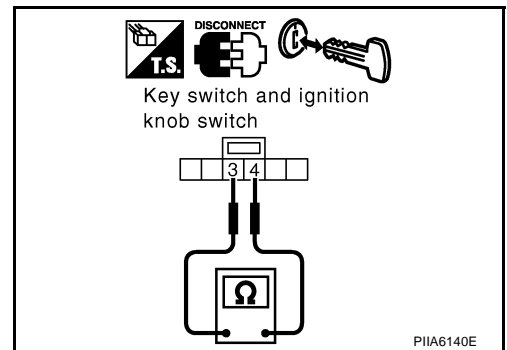
- OK >> GO TO 2.  
 NG >> Check harness between key switch and ignition knob switch and fuse.



### 2. KEY SWITCH INSPECTION

Check continuity between key switch and ignition knob switch as follows.

Terminals	Condition	Continuity
3 – 4	Key is inserted in ignition key cylinder.	Yes
	Key is removed from ignition key cylinder.	No



OK or NG

- OK >> GO TO 3.  
 NG >> Replace key switch and ignition knob switch.

### 3. KEY SWITCH SIGNAL CIRCUIT INSPECTION

1. Disconnect key switch and ignition knob switch connector and BCM connector.
2. Check continuity between key switch and ignition knob switch connector M22 terminal 4 (B/W) and BCM connector M3 terminal 37 (B/W).

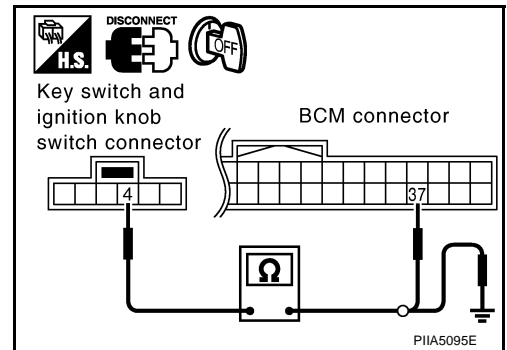
**4 (B/W) – 37 (B/W) : Continuity should exist.**

3. Check continuity between key switch and ignition knob switch connector M22 terminal 4 (B/W) and ground.

**4 (B/W) – Ground : Continuity should not exist.**

OK or NG

- OK >> Key switch (BCM input) circuit is OK.  
 NG >> Repair or replace harness between key switch and ignition knob switch and BCM.



# INTELLIGENT KEY SYSTEM

AIS004NE

## Check Ignition Knob Switch

### 1. IGNITION KNOB SWITCH INSPECTION

#### With CONSULT-II

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

- Press ignition knob. : ON**  
**Return ignition knob (release hands from ignition knob) : OFF**

#### OK or NG

- OK >> Ignition knob switch is OK.  
NG >> GO TO 2.

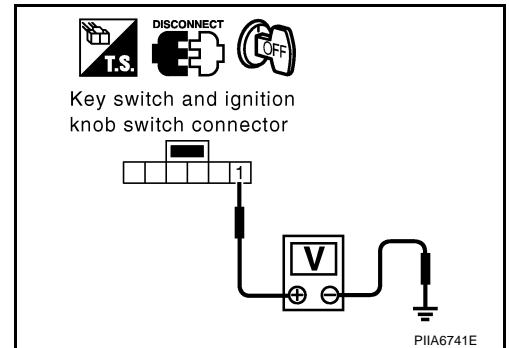
### 2. IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition knob LOCK position.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M22 terminal 1 (L/R) and ground.

**1 (L/R) - Ground : Battery voltage**

#### OK or NG

- OK >> GO TO 3.  
NG >> Repair or replace key switch and ignition knob switch power supply circuit.



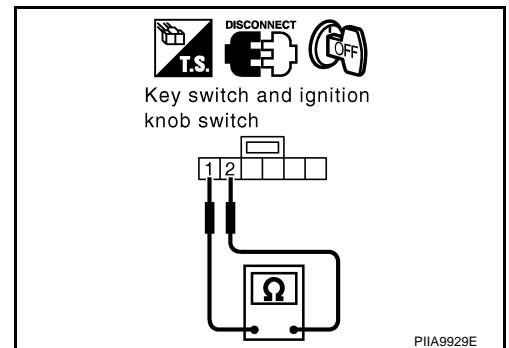
### 3. IGNITION KNOB SWITCH OPERATION INSPECTION

Check continuity between key switch and ignition knob switch terminals 1 and 2.

- Press ignition knob. : Continuity should exist.**  
**Return ignition knob (release hands from ignition knob). : Continuity should not exist.**

#### OK or NG

- OK >> GO TO 4.  
NG >> Replace key switch and ignition knob switch.



# INTELLIGENT KEY SYSTEM

## 4. IGNITION KNOB SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M34 terminal 27 (L/W) and key switch and ignition knob switch connector M22 terminal 2 (L/W).

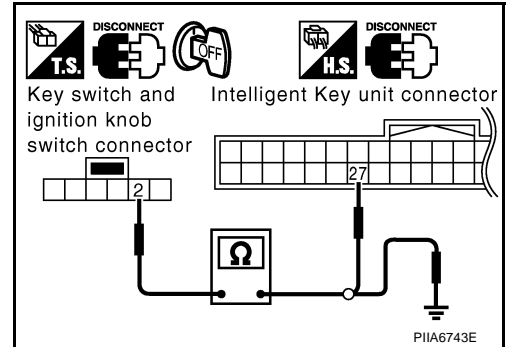
**27 (L/W) - 2 (L/W) : Continuity should exist.**

3. Check continuity between key switch and ignition knob switch connector terminal 2 (L/W) and ground.

**2 (L/W) - Ground : Continuity should not exist.**

### OK or NG

- OK >> Replace Intelligent Key unit.  
 NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.



AIS004NF

## Check Door Switch CHECK DOOR SWITCH (EXCEPT BACK DOOR SWITCH)

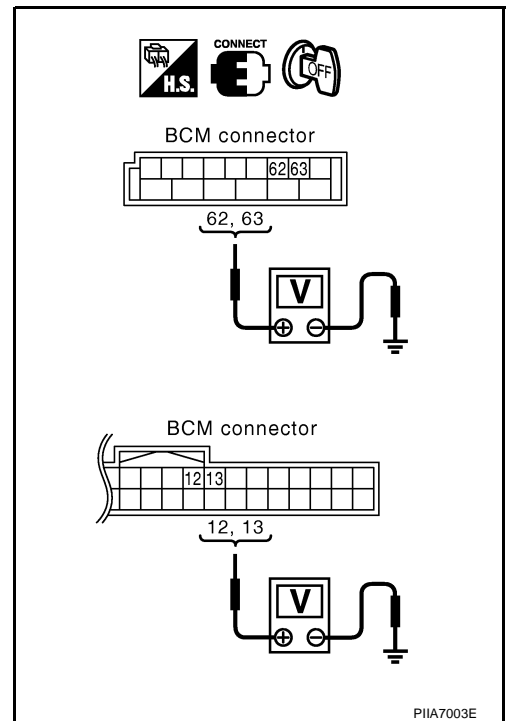
### 1. DOOR SWITCH INPUT SIGNAL INSPECTION

1. Turn ignition knob LOCK position.
2. Check voltage between BCM connector and ground.

Item	Connector	Terminals (Wire color)		Door condition	Voltage (V) (Approx.)
		(+)	(-)		
Driver side	B14	62 (W)	Ground	CLOSE ↓ OPEN	Battery voltage ↓ 0
Rear LH		63 (P)			
Passenger side	M3	12 (P/B)			
Rear RH		13 (P/L)			

### OK or NG

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



# INTELLIGENT KEY SYSTEM

## 2. DOOR SWITCH CIRCUIT INSPECTION

1. Disconnect door switch and BCM connector.
2. Check continuity between door switch connector B26, B36, B46, B206 terminals 1 and BCM connector M3, B14 terminals 62, 12, 63, 13.

### Driver side door

1 (W) – 62 (W) : Continuity should exist.

### Passenger side door

1 (SB) – 12 (P/B) : Continuity should exist.

### Rear door LH

1 (P) – 63 (P) : Continuity should exist.

### Rear door RH

1 (P) – 13 (P/L) : Continuity should exist.

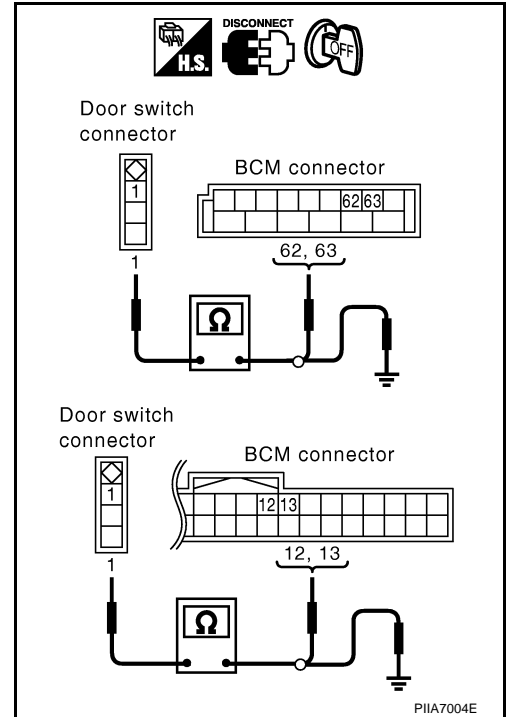
3. Check continuity between door switch connector B26, B36, B46, B206 terminal 1 and ground.

1 (W, SB, P) – Ground : Continuity should not exist.

### OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



## 3. DOOR SWITCH INSPECTION

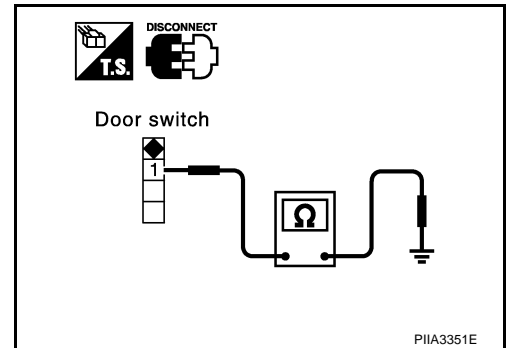
Check continuity between door switch terminal 1 and ground part of door switch.

Terminal	Door switch condition	Continuity
1	Pushed	No
	Released	Yes

### OK or NG

OK >> Check door switch case ground condition.

NG >> Replace door switch.



## CHECK BACK DOOR SWITCH

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

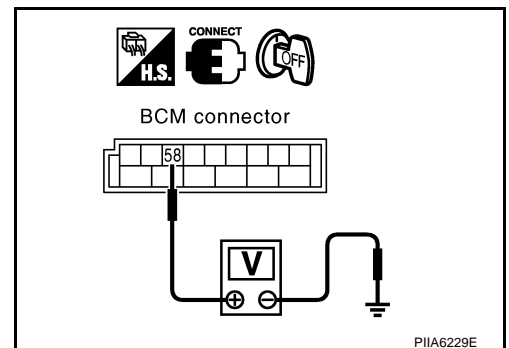
Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B14	58 (L)	Ground	OPEN	0
			CLOSE	9

### OK or NG

OK >> Back door switch circuit is OK.

NG >> GO TO 2.



# INTELLIGENT KEY SYSTEM

## 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and back door closure motor connector.
3. Check continuity between BCM connector B14 terminal 58 and back door closure motor connector D109 terminal 7.

**58 (L) – 7 (L) : Continuity should exist.**

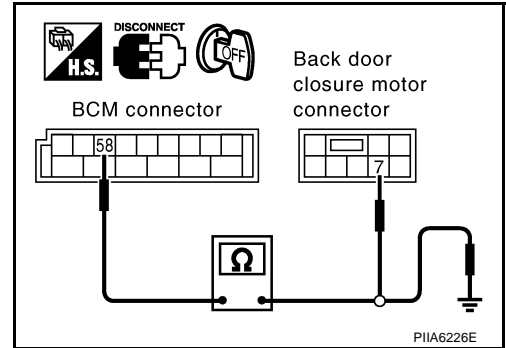
4. Check continuity between BCM connector B14 terminal 58 and ground.

**58 (L) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



## 3. CHECK GROUND CIRCUIT

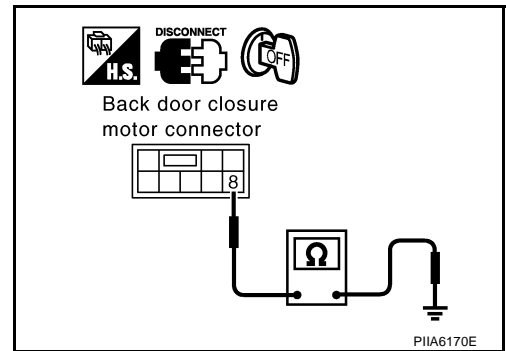
Check continuity between back door closure motor connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



## 4. CHECK BACK DOOR SWITCH

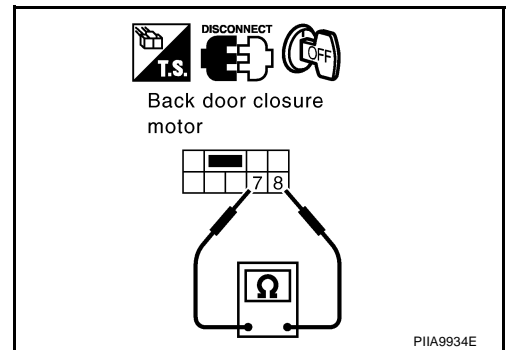
Check continuity between back door closure motor D109 terminals 7 and 8.

Terminals		Back door condition	Continuity
7	8	Open	Yes
		Close	No

OK or NG

OK >> GO TO 5.

NG >> Replace back door closure motor.



# INTELLIGENT KEY SYSTEM

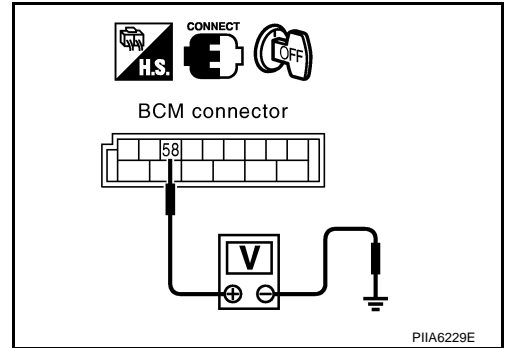
## 5. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector and ground.

**58 (L) – Ground : Approx. 9V**

OK or NG

- OK >> Check condition of harness and connector.  
 NG >> Replace BCM.



AIS004NG

## Check Unlock Sensor

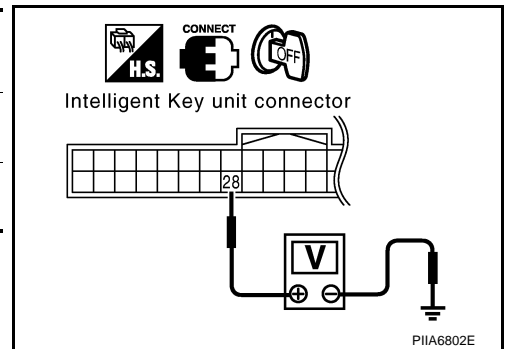
### 1. UNLOCK SENSOR POWER SUPPLY INSPECTION

Check voltage between Intelligent Key unit connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M34	28 (W/B)	Ground	Driver side door lock is locked	5
			Driver side door lock is unlocked	0

OK or NG

- OK >> Unlock sensor is OK.  
 NG >> GO TO 2.



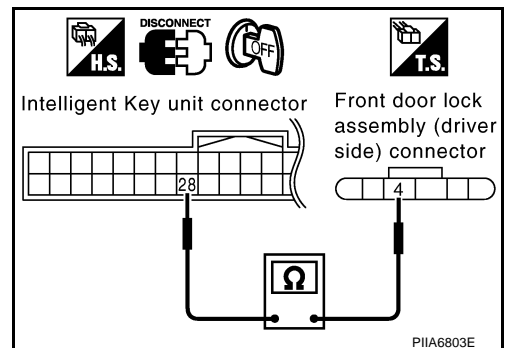
### 2. UNLOCK SENSOR CIRCUIT INSPECTION

1. Turn ignition knob LOCK position.
2. Disconnect Intelligent Key unit and front door lock assembly (driver side) connector.
3. Check continuity between Intelligent Key unit connector M34 terminal 28 (W/B) and front door lock assembly (driver side) connector D10 terminal 4 (W).

**28 (W/B) – 4 (W) : Continuity should exist.**

OK or NG

- OK >> GO TO 3.  
 NG >> Repair or replace harness between Intelligent Key unit and front door lock assembly (driver side).



# INTELLIGENT KEY SYSTEM

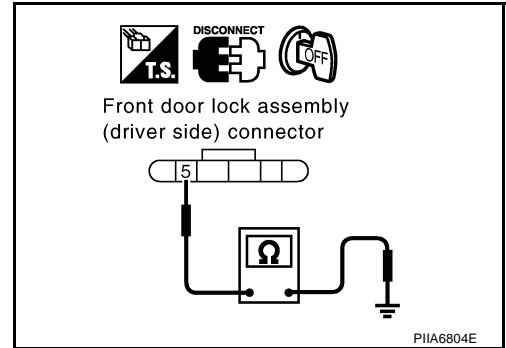
## 3. UNLOCK SENSOR GROUND CIRCUIT INSPECTION

Check continuity between front door lock assembly (driver side) connector D10 terminal 5 (B) and ground.

**5 (B) – Ground : Continuity should exist.**

OK or NG

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



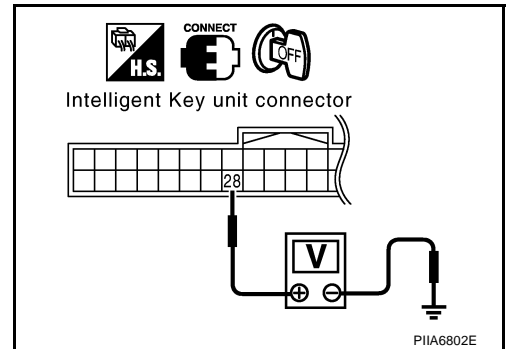
## 4. INTELLIGENT KEY UNIT OUTPUT SIGNAL INSPECTION

1. Connect Intelligent Key unit connector.
2. Driver side door lock is locked.
3. Check voltage between Intelligent Key unit connector M34 terminal 28 (W/B) and ground.

**28 (W/B) – Ground : Approx. 5V**

OK or NG

- OK >> Replace front door lock assembly (driver side)
- NG >> Replace Intelligent Key unit.



## Check Door Request Switch

### 1. DOOR REQUEST SWITCH INSPECTION

Ⓟ **With CONSULT-II**

Display “DR REQ SW” (driver door), “AS REQ SW” (passenger door) and “BD/TR REQ SW” (back door) on DATA MONITOR screen, and check if ON-OFF display is linked to door request switch operation.

**Press door request switch. : ON**

**Release door request switch. : OFF**

OK or NG

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



# INTELLIGENT KEY SYSTEM

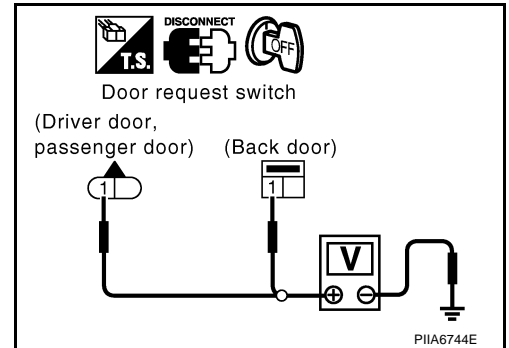
## 2. DOOR REQUEST SWITCH SIGNAL INSPECTION

1. Turn ignition knob LOCK position.
2. Disconnect door request switch connector.
3. Check voltage between door request switch connector D12 (driver door), D42 (passenger door), D113 (back door) terminal 1 and ground.

**Driver**      1 (SB) - Ground    : **Approx. 5V**  
**Passenger**   1 (GY) - Ground    : **Approx. 5V**  
**Back door**    1 (GY) - Ground    : **Approx. 5V**

OK or NG

OK    >> GO TO 3.  
NG    >> GO TO 5.



## 3. DOOR REQUEST SWITCH OPERATION INSPECTION

Check continuity between door request switch D12 (driver door), D42 (passenger door), D113 (back door) terminals 1 and 2.

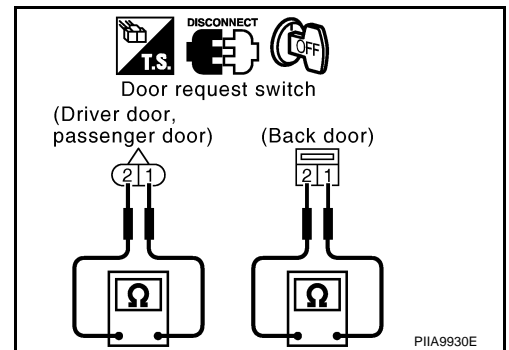
**1 - 2**

**Press door request switch. : Continuity should exist.**

**Return door request switch. : Continuity should not exist.**

OK or NG

OK    >> GO TO 4.  
NG    >> Replace door request switch.



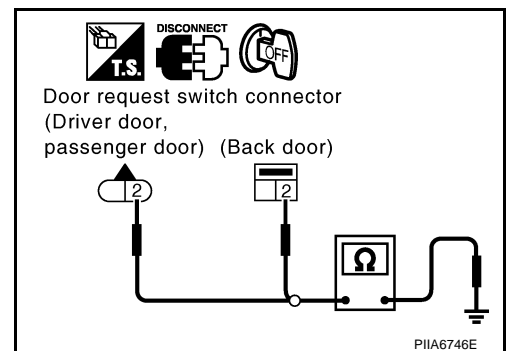
## 4. DOOR REQUEST SWITCH GROUND CIRCUIT INSPECTION

Check continuity between door request switch connector D12 (driver side), D42 (passenger side), D113 (back door) terminal 2 (B) and ground.

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

OK or NG

OK    >> Check harness connection.  
NG    >> Repair or replace door request switch ground circuit.



# INTELLIGENT KEY SYSTEM

## 5. DOOR REQUEST SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M34 terminals 5 (driver door), 25 (passenger door), and 29 (back door) and door request switch connector D12 (driver door), D42 (passenger door), D113 (back door) terminal 1.

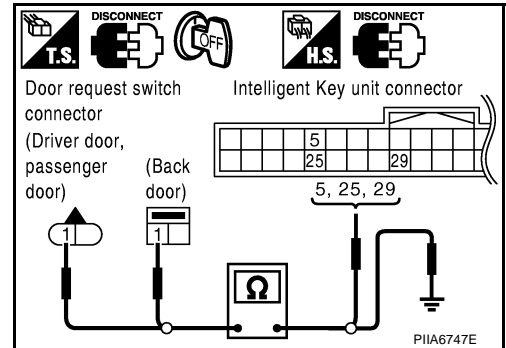
**Driver 5 (W/L) - 1 (SB) : Continuity should exist.**

**Passenger 25 (W/R) - 1 (GY) : Continuity should exist.**

**Back door 29 (GY) - 1 (GY) : Continuity should exist.**

3. Check continuity between door request switch connector D12 (driver door), D42 (passenger door), D113 (back door) terminal 1 and ground.

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



OK or NG

OK >> Replace Intelligent Key unit.

NG >> Repair or replace harness between Intelligent Key unit and door request switch.

## Check Intelligent Key Warning Buzzer

AIS004NI

### 1. INTELLIGENT KEY WARNING BUZZER POWER SUPPLY CIRCUIT INSPECTION

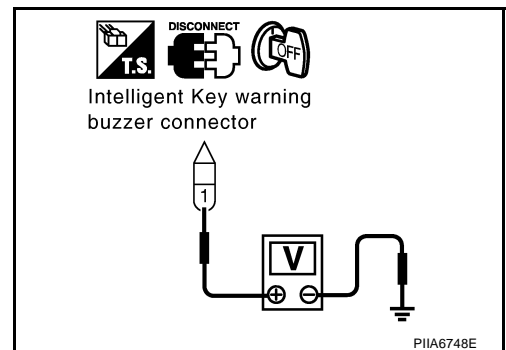
1. Turn ignition knob LOCK position.
2. Disconnect Intelligent Key warning buzzer connector.
3. Check voltage between Intelligent Key warning buzzer connector D11 (driver side), D41 (passenger side) terminal 1 (L) and ground.

**1 (L) - Ground : Battery voltage**

OK or NG

OK >> GO TO 2.

NG >> Repair or replace Intelligent Key warning buzzer power supply circuit.



### 2. INTELLIGENT KEY WARNING BUZZER CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M34 terminal 4 and Intelligent Key warning buzzer connector D11 (driver side), D41 (passenger side) terminal 2 (G).

**4 (LG) - 2 (G) : Continuity should exist.**

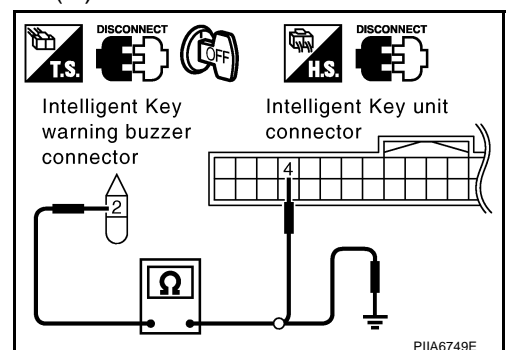
3. Check continuity between Intelligent Key warning buzzer connector D11 (driver side), D41 (passenger side) terminal 2 (G) and ground.

**2 (G) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness between Intelligent Key warning buzzer and Intelligent Key unit.



# INTELLIGENT KEY SYSTEM

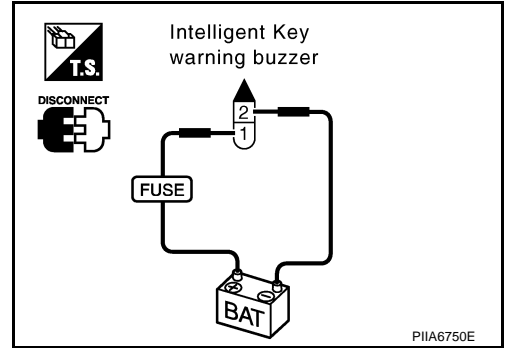
## 3. INTELLIGENT KEY WARNING BUZZER OPERATION INSPECTION

Connect battery power supply to Intelligent Key warning buzzer connector D11 (driver side), D41 (passenger side) terminals 1 and 2, and check the operation.

**1 (BAT+) - 2 (BAT-) : the buzzer sounds**

OK or NG

- OK >> Intelligent Key warning buzzer is OK.
- NG >> Replace Intelligent Key warning buzzer



## Check Outside Key Antenna

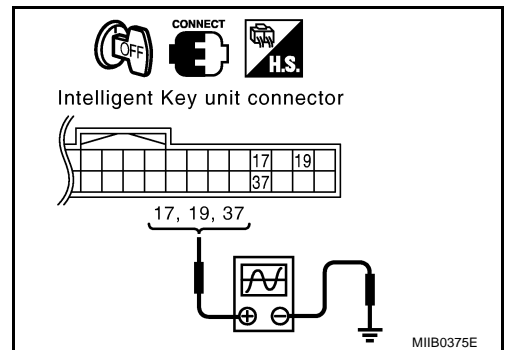
### 1. OUTSIDE KEY ANTENNA POWER SUPPLY INSPECTION

Push each door request switch, and use an oscilloscope to check voltage waveform of harness between Intelligent Key unit connector M34 terminals 17 (back door), 19 (driver and rear LH door), and 37 (passenger and rear RH door) and ground.

Terminal (Wire color)		Condition	Signal (Reference value)
(+)	(-)		
Back door: 17 (OR/L)	Ground	Push each door request switch	
Driver, rear LH: 19 (SB)			
Passenger, rear RH 37 (G)			

OK or NG

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



# INTELLIGENT KEY SYSTEM

## 2. OUTSIDE KEY ANTENNA OPERATION INSPECTION

1. Disconnect each outside key antenna connector.
2. Check the following.
  - Check continuity between door mirror (outside key antenna) connector D2 (driver side), D32 (passenger side) terminals 6 and 7
  - Check continuity between outside key antenna D62 (rear door LH), D82 (rear door RH), D116 (back door) terminals 1 and 2

**Driver side, Passenger side**

**6 - 7 : Continuity should exist.**

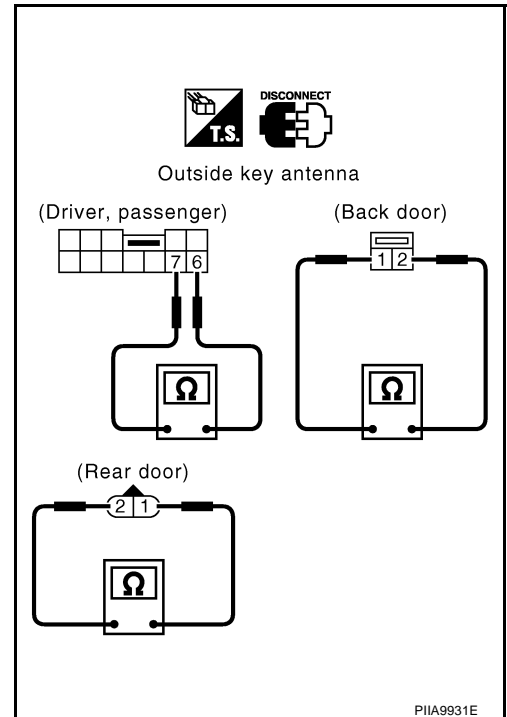
**Back door, Rear door**

**1 - 2 : Continuity should exist.**

OK or NG

OK >> GO TO 3.

NG >> Replace outside key antenna.



# INTELLIGENT KEY SYSTEM

## 3. OUTSIDE KEY ANTENNA CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between each outside key antenna connector D2 (driver side), D32 (passenger side), D62 (rear door LH), D82 (rear door RH), D116 (back door) terminals 1, 2, 6, 7 and Intelligent Key unit connector M34 terminals 17, 18, 19, 20, 37, and 38.

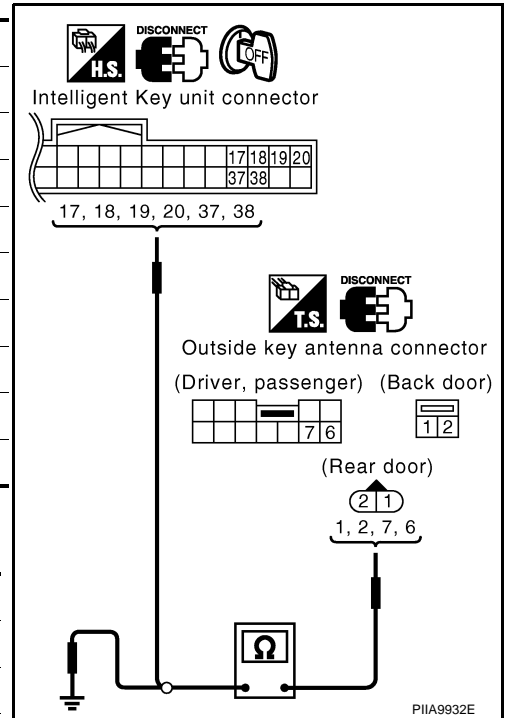
Back door	1 (L/B) - 17 (OR/L): Continuity should exist.
	2 (W/B) - 18 (PU/R): Continuity should exist.
Driver side	7 (BR/W) - 19 (SB): Continuity should exist.
	6 (R/Y) - 20 (R/G): Continuity should exist.
Passenger side	7 (G/Y) - 37 (G): Continuity should exist.
	6 (L/Y) - 38 (PU/W): Continuity should exist.
Rear door LH	1 (G/Y) - 19 (SB): Continuity should exist.
	2 (PU/W) - 20 (R/G): Continuity should exist.
Rear door RH	1 (G/Y) - 37 (G): Continuity should exist.
	2 (PU/W) - 38 (PU/W): Continuity should exist.

3. Check continuity between each outside key antenna connector terminals 1, 2, 6, 7 and ground.

Back door	1 (L/B) - Ground: Continuity should not exist.
	2 (W/B) - Ground: Continuity should not exist.
Rear door (LH, RH)	1 (G/Y) - Ground: Continuity should not exist.
	2 (PU/W) - Ground: Continuity should not exist.
Driver side	7 (BR/W) - Ground: Continuity should not exist.
	6 (R/Y) - Ground: Continuity should not exist.
Passenger side	7 (G/Y) - Ground: Continuity should not exist.
	6 (L/Y) - Ground: Continuity should not exist.

OK or NG

- OK >> Replace Intelligent Key unit.  
 NG >> Replace harness between outside key antenna and Intelligent Key unit.



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

BL

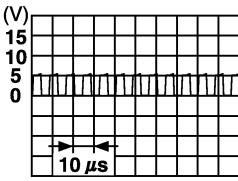
# INTELLIGENT KEY SYSTEM

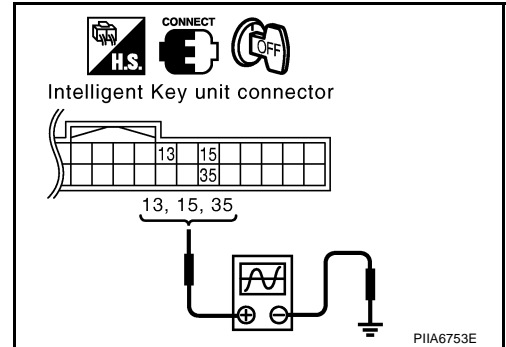
AIS004NK

## Check Inside Key Antenna

### 1. INSIDE KEY ANTENNA POWER SUPPLY CIRCUIT INSPECTION

Push ignition knob and use an oscilloscope to check voltage waveform between Intelligent Key unit connector M34 terminals 13 (luggage room), 15 (dash board), 35 (dash board) and ground.

Terminal (Wire color)		Condition	Signal (Reference value)
(+)	(-)		
Luggage room: 13 (Y)	Ground	Push ignition knob.	 <p style="text-align: right; font-size: small;">SIIA1910J</p>
Dash board: 15 (W/R) 35 (LG)			



OK or NG

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

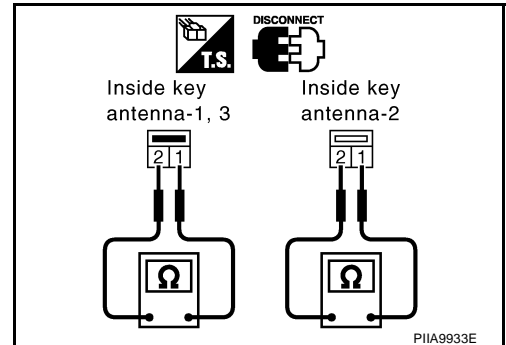
### 2. INSIDE KEY ANTENNA OPERATION INSPECTION

1. Disconnect inside key antenna connector.
2. Check continuity between inside key antenna connector M70, M153 (dash board), B68 (luggage room) terminals 1 and 2.

**1 - 2 : Continuity should exist.**

OK or NG

- OK >> GO TO 3.
- NG >> Replace malfunctioning inside key antenna.

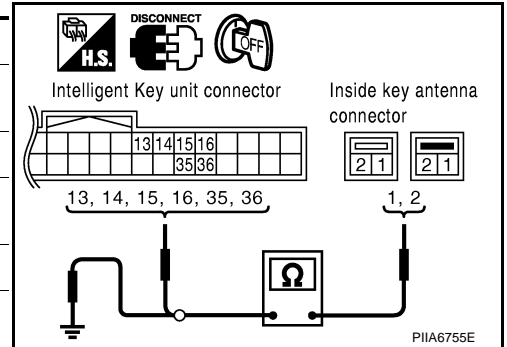


# INTELLIGENT KEY SYSTEM

## 3. INSIDE KEY ANTENNA INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between inside key antenna connector M70, M153 (dash board), B68 (luggage room) terminals 1, 2 and Intelligent Key unit connector terminals 13, 14, 15, 16, 35 and 36.

Inside key antenna-3 (Luggage room)	1 (OR/L) - 13 (Y): Continuity should exist.
	2 (W/L) - 14 (BR): Continuity should exist.
Inside key antenna-1 (Dash board)	1 (W/R) - 15 (W/R): Continuity should exist.
	2 (B/R) - 16 (B/R): Continuity should exist.
Inside key antenna-2 (Dash board)	1 (LG) - 35 (LG): Continuity should exist.
	2 (PU) - 36 (PU): Continuity should exist.



3. Check continuity between inside key antenna connector M70, M153 (dash board), B68 (luggage room) terminals 1 and 2 and ground.

Inside key antenna-3 (Luggage room)	1 (OR/L) - Ground: Continuity should not exist.
	2 (W/L) - Ground: Continuity should not exist.
Inside key antenna-1 (Dash board)	1 (W/R) - Ground: Continuity should not exist.
	2 (B/R) - Ground: Continuity should not exist.
Inside key antenna-2 (Dash board)	1 (LG) - Ground: Continuity should not exist.
	2 (PU) - Ground: Continuity should not exist.

OK or NG

OK >> Replace Intelligent Key unit.

NG >> Repair or replace harness between inside key antenna and Intelligent Key unit.

## Check Steering Lock Unit

AIS004NL

### 1. STEERING LOCK UNIT POWER SUPPLY INSPECTION

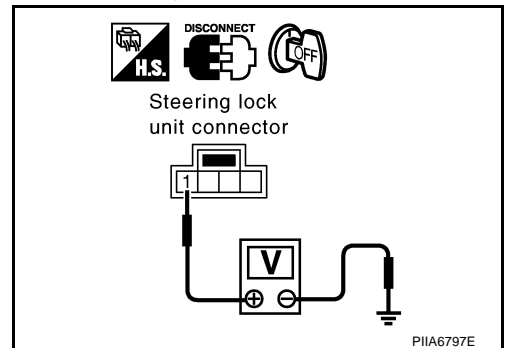
1. Turn ignition knob LOCK position.
2. Disconnect steering lock unit connector.
3. Check voltage between steering lock unit connector M26 terminal 1 (L/R) and ground.

1 (L/R) - Ground : Battery voltage

OK or NG

OK >> GO TO 2.

NG >> Repair or replace steering lock unit power supply circuit.



# INTELLIGENT KEY SYSTEM

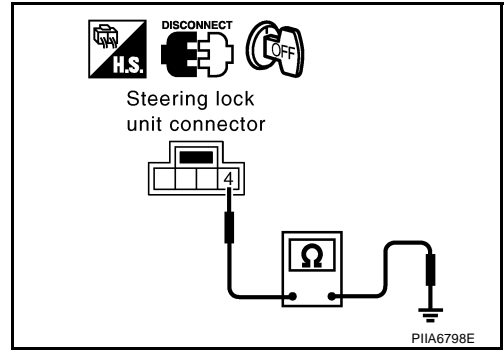
## 2. STEERING LOCK UNIT GROUND CIRCUIT INSPECTION

Check continuity between steering lock unit connector M26 terminal 4 (Y/B) and ground.

**4 (Y/B) - Ground : Continuity should exist.**

OK or NG

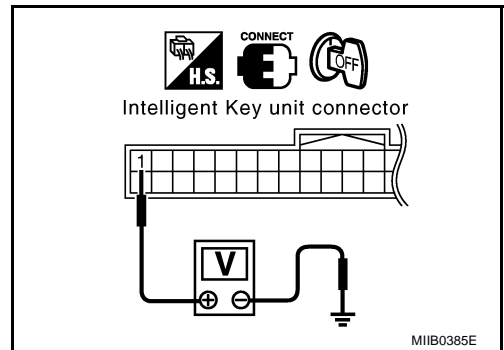
- OK >> GO TO 3.
- NG >> GO TO 4.



## 3. STEERING LOCK COMMUNICATION CIRCUIT INSPECTION

1. Connect steering lock unit connector.
2. Check voltage between Intelligent Key unit connector M34 terminal 1 (R/W) and ground.

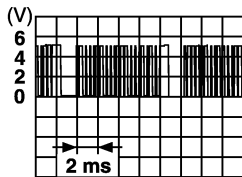
**1 (R/W) - Ground : Approx. 5V**



3. Immediately after pushing ignition knob, use an oscilloscope to check voltage waveform between Intelligent Key unit connector M34 terminal 32 (R/B) and ground.

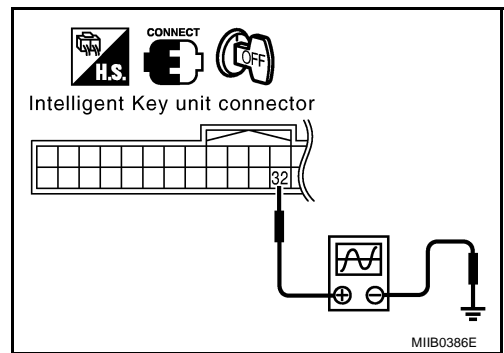
Immediately after ignition knob pushing.

32 (R/B) - Ground



OK or NG

- OK >> GO TO 4.
- NG >> Replace Intelligent Key unit.





# INTELLIGENT KEY SYSTEM

## 4. STEERING LOCK UNIT COMMUNICATION CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit and steering lock unit connectors.
2. Check continuity between Intelligent Key unit connector M34 terminals 1, 31, 32 and steering lock unit connector M26 terminals 2, 3, 4.

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

**31 (Y/B) - 4 (Y/B) : Continuity should exist.**

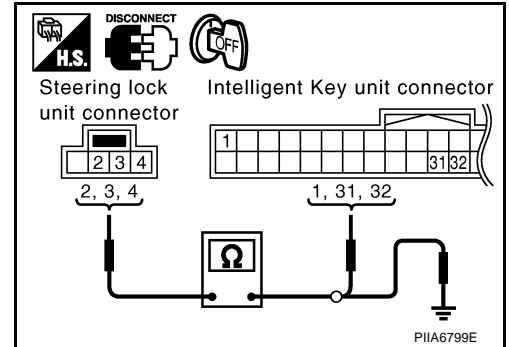
**32 (R/B) - 3 (R/B) : Continuity should exist.**

3. Check continuity between steering lock unit connector M26 terminals 2, 3, 4 and ground.

**2 (R/W) - Ground : Continuity should not exist.**

**3 (R/B) - Ground : Continuity should not exist.**

**4 (Y/B) - Ground : Continuity should not exist.**



### OK or NG

OK >> Replace steering lock unit.

- After replacing steering lock unit, perform registration procedure. Refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

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

## Check Stop Lamp Switch

AIS004NM

### 1. STOP LAMP SWITCH POWER SUPPLY CIRCUIT INSPECTION

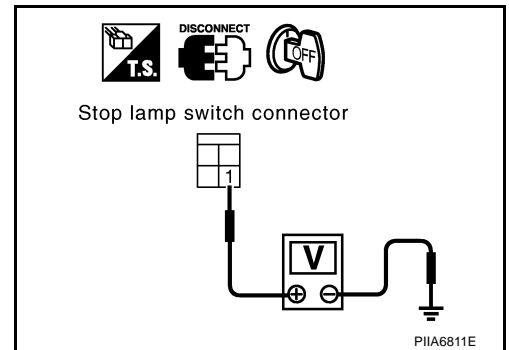
1. Disconnect stop lamp switch connector.
2. Check voltage between stop lamp switch connector E210 terminal 1 (GY) and ground.

**1 (GY) - Ground : Battery voltage**

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace harness between stop lamp switch and fuse.



### 2. STOP LAMP SWITCH OPERATION INSPECTION

Check continuity between stop lamp switch connector E210 terminal 1 and 2.

**1 - 2**

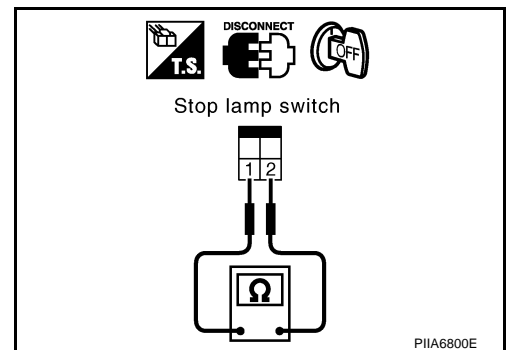
**Brake pedal depressed : Continuity should exist.**

**Brake pedal not depressed : Continuity should not exist.**

### OK or NG

OK >> GO TO 3.

NG >> Replace stop lamp switch.



# INTELLIGENT KEY SYSTEM

## 3. STOP LAMP SWITCH GROUND CIRCUIT INSPECTION

1. Check continuity between stop lamp switch connector E210 terminal 2 (P) and Intelligent Key unit connector M34 terminal 26 (P/L).

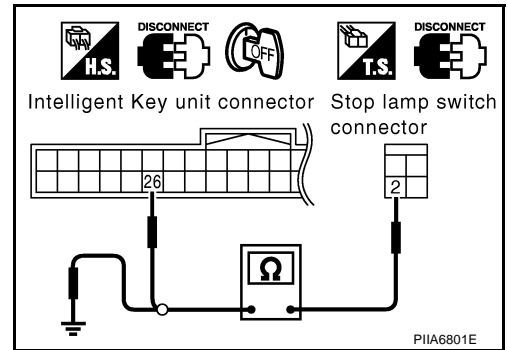
**2 (P) - 26 (P/L) : Continuity should exist.**

2. Check continuity between stop lamp switch connector E210 terminal 2 (P) and ground.

**2 (P) - Ground : Continuity should not exist.**

### OK or NG

- OK >> Stop lamp switch is OK.  
 NG >> Repair or replace harness.



## Check Detention Switch

AIS004NN

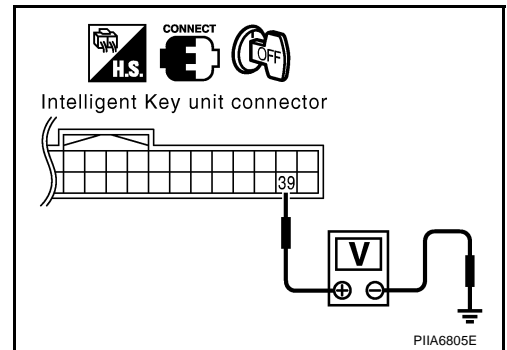
### 1. DETENTION SWITCH INPUT SIGNAL INSPECTION

1. Turn ignition knob LOCK position.
2. Check voltage between Intelligent Key unit connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M34	39 (R/Y)	Ground	When selector lever is locked at the "P" position	0
			When selector lever is not locked at the "P" position	Battery voltage

### OK or NG

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

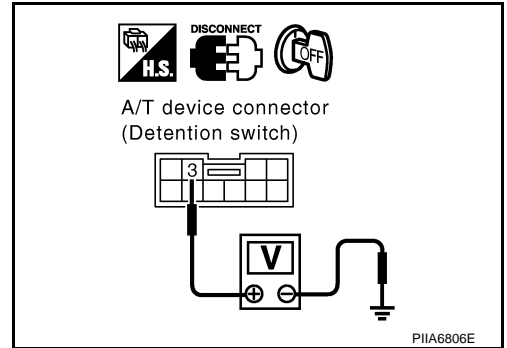


# INTELLIGENT KEY SYSTEM

## 2. DETENTION SWITCH CIRCUIT INSPECTION

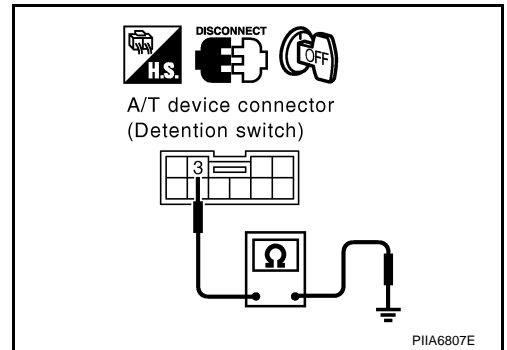
1. Disconnect A/T device (detention switch) connector.
2. Check voltage between A/T device (detention switch) connector M67 terminal 3 (R/Y) and ground. (Check harness for open.)

**3 (R/Y) – Ground : Battery voltage**



3. Check continuity between A/T device (detention switch) connector M67 terminals 3 (R/Y) and ground. (Check harness for short.)

**3 (R/Y) – Ground : Continuity should not exist.**



### OK or NG

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

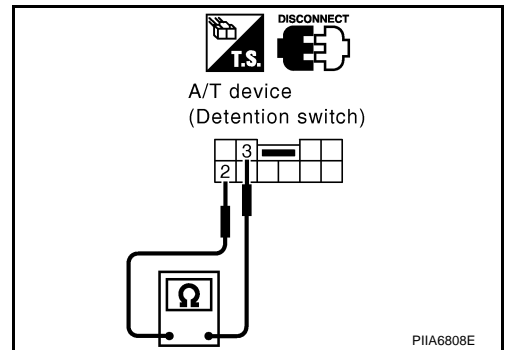
## 3. DETENTION SWITCH INSPECTION

Check continuity between A/T device (detention switch) terminals 2 and 3.

Terminal	Condition	Continuity
2 – 3	When selector lever is not locked at the "P" position	No
	When selector lever is locked at the "P" position	Yes

### OK or NG

- OK >> GO TO 4.
- NG >> Replace back A/T device (detention switch).

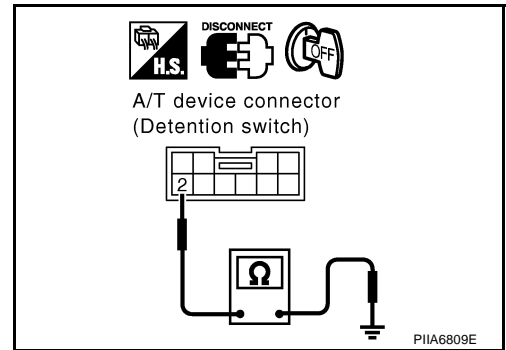


# INTELLIGENT KEY SYSTEM

## 4. DETENTION SWITCH GROUND CIRCUIT INSPECTION

Check continuity between A/T device (detention switch) connector M67 terminal 2 (B) and ground.

**2 (B) – Ground : Continuity should exist.**



OK or NG

- OK >> Check harness connection.
- NG >> Repair or replace harness.

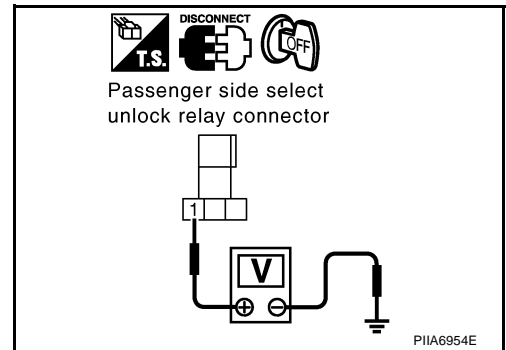
## Check Select Unlock Relay

AIS004NO

### 1. CHECK SELECT UNLOCK RELAY POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect passenger side select unlock relay connector.
3. Check voltage between passenger side select unlock relay connector M30 terminal 1 and ground.

**1 (L/R) – Ground : Approx. 12V**



OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace passenger side select unlock relay power supply circuit.

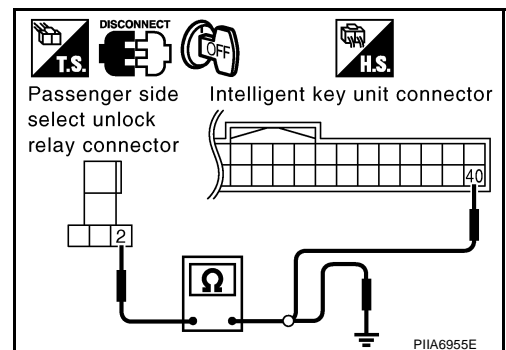
### 2. CHECK HARNESS

1. Disconnect Intelligent Key unit connector.
2. Check continuity between passenger side select unlock relay connector M30 terminal 2 and Intelligent Key unit connector M34 terminal 40.

**2 (BR/W) – 40 (BR/W) : Continuity should exist.**

3. Check continuity between passenger side select unlock relay connector M30 terminal 2 and ground.

**2 (BR/W) – Ground : Continuity should not exist.**



OK or NG

- OK >> Replace passenger side select unlock relay.
- NG >> Repair or replace harness between passenger side select unlock relay and Intelligent Key unit.

# INTELLIGENT KEY SYSTEM

## Check Hazard Function

AIS004NP

### 1. CHECK HAZARD WARNING LAMP

Does hazard warning lamp flash with hazard switch?

YES or NO

YES >> Hazard warning lamp circuit is OK.

NO >> Check hazard circuit. Refer to [LT-89, "TURN SIGNAL AND HAZARD WARNING LAMPS"](#) .

## Check Horn Function

AIS004NQ

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated "SELF-DIAG RESULTS" of "BCM". Refer to [BCS-14, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CHECK HORN FUNCTION

Does horn sound with horn switch?

YES or NO

YES >> Horn circuit is OK.

NO >> Check horn circuit. Refer to [WW-56, "HORN"](#) .

## Check Headlamp Function

AIS004NR

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated "SELF-DIAG RESULTS" of "BCM". Refer to [BCS-14, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch "ON"?

YES or NO

YES >> Headlamp operation circuit is OK.

NO >> Check headlamp system. Refer to [LT-7, "HEADLAMP - XENON TYPE -"](#) .

## Check IPDM E/R Operation

AIS004NS

### 1. CHECK IPDM E/R INPUT VOLTAGE

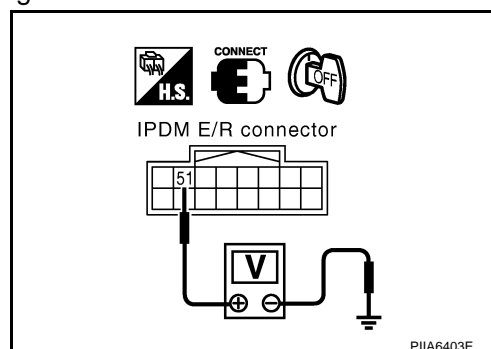
Check voltage between IPDM E/R connector E9 terminal 51 (SB) and ground.

**51 (SB) – Ground : Battery voltage**

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2.



# INTELLIGENT KEY SYSTEM

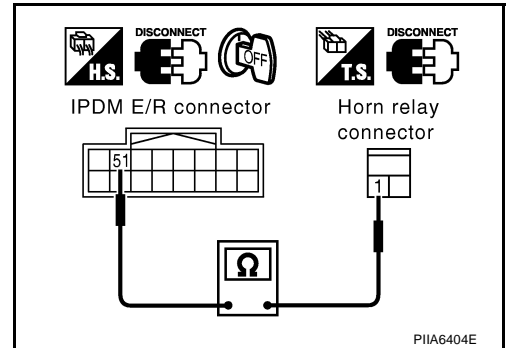
## 2. CHECK IPDM E/R HARNESS

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay connector.
3. Check continuity between IPDM E/R connector E9 terminal 51 (SB) and horn relay connector E10 terminal 1 (SB).

**51 (SB) – 1 (SB) : Continuity should exist.**

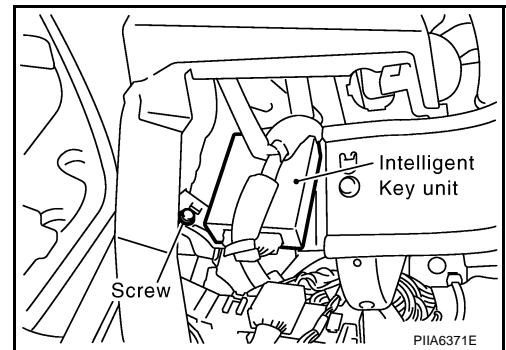
### OK or NG

- OK >> Check harness connection.  
NG >> Repair or replace harness.



## Removal and Installation of Intelligent Key Unit REMOVAL

1. Remove the instrument lower driver panel. Refer to [IP-11, "Removal and Installation"](#).
2. Disconnect the Intelligent Key unit connector, remove the screw and Intelligent Key unit.



## INSTALLATION

Install in the reverse order of removal.

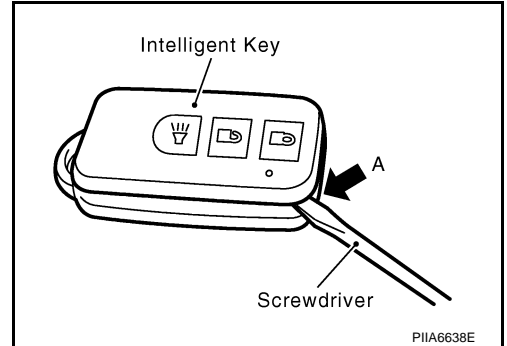
# INTELLIGENT KEY SYSTEM

AIS004NU

## Intelligent Key Inspection

### INTELLIGENT KEY DISASSEMBLY AND ASSEMBLY

1. Remove Intelligent Key cover.
2. Insert a thin screwdriver wrapped with tape into Area A and then separate lower and upper cases while twisting screwdriver.



3. When replacing the circuit board or rubber
  - Remove the circuit board assembly from the upper case. (Substrate assembly: circuit board + rubber)
  - Gently press the rubber and remove the circuit board.

**CAUTION:**

**Be careful not to touch the printed circuits directly.**

4. When replacing the battery
  - Remove the battery from the lower case and replace it.

Battery replacement : Coin-shaped lithium battery 3V (CR2032)

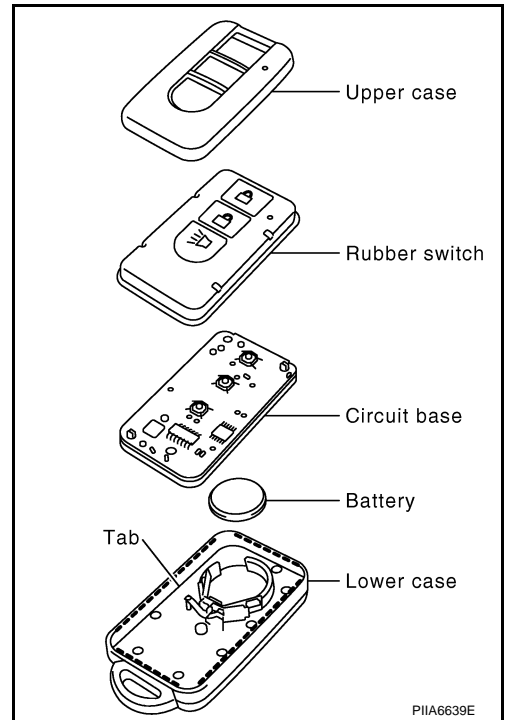
**CAUTION:**

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

5. After replacement, assemble the upper and lower cases by engaging the hooks on their circumference while being careful not to pinch the rubber, etc.

**CAUTION:**

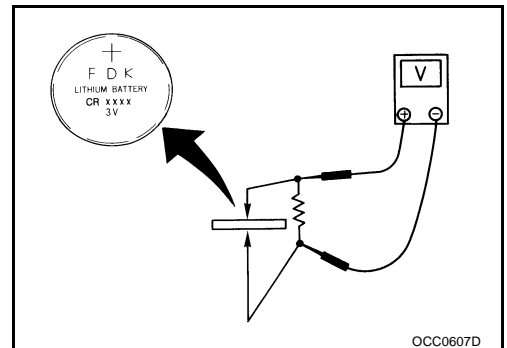
**After replacing the battery, check to make sure all Intelligent Key functions work normally.**



## REMOTE CONTROLLER BATTERY INSPECTION

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

**Standard : Approx. 2.5V - 3.0V**



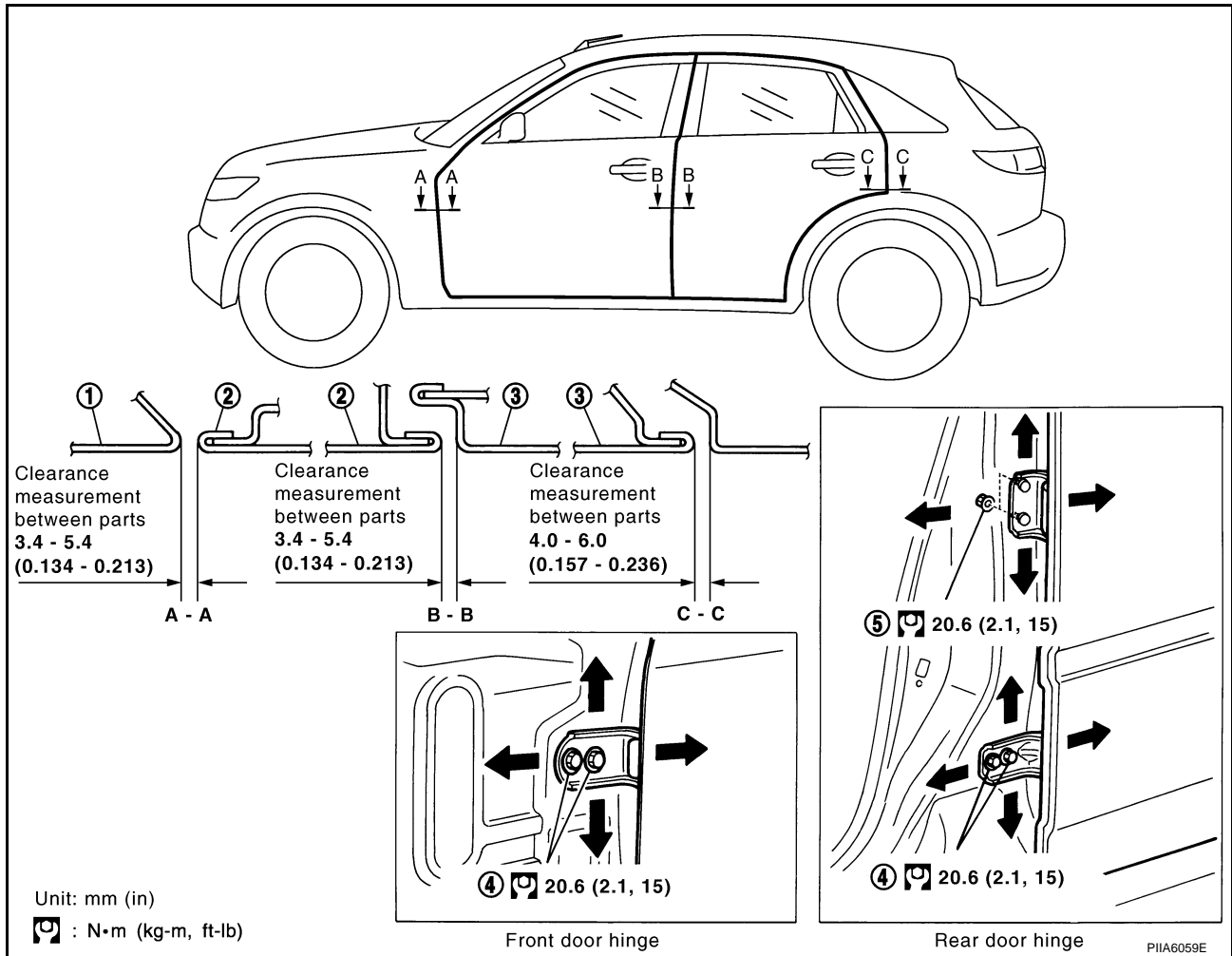
# DOOR

PFP:80100

AIS004NV

## DOOR

### Fitting Adjustment



1. Front fender

2. Front door outer

3. Rear door outer

4. Bolt

5. Nut

### FRONT DOOR

#### Longitudinal Clearance and Surface Height Adjustment at Front End

1. Loosen the hinge mounting bolts. Raise the front door at rear end to adjust.

### REAR DOOR

#### Longitudinal Clearance and Surface Height Adjustment at Front End

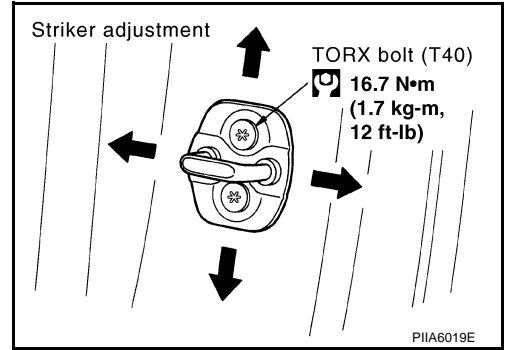
1. Remove the center pillar upper garnish and center pillar lower garnish. Refer to [EI-37, "Removal and Installation"](#).
2. Accessing from inside the vehicle, loosen the mounting nuts. Open the rear door, and raise the rear door at rear end to adjust.



# DOOR

## STRIKER ADJUSTMENT

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



## Removal and Installation of Front Door

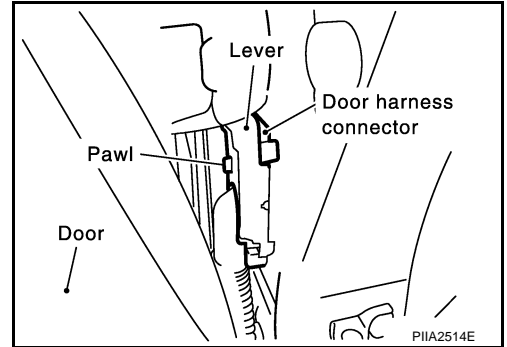
AIS004NW

### CAUTION:

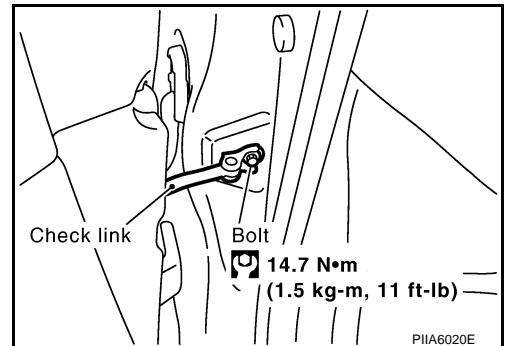
- When removing and installing the front door assembly, support the door with a jack and cloth to protect the door and body.
- When removing and installing front door assembly, be sure to carry out the fitting adjustment. Refer to [BL-148, "Fitting Adjustment"](#).
- Check the hinge rotating part for poor lubrication. If necessary, apply "body grease".
- After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts.
- Operate with two workers, because of its heavy weight.
- After installing, check operation.

## REMOVAL

1. Pull the lever and remove the front door harness connector while removing tabs of door harness connector.

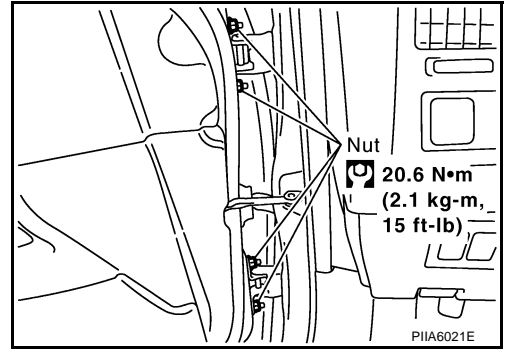


2. Remove the mounting bolts of the check link on the vehicle.



# DOOR

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



## INSTALLATION

Install in the reverse order of removal.

## Removal and Installation of Rear Door

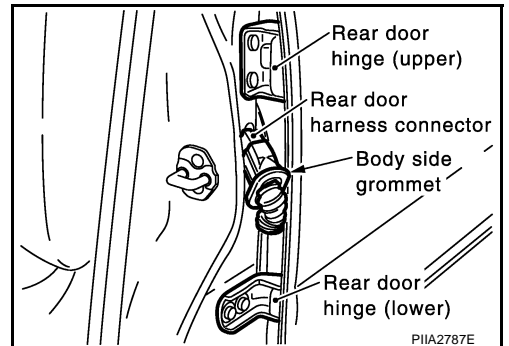
AIS004NX

### CAUTION:

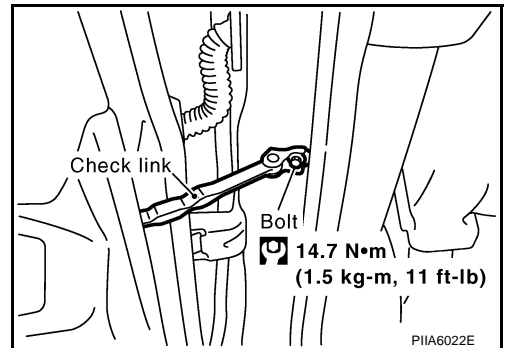
- When removing and installing the rear door assembly, support the door with a jack and cloth to protect the door and body.
- When removing and installing rear door assembly, be sure to carry out the fitting adjustment Refer to [BL-148. "Fitting Adjustment"](#) .
- Check the hinge rotating part for poor lubrication. If necessary, apply "body grease".
- After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts.
- Operate with two workers, because of its heavy weight.
- After installing, check operation.

## REMOVAL

1. Grommet is pulled out, and the Rear door harness connector is detached.

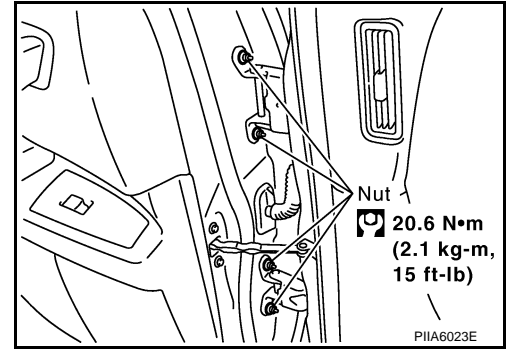


2. Remove the mounting bolts of the check link on the vehicle.



# DOOR

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

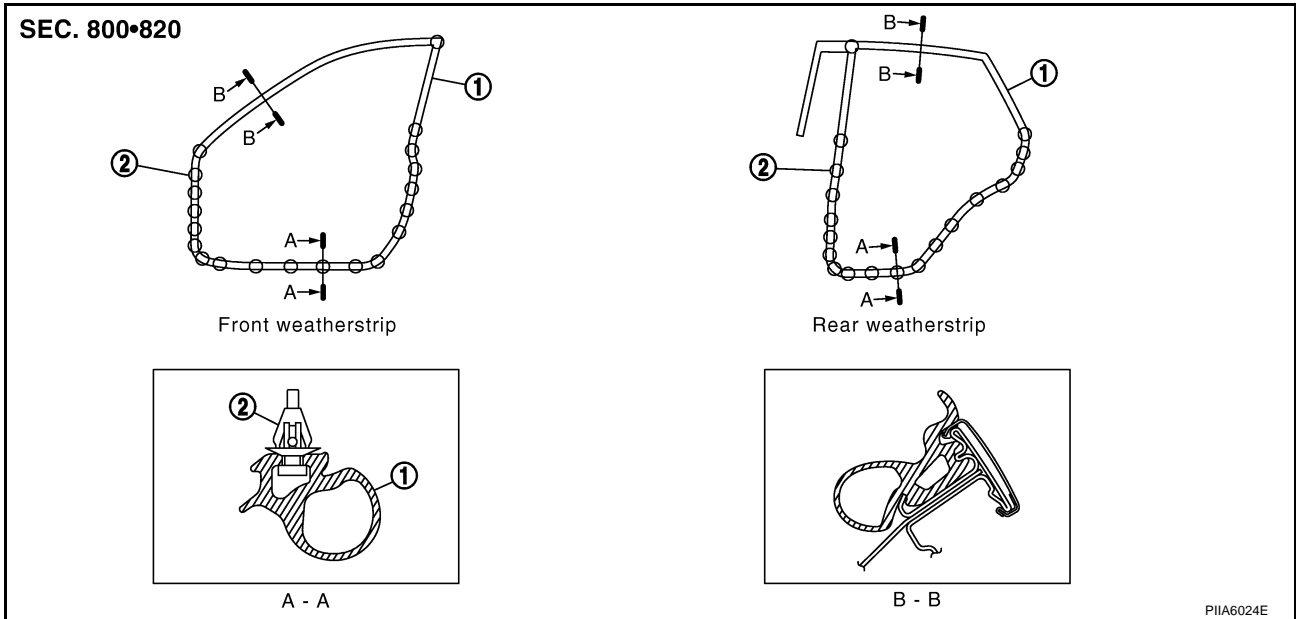


## INSTALLATION

Install in the reverse order of removal.

## Removal and Installation of Door Weathers trip

AIS004NY



1. Weatherstrip

2. Clip

## REMOVAL

1. Remove the mounting bolts of the check link on the vehicle. Refer to [BL-149, "Removal and Installation of Front Door"](#) or [BL-150, "Removal and Installation of Rear Door"](#) .
2. Remove the weatherstrip clips and remove weatherstrip.

## INSTALLATION

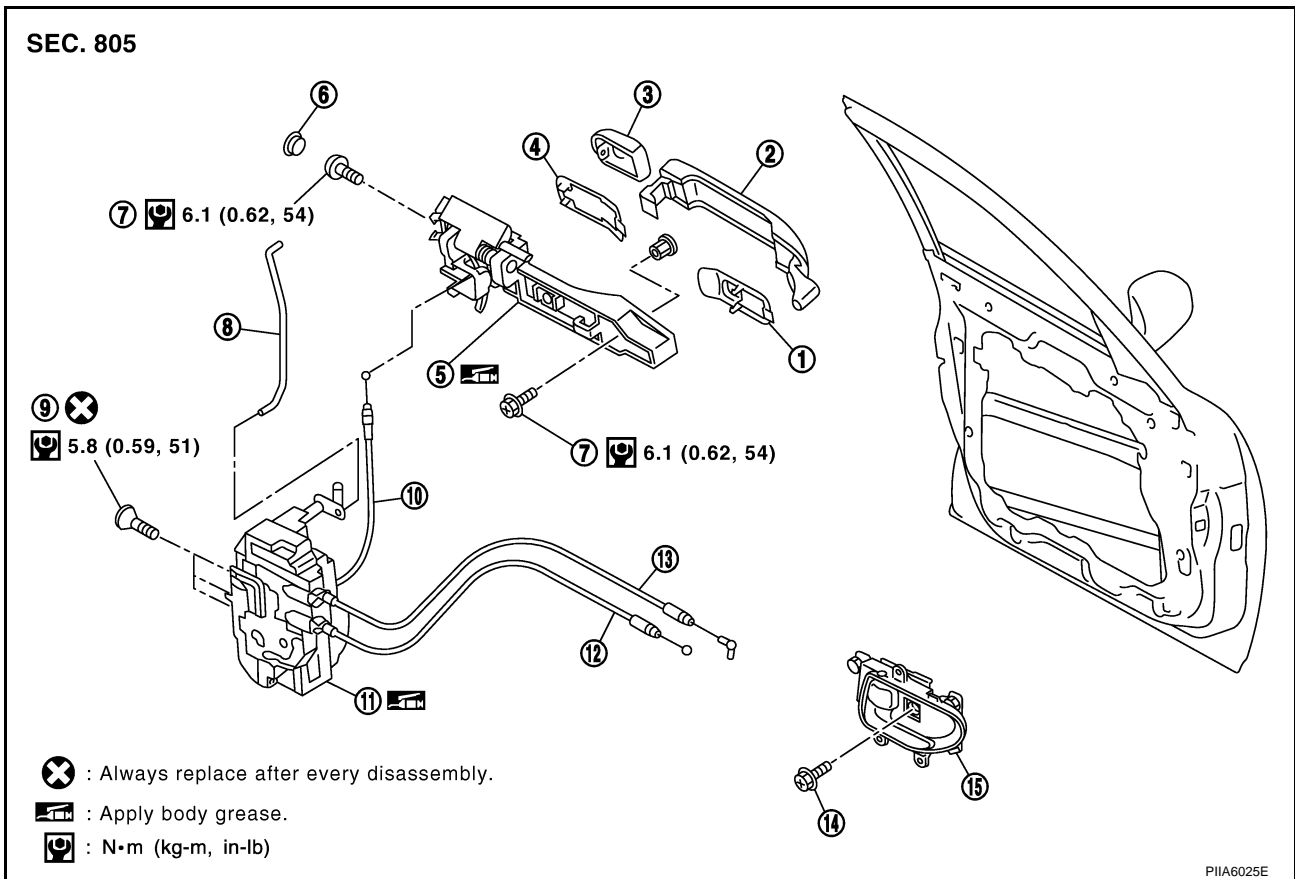
Install in the reverse order of removal.

# FRONT DOOR LOCK

PFP:80502

AIS004NZ

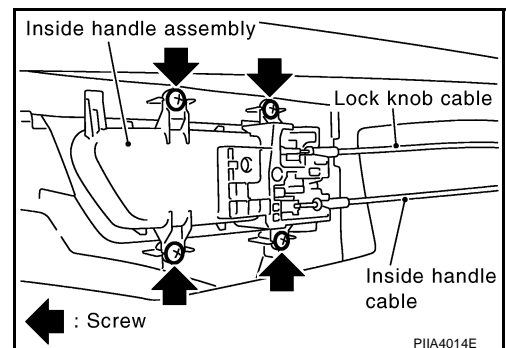
## FRONT DOOR LOCK Removal and Installation



- |                          |  |   |
|--------------------------|--|---|
| 1. Front gasket          | 2. Outside handle                      | 3. Door key cylinder assembly (Driver side)<br>Outside handle escutcheon (Passenger side) |
| 4. Rear gasket           | 5. Outside handle bracket              | 6. Grommet  |
| 7. TORX bolt (T30)       | 8. Key cylinder rod (Driver side only) | 9. TORX bolt (T30)  |
| 10. Outside handle cable | 11. Door lock assembly                 | 12. Inside handle knob cable  |
| 13. Lock knob cable      | 14. Screw                              | 15. Inside handle   |

### REMOVAL

1. Remove the front door finisher. Refer to [EI-35, "Removal and Installation"](#).
2. Disconnect the inside handle knob cable and lock knob cable from the back side of the front door finisher.

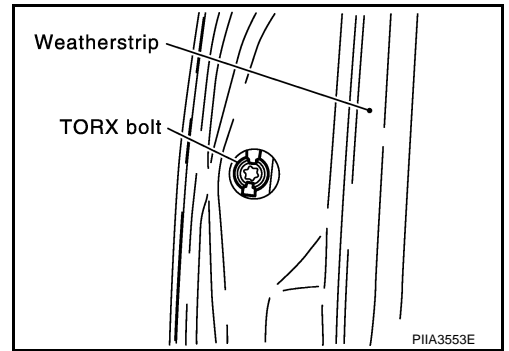


3. Remove the front door glass and front door module assembly. Refer to [GW-76, "Removal and Installation"](#).
4. Remove door side grommet, and remove door key cylinder assembly (driver side) and outside handle escutcheon (passenger side) bolt (TORX T30) from grommet hole.

# FRONT DOOR LOCK

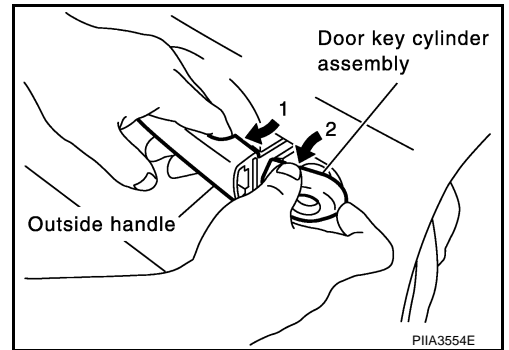
**CAUTION:**

Do not forcibly remove the TORX bolt (T30).



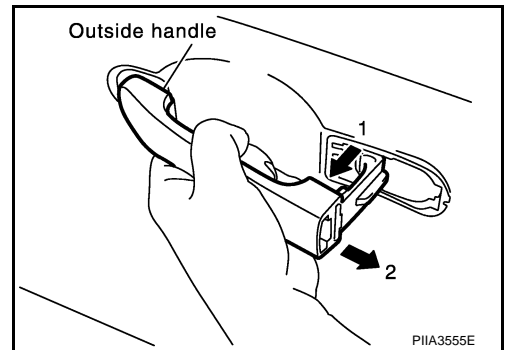
A  
B  
C  
D

5. Reach to separate the key cylinder rod connection (on the handle).
6. While pulling the outside handle, remove door key cylinder assembly (driver side) and outside handle escutcheon (passenger side).



E  
F  
G  
H

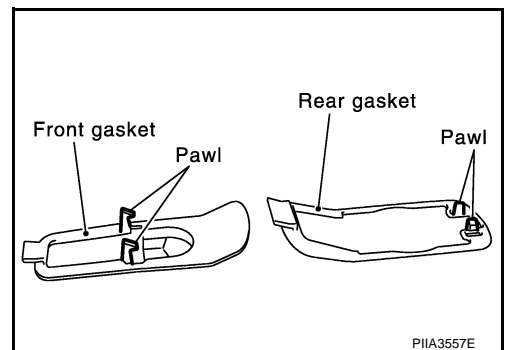
7. Disconnect the door request switch connector. (intelligent key only)
8. While pulling outside handle, slide toward rear of vehicle to remove outside handle.



BL

J  
K  
L

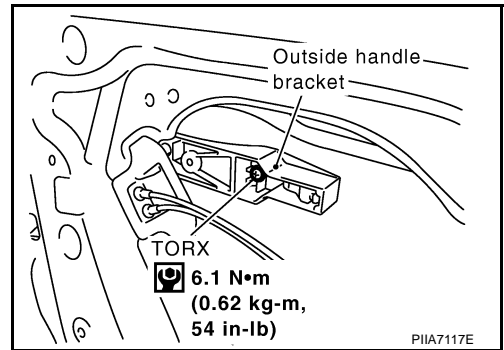
9. Remove the front gasket and rear gasket.



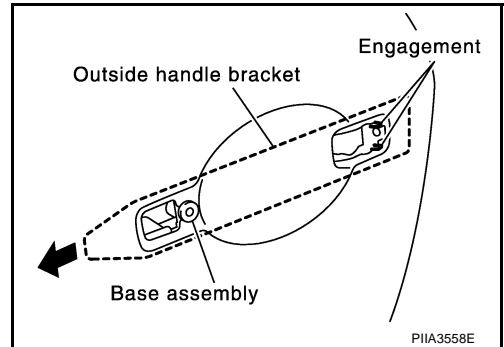
M

# FRONT DOOR LOCK

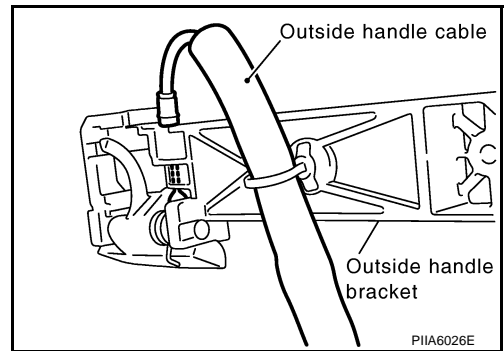
10. Remove the TORX bolt (T30) of the outside handle bracket.



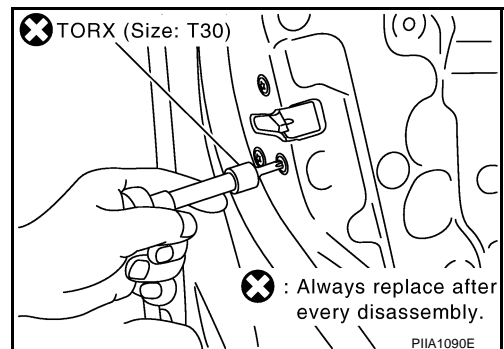
11. While pulling outside handle bracket, slide toward front of vehicle to remove outside handle bracket.



12. Reach to separate outside handle cable connection.



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



14. Disconnect the door lock actuator connector and remove door lock assembly.

## INSTALLATION

Install in the reverse order of removal.

### CAUTION:

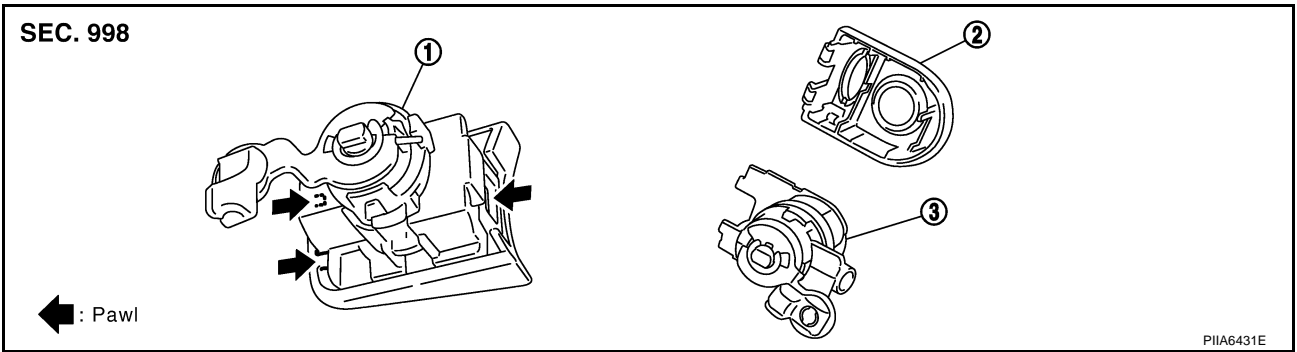
To install each rod, be sure to rotate the rod holder until a click is felt.

# FRONT DOOR LOCK

## Disassembly and Assembly DOOR KEY CYLINDER ASSEMBLY

AIS00401

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



1. Door key cylinder assembly
2. Key cylinder escutcheon
3. Door key cylinder

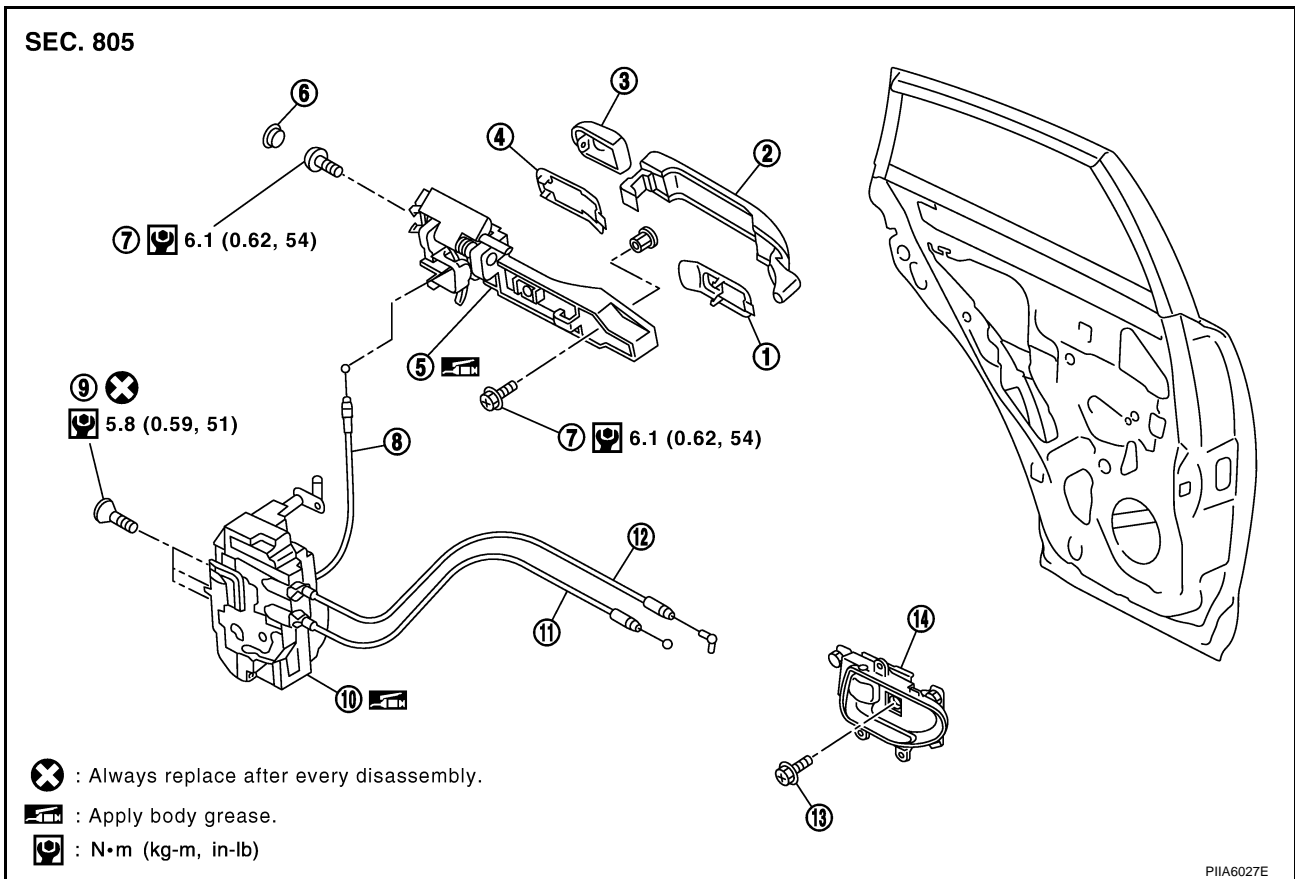
Remove the key cylinder escutcheon pawl and remove the door key cylinder.

# REAR DOOR LOCK

PFP:82502

AIS00402

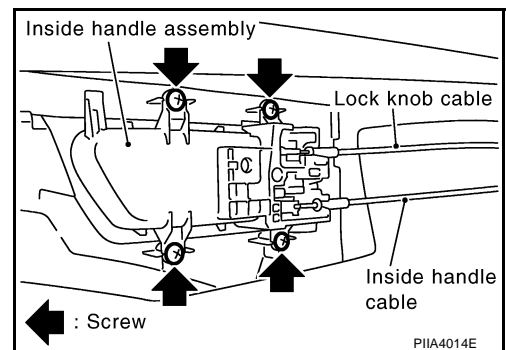
## REAR DOOR LOCK Removal and Installation



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

### REMOVAL

1. Remove the rear door finisher. Refer to [EI-35, "Removal and Installation"](#).
2. Disconnect the inside handle knob cable and lock knob cable from the back side of the front door finisher.

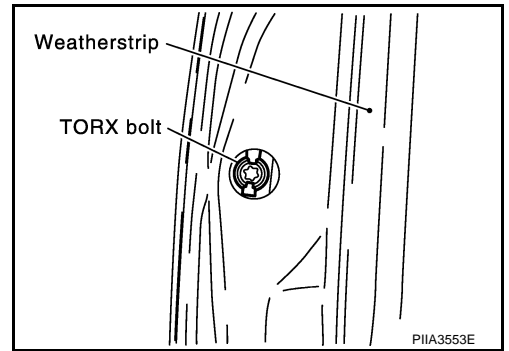


3. Remove the rear door sealing, glass and corner piece assembly. Refer to [GW-80, "Removal and Installation"](#).
4. Remove door side grommet, and remove outside handle escutcheon bolt (TORX T30) from grommet hole.



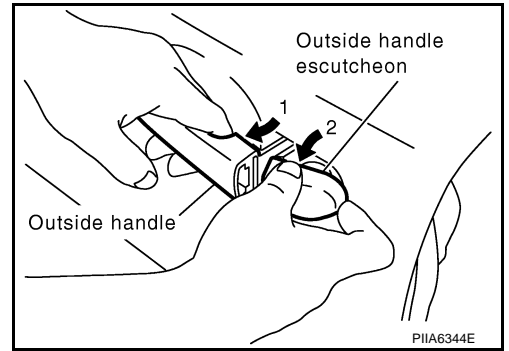
# REAR DOOR LOCK

**CAUTION:**  
Do not forcibly remove the TORX bolt (T30).



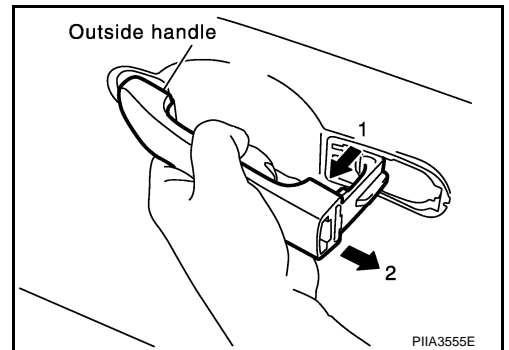
A  
B  
C  
D

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



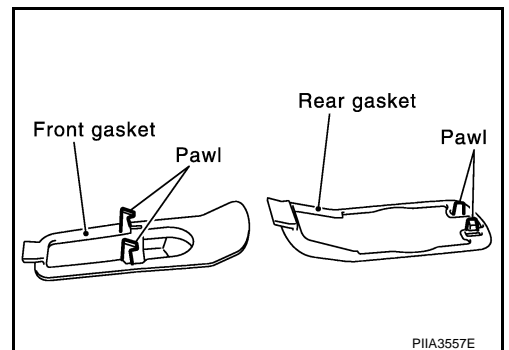
E  
F  
G  
H

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



BL

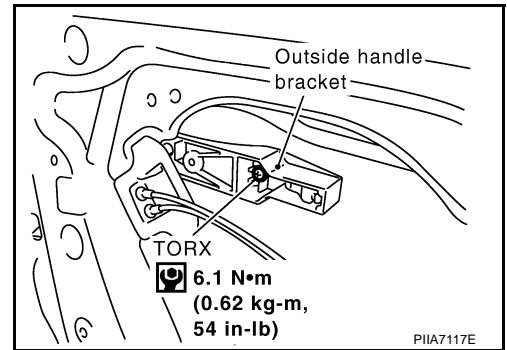
7. Remove the front gasket and rear gasket.



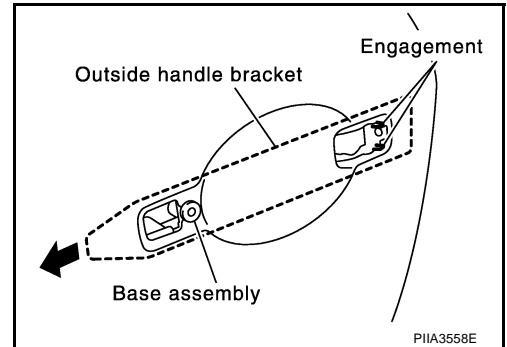
J  
K  
L  
M

## REAR DOOR LOCK

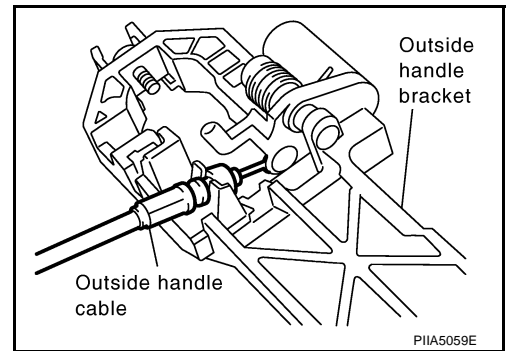
8. Remove the TORX bolt (T30), and remove the outside handle bracket.



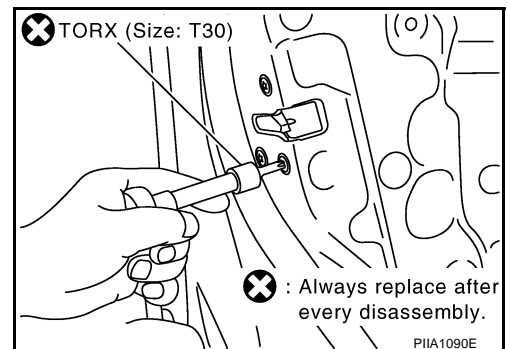
9. While pulling outside handle, slide toward front of vehicle to remove outside handle bracket.



10. Reach to separate outside handle cable connection.



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



12. Disconnect the door lock actuator connector and remove door lock assembly.

### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

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

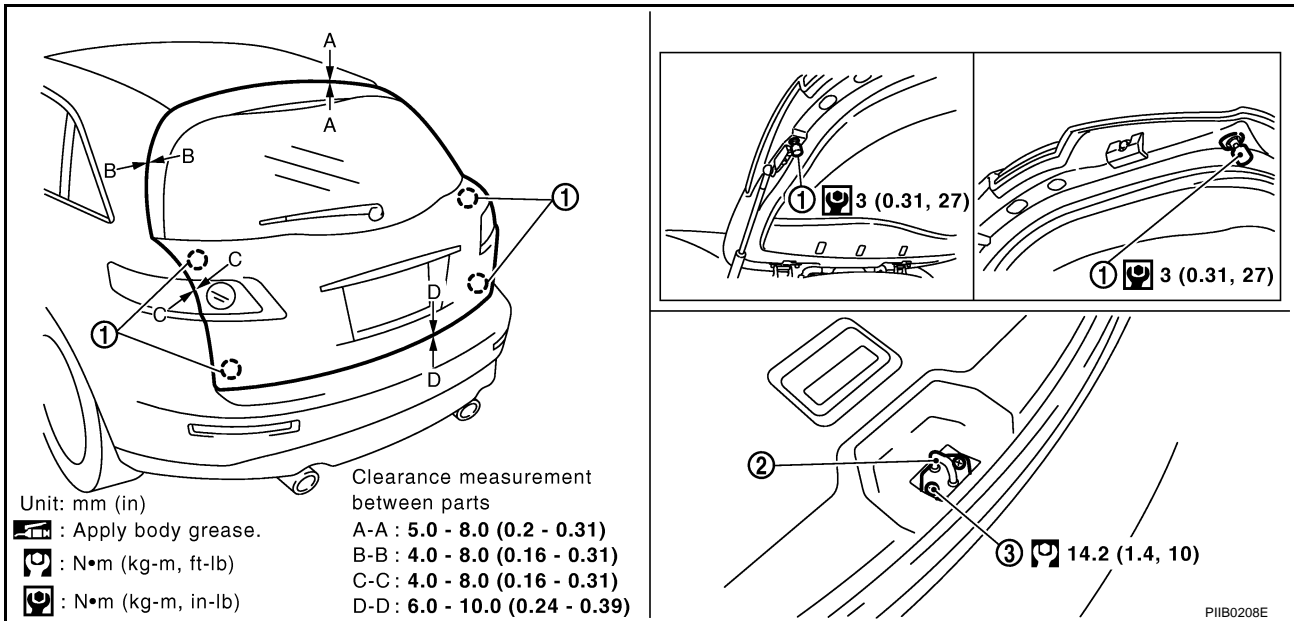
# BACK DOOR

## BACK DOOR

PF9:90100

### Fitting Adjustment

AIS00404



1. Bumper rubber

2. Back door striker

3. Screw

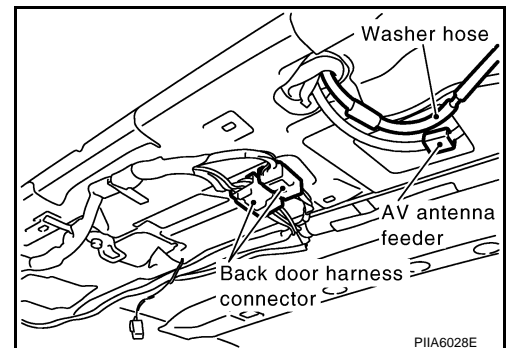
### VERTICAL/LATERAL CLEARANCE ADJUSTMENT

1. With the striker released, loosen the bumper rubber lock nuts.
2. Close the back door lightly and adjust the surface height by rotating the bumper rubber and, then open the back door to finally tighten the back door lock mounting bolts and bumper rubber lock nuts to the specified torque.

### Back Door Assembly REMOVAL

AIS00405

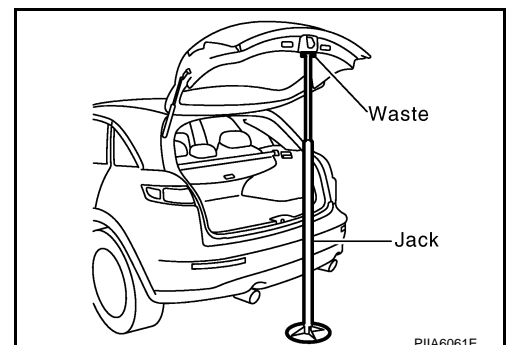
1. Remove roof rear garnish assembly. Refer to [EI-44, "Removal and Installation"](#).
2. Disconnect the back door harness connector and AV antenna feeder.



3. Washer hose is separated in the connection part.
4. Support the back door lock with a proper material to prevent it from falling.

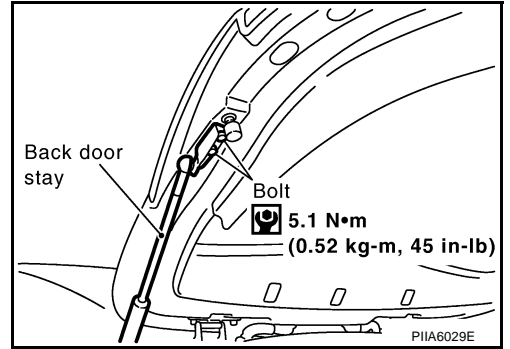
#### **WARNING:**

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

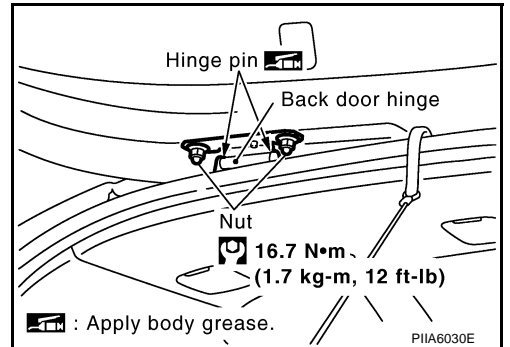


# BACK DOOR

5. Remove back door stay on back door.



6. Remove hinge mounting nuts on the back door and remove back door assembly.



## INSTALLATION

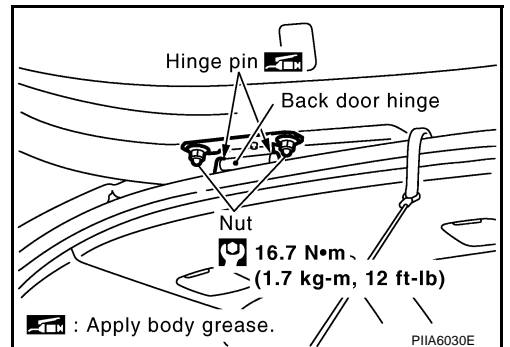
Install in the reverse order of removal.

### CAUTION:

- After installing, check operation.
- After installing, perform fitting adjustment. Refer to [BL-159, "Fitting Adjustment"](#).

## INSPECTION

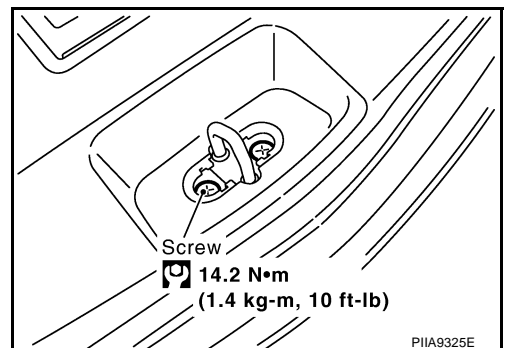
1. Check hinges for the following.
  - Malfunction noise or door closing and opening effort
  - Component wear or damage
2. Apply Grease to the rotating part of the hinge.



## Removal and Installation of Back Door Striker

### REMOVAL

1. Remove rear plate assembly. Refer to [EI-44, "Removal and Installation"](#).
2. Remove mounting screws, and remove striker from the vehicle.



## INSTALLATION

Install in the reverse order of removal.

# BACK DOOR

## CAUTION:

After installing, perform fitting adjustment. Refer to [BL-159, "Fitting Adjustment"](#).

## Removal and Installation of Back Door Stay

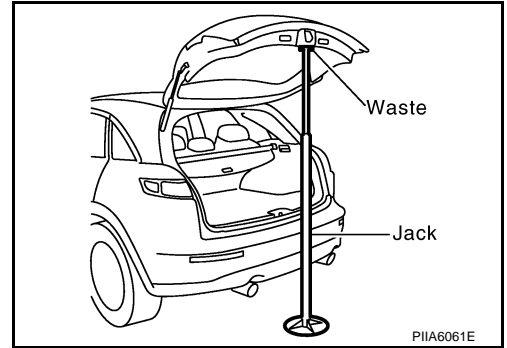
AIS00407

### REMOVAL

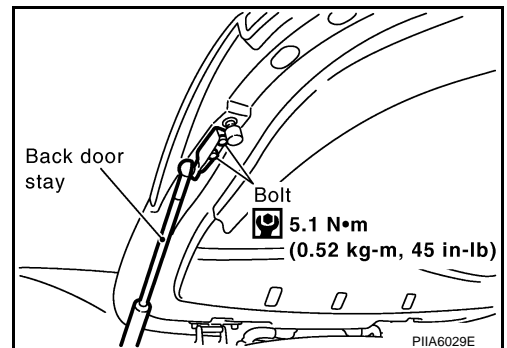
1. Support the back door lock with a proper material to prevent it from falling.

## WARNING:

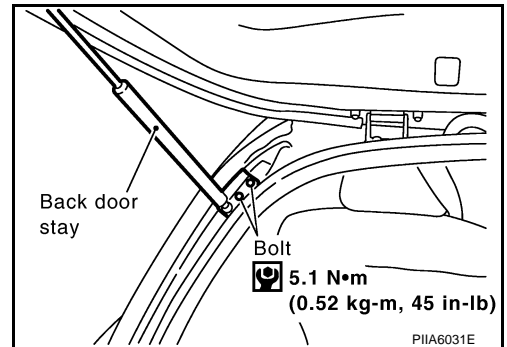
Body injury may occur if no supporting rod is holding the back door open when removing the damper stay.



2. Remove back door stay on back door.



3. Remove back door stay assembly on vehicle.



### INSTALLATION

Install in the reverse order of removal.

## CAUTION:

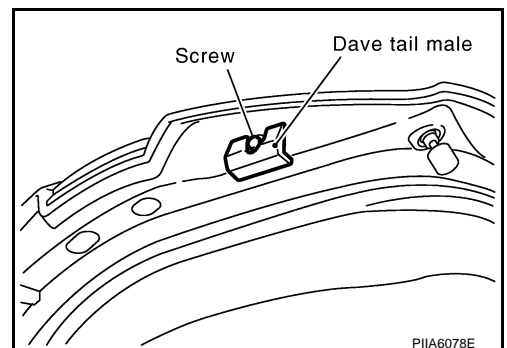
After installing, check operation.

## Removal and Installation of Dave Tail Male & Female

AIS00408

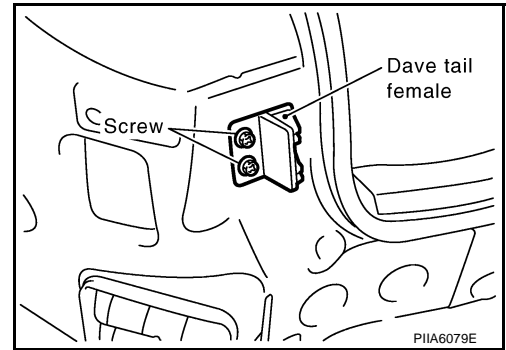
### REMOVAL

1. Remove the dave tail male.



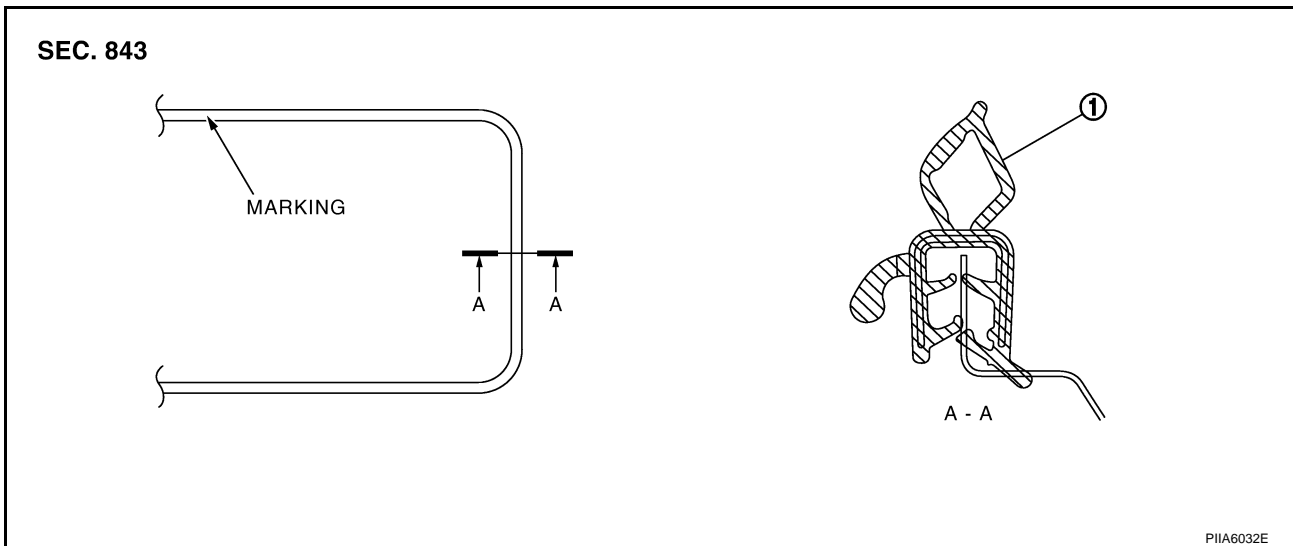
## BACK DOOR

2. Remove the rear bumper. Refer to [EI-18, "Removal and Installation"](#).
3. Remove the dave tail female.



### Removal and Installation of Back Door Weatherstrip

AIS00409



1. Weatherstrip

#### REMOVAL

1. Pull up and remove engagement with body from weatherstrip joint.

#### CAUTION:

After removal, do not pull strongly on the weatherstrip.

#### INSTALLATION

1. Working from the upper section, align weatherstrip mark with vehicle center position mark and install weatherstrip onto the vehicle.
2. For the lower section, align the weatherstrip seam with center of the striker.
3. After installation, pull the weatherstrip gently to ensure that there is no loose section.

#### NOTE:

Make sure the weatherstrip is fit tightly at each corner and back door rear plate.

# BACK DOOR LOCK ASSEMBLY

## BACK DOOR LOCK ASSEMBLY

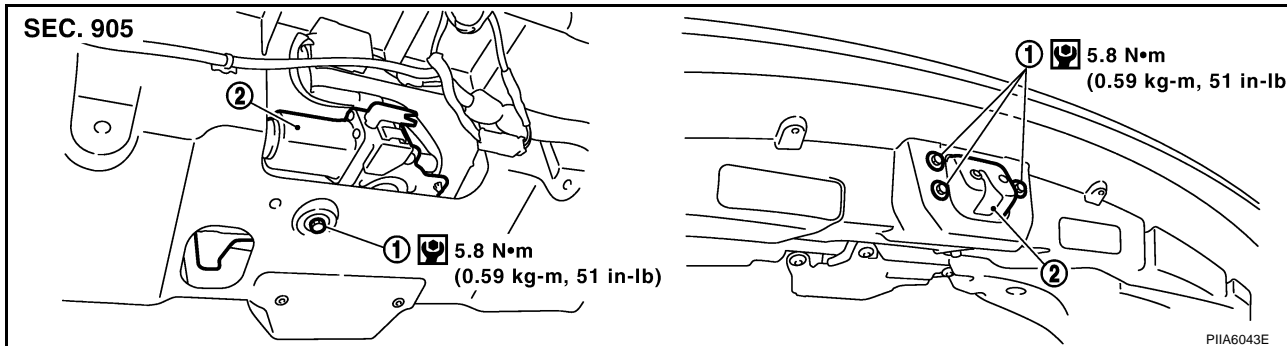
PF9:90504

### Removal and Installation of Back Door Lock & Closure Assembly

AIS0040A

#### REMOVAL

1. Remove back door finisher. Refer to [EI-46, "Removal and Installation"](#) .
2. Disconnect the connector and the clip of the back door lock & closure assembly.
3. Remove the mounting bolts.



4. Disconnect the connector of the back door opener actuator.
5. Remove the mounting bolts, remove back door lock & closure assembly.

#### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

- After installing, check operation.
- After installing, perform fitting adjustment. Refer to [BL-159, "Fitting Adjustment"](#) .

#### INSPECTION

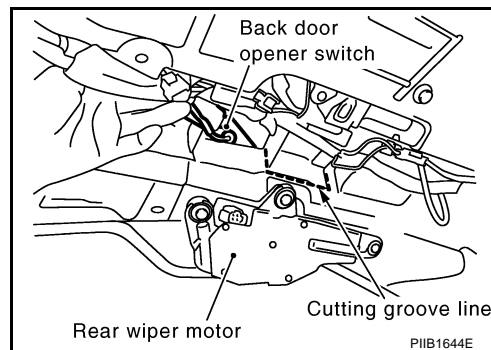
1. Check back door lock for the following.
  - Malfunction noise or door closing and opening effort
  - Component wear or damage
2. Apply body grease to the rotating part of the back door lock.

### Removal and Installation of Back Door Opener Switch

AIS0061W

#### REMOVAL

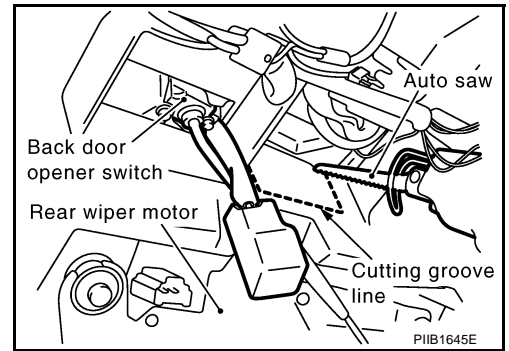
1. Remove back door finisher. Refer to [EI-46, "Removal and Installation"](#) .
2. Remove back door outside finisher. Refer to [EI-46, "BACK DOOR TRIM"](#) .
3. Remove licence lamp. Refer to [LT-145, "License Plate Lamp"](#) .
4. Cut back door inner panel along with cutting groove line.



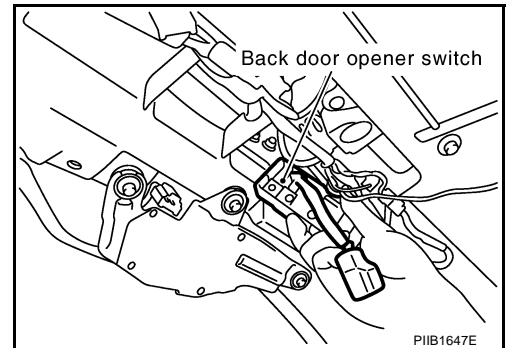
# BACK DOOR LOCK ASSEMBLY

## CAUTION:

When cutting the back door panel, always wear safety glasses, heavy gloves and a dust proof mask to prevent eye and skin irritation from glass fiber splinters.



5. Disconnect back door opener switch harness connector (and rear view camera if equipped).
6. Remove opener switch from back door through hole.



## INSTALLATION

Install in the reverse order of removal.

## CAUTION:

After installing, check operation.

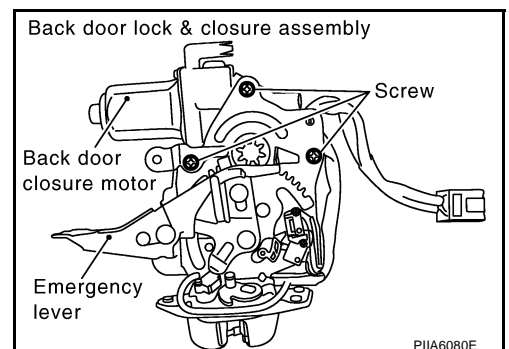
## Disassembly and Assembly BACK DOOR LOCK & CLOSURE ASSEMBLY

AIS0040C

## CAUTION:

Be sure to remove or install the back door opener actuator motor with the back door lock & closure assembly.

1. Remove the back door closure motor.





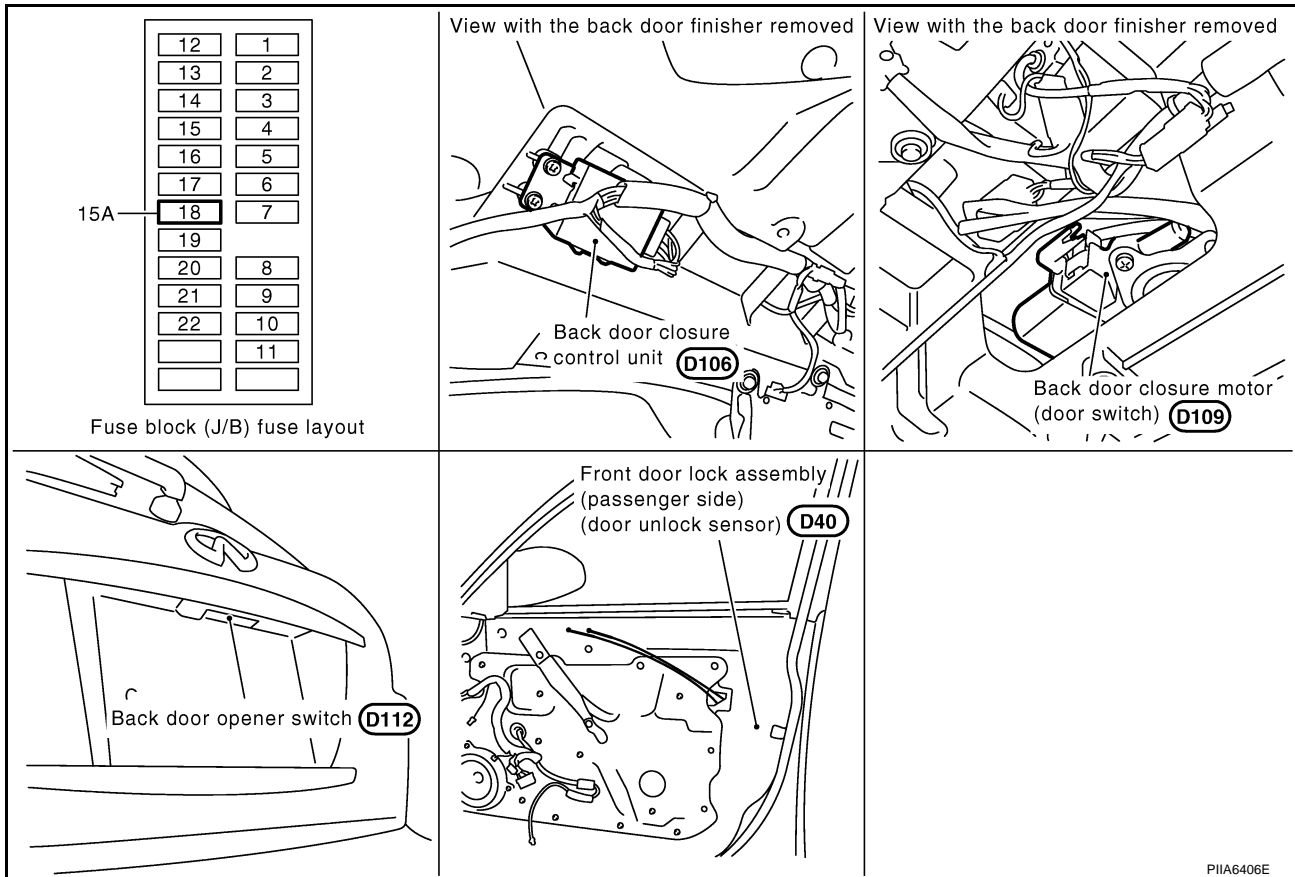
# BACK DOOR AUTO CLOSURE SYSTEM

## BACK DOOR AUTO CLOSURE SYSTEM

PFP:90542

### Component Parts and Harness Connector Location

AIS0040D



### System Description

AIS0040E

When back door lock latch engaged with striker, striker is lowered by means of a motor the back door fully closed.

#### CLOSE OPERATION

- Half-latch is turned off when back door enters the state of a half door and back door closure control unit recognizes it.
- Back door closure control unit by which the signal is recognized operates closure motor in the close direction, and open switch is turned on.
- Close switch is turned on when back door becomes a full latch position by operating closure motor and back door closure control unit operates closure motor in an open direction.
- The operation of closure motor is stopped, and back door enters all close states when back door moves in an open direction, and open switch is turned off.

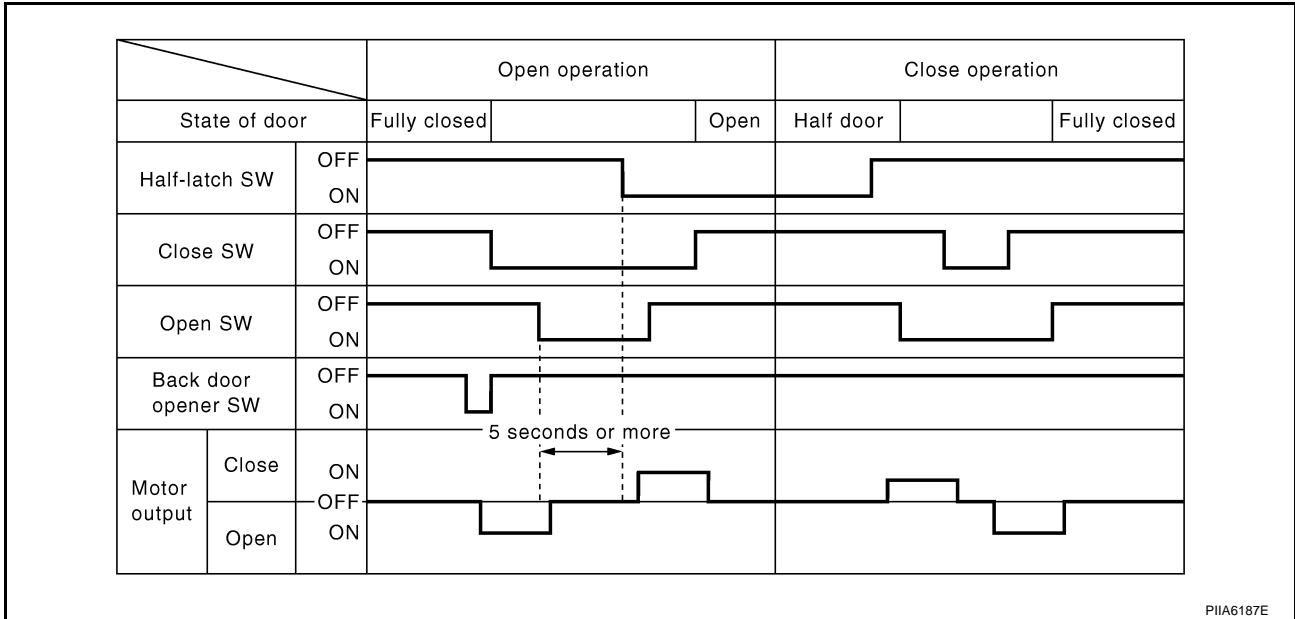
#### NON-OPERATION CONDITION

- When you close back door while pushing back door opener switch.
- When closing at once (within about 0.5 seconds) after back door is opened.
- When you do not close back door after back door opener switch is pushed.

# BACK DOOR AUTO CLOSURE SYSTEM

## OPEN OPERATION

- When passenger side door unlock and back door shuts, back door opener switch is pushed.
- Back door closure control unit receives the signal, closure motor is operated in an open direction, and back door opens.
- Closure motor is operated in the close direction and stops at a neutral position when the following conditions detected after turning on open switch.
  - When back door is in half-open state, and
  - 5 seconds past without opening back door.



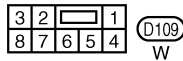
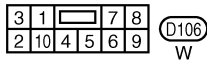
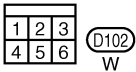
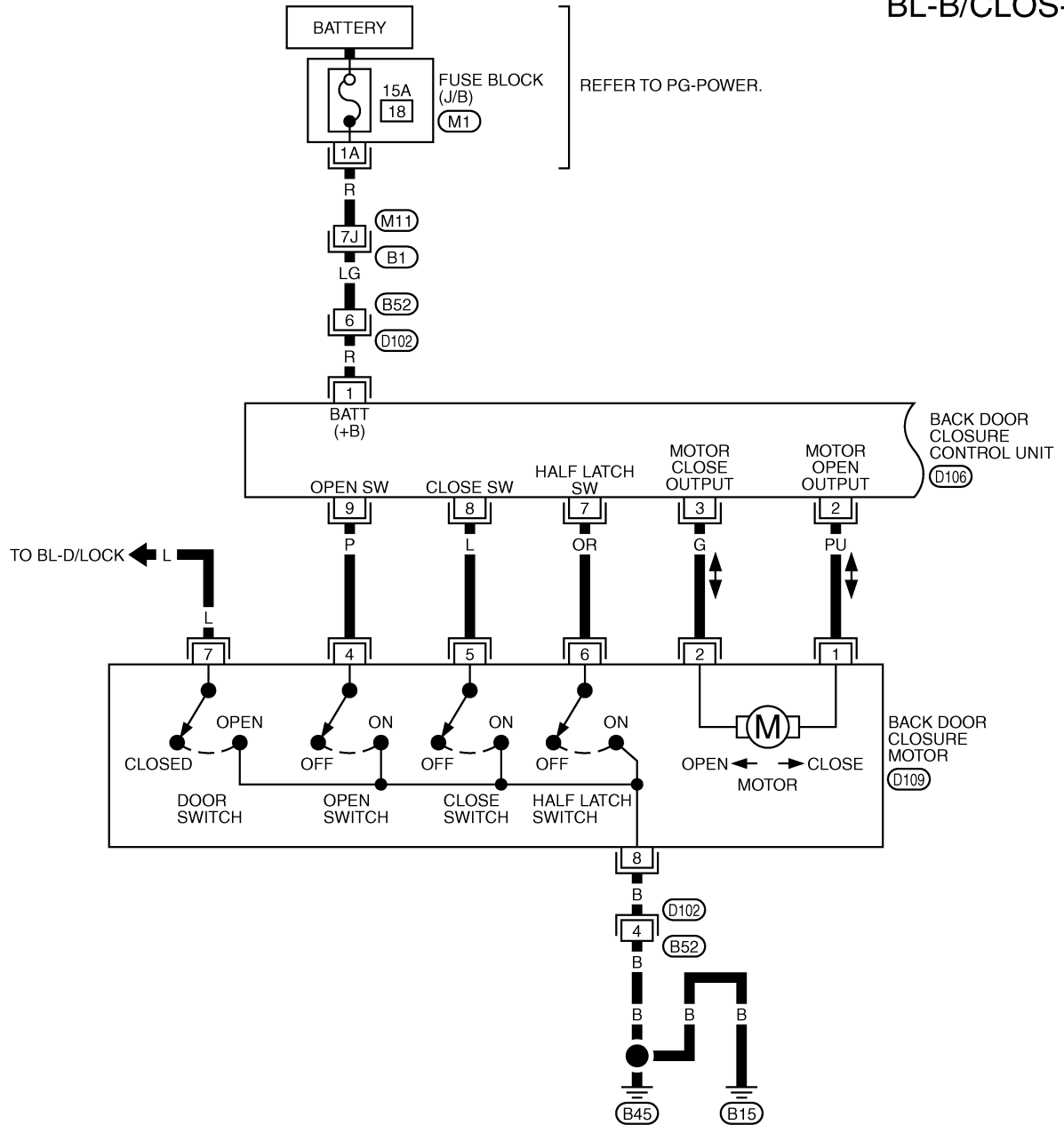
PIIA6187E

# BACK DOOR AUTO CLOSURE SYSTEM

## Wiring Diagram — B/CLOS —

AIS004OF

BL-B/CLOS-01



REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE JUNCTION (SMJ)

(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

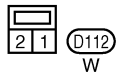
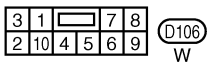
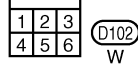
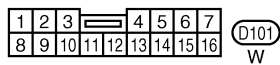
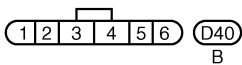
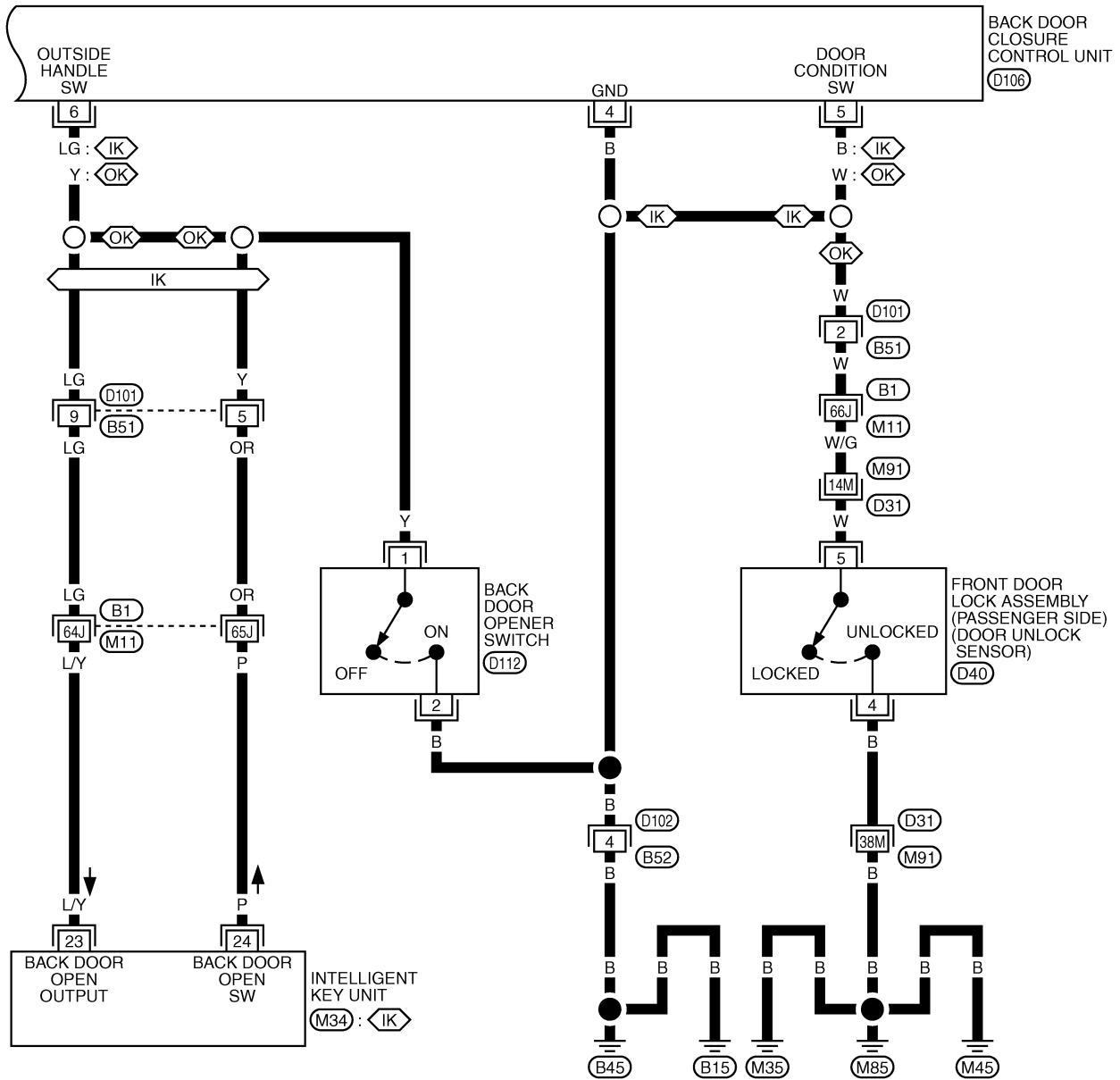
TIWH0047E

# BACK DOOR AUTO CLOSURE SYSTEM

BL-B/CLOS-02

⬡IK : WITH INTELLIGENT KEY

⬡OK : WITHOUT INTELLIGENT KEY



REFER TO THE FOLLOWING.

(B1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)

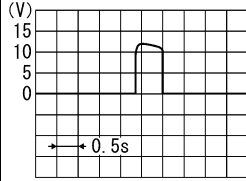
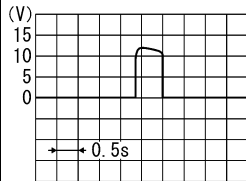
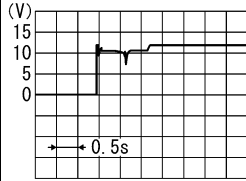
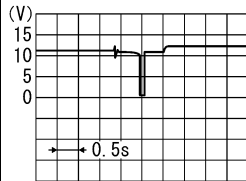
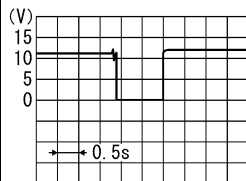
(M34) -ELECTRICAL UNITS

TIWH0048E

# BACK DOOR AUTO CLOSURE SYSTEM

## Terminals and Reference Value for Back Door Closure Control Unit

AIS0040G

Terminal	Wire color	Item	Condition	Voltage (V) (Approx.)
1	R	Battery power supply	—	Battery voltage
2	PU	Closure motor (open) signal	Fully close → fully open	 <p style="text-align: right; font-size: small;">SIIA1480J</p>
3	G	Closure motor (close) signal	Fully open → fully close	 <p style="text-align: right; font-size: small;">SIIA1480J</p>
4	B	Ground	—	0
5	W (B)	Ground*	—	0*
		Unlock sensor signal (passenger side)	Passenger side door lock is locked	5
			Passenger side door lock is unlocked	0
6	Y (LG)	Back door opener switch signal	Back door opener switch is ON	0
			Other than above	5
7	OR	Half-latch switch signal	Fully open → fully close	 <p style="text-align: right; font-size: small;">SIIA1479J</p>
8	L	Close switch signal	Fully open → fully close	 <p style="text-align: right; font-size: small;">SIIA1478J</p>
9	P	Open switch signal	Fully open → fully close	 <p style="text-align: right; font-size: small;">SIIA1481J</p>

\*, ( ): Models with Intelligent Key

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

# BACK DOOR AUTO CLOSURE SYSTEM

## Work Flow

AIS0040H

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [BL-165, "System Description"](#) .
3. Perform the preliminary check, Refer to [BL-170, "Preliminary Check"](#)
4. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [BL-170, "Trouble Diagnosis Chart by Symptom"](#) .
5. Does back door auto closure system operate normally? If Yes, GO TO 6, If No, GO TO 4.
6. INSPECTION END

## Preliminary Check

AIS0040I

Remove the fuse No.18 for the back door closure with the back door closure inactive.  
Check that the back door can be open / close normally.

### CAUTION:

**It is judged it is abnormal, discontinues closure operation, and drive lever returns to a neutral position if not becoming full-latch within about three seconds after half-latch.**

**When this operation is done continuously three times, both back door closure and back door opener switch are not operated because the function of back door closure is stopped.**

**Thing to reset power supply by pulling out and opening fuse in that case.**

## Trouble Diagnosis Chart by Symptom

AIS0040J

Symptom	Diagnostic procedure and repair order	Refer to page
Back door closure does not operate.	1.Back door closure motor power supply and ground circuit check	<a href="#">BL-171</a>
	2. Half-latch switch check	<a href="#">BL-171</a>
	3. Close switch check	<a href="#">BL-173</a>
	4. Open switch check.	<a href="#">BL-174</a>
	5. Closure motor check.	<a href="#">BL-180</a>
	6. Replace back door closure control unit.	<a href="#">BL-180</a>
Back door does not open (with Intelligent Key system).	1. Intelligent Key system check.	<a href="#">BL-113</a>
	2. Back door opener switch check.	<a href="#">BL-175</a>
Back door does not open	1. Back door opener switch check.	<a href="#">BL-177</a>
	2. Unlock sensor check.	<a href="#">BL-179</a>
	3. Replace back door closure control unit.	<a href="#">BL-180</a>
Back door does not enter fully closed states through back door closure operates.	1.Back door fitting adjustment.	<a href="#">BL-159</a>
	2. Replace back door lock assembly.	<a href="#">BL-163</a>

# BACK DOOR AUTO CLOSURE SYSTEM

## Back Door Closure Control Unit Power Supply and Ground Circuit Check

AIS0040K

### 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Check voltage between back door closure control unit connector D106 terminal 1 and ground.

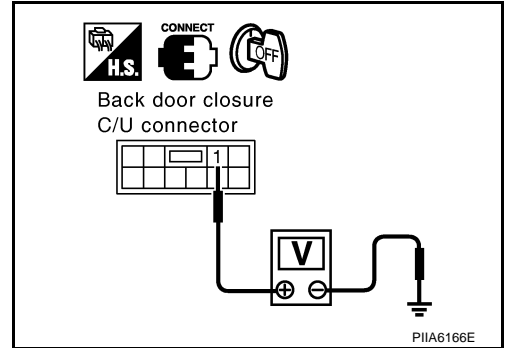
**1 (R) – Ground : Battery voltage**

OK or NG

OK >> GO TO 2.

NG >> Check the following.

- 15A fuse [No.18, located in fuse block (J/B)]
- Harness for open or short between back door closure control unit and fuse.



### 2. CHECK GROUND CIRCUIT

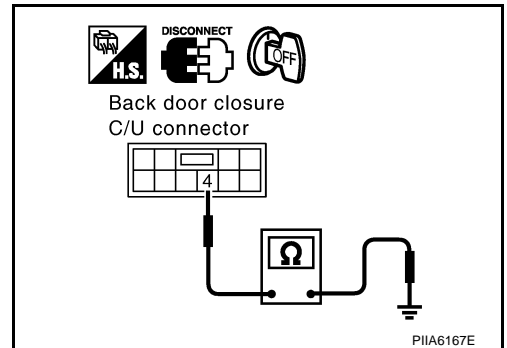
1. Disconnect back door closure control unit connector.
2. Check continuity between back door closure control unit connector D106 terminal 4 and ground.

**4 (B) – Ground : Continuity should exist.**

OK or NG

OK >> Power supply and ground circuit are OK.

NG >> Repair or replace harness.



## Half-Latch Switch Check

AIS0040L

### 1. CHECK HALF-LATCH SWITCH SIGNAL

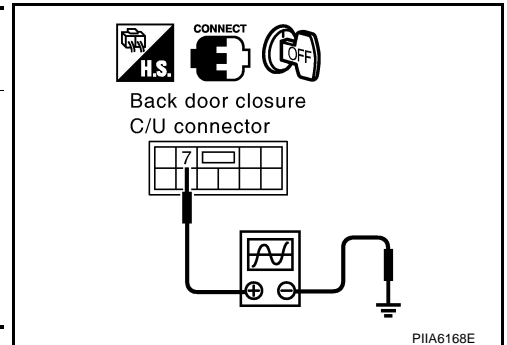
1. Turn ignition switch OFF.
2. Check the signal between back door closure control unit connector and ground with oscilloscope.

Con- nector	Terminals (Wire color)		Back door condition	Signal (Reference value)
	(+)	(-)		
D106	7 (OR)	Ground	Fully open → fully closed	<p>SIIA1479J</p>

OK or NG

OK >> Half-latch switch is OK.

NG >> GO TO 2.



# BACK DOOR AUTO CLOSURE SYSTEM

## 2. CHECK HARNESS CONTINUITY

1. Disconnect back door closure control unit and back door closure motor connector.
2. Check continuity between back door closure control unit connector D106 terminal 7 and back door closure motor connector D109 terminal 6.

**7 (OR) – 6 (OR) : Continuity should exist.**

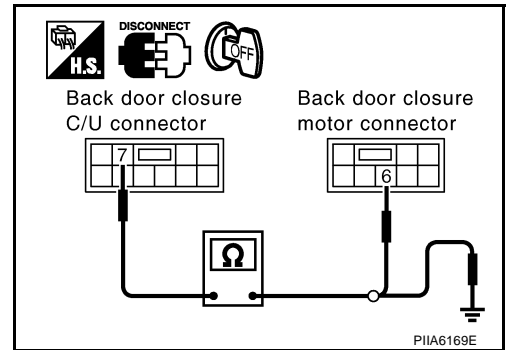
3. Check continuity between back door closure control unit connector D106 terminal 7 and ground.

**7 (OR) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



## 3. CHECK GROUND CIRCUIT

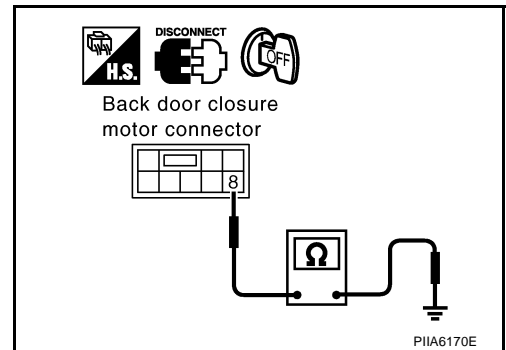
Check continuity between back door closure motor connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



## 4. CHECK BACK DOOR CLOSURE CONTROL UNIT OUTPUT SIGNAL

1. Connect back door closure control unit connector.
2. Check voltage between back door closure control unit connector D106 terminal 7 and ground.

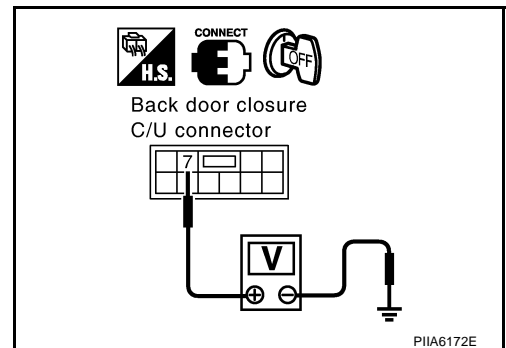
**Back door is closed**

**7 (OR) – Ground : Battery voltage**

OK or NG

OK >> Replace back door lock assembly.

NG >> Replace back door closure control unit.





# BACK DOOR AUTO CLOSURE SYSTEM

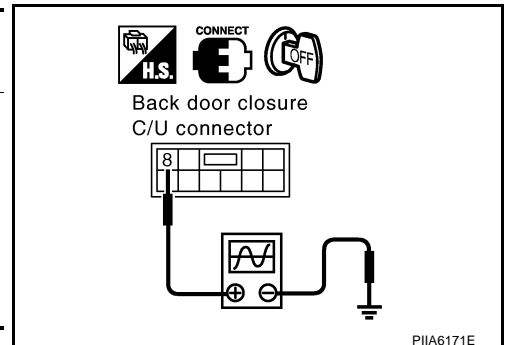
AIS0040M

## Close Switch Check

### 1. CHECK CLOSE SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Check the signal between back door closure control unit connector and ground with oscilloscope.

Con- nector	Terminals (Wire color)		Back door condition	Signal (Reference value)
	(+)	(-)		
D106	8 (L)	Ground	Fully open → fully closed	<p style="text-align: right;">SIIA1478J</p>



#### OK or NG

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

### 2. CHECK HARNESS CONTINUITY

1. Disconnect back door closure control unit and back door closure motor connector.
2. Check continuity between back door closure control unit connector D106 terminal 8 and back door closure motor connector D109 terminal 5.

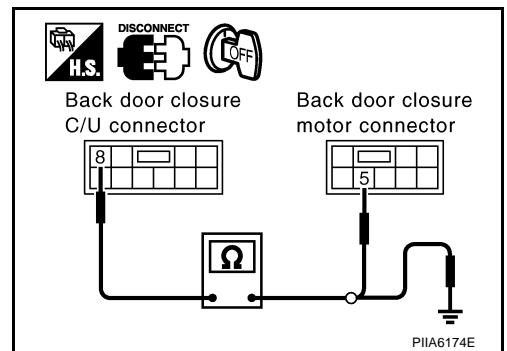
**8 (L) – 5 (L) : Continuity should exist.**

3. Check continuity between back door closure control unit connector D106 terminal 8 and ground.

**8 (L) – Ground : Continuity should not exist.**

#### OK or NG

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



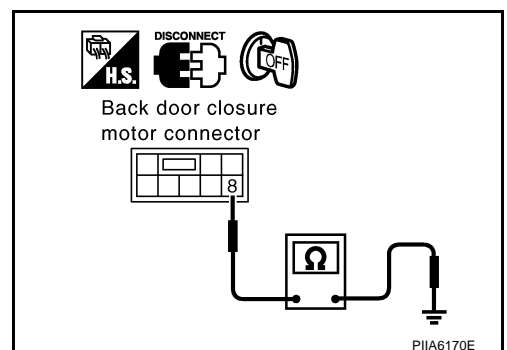
### 3. CHECK GROUND CIRCUIT

Check continuity between back door closure motor connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**

#### OK or NG

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



# BACK DOOR AUTO CLOSURE SYSTEM

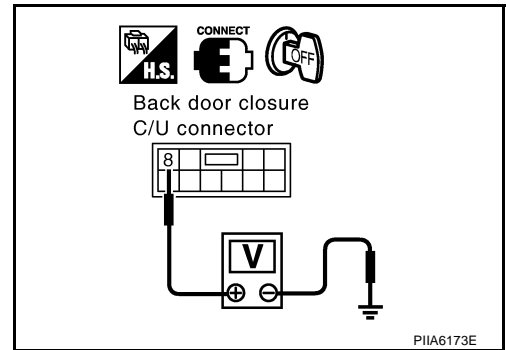
## 4. CHECK BACK DOOR CLOSURE CONTROL UNIT OUTPUT SIGNAL

1. Connect back door closure control unit connector.
2. Check voltage between back door closure control unit connector D106 terminal 8 and ground.

**Back door is closed**  
**8 (L) – Ground : Battery voltage**

OK or NG

- OK >> Replace back door lock assembly.  
 NG >> Replace back door closure control unit.

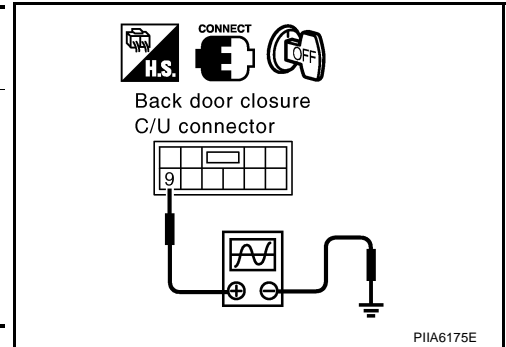


## Open Switch Check

### 1. CHECK OPEN SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Check the signal between back door closure control unit connector and ground with oscilloscope.

Con- nector	Terminals (Wire color)		Back door condition	Signal (Reference value)
	(+)	(-)		
D106	9 (P)	Ground	Fully open → fully closed	<p>SIIA1481J</p>



OK or NG

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

## 2. CHECK HARNESS CONTINUITY

1. Disconnect back door closure control unit and back door closure motor connector.
2. Check continuity between back door closure control unit connector D106 terminal 9 and back door closure motor connector D109 terminal 4.

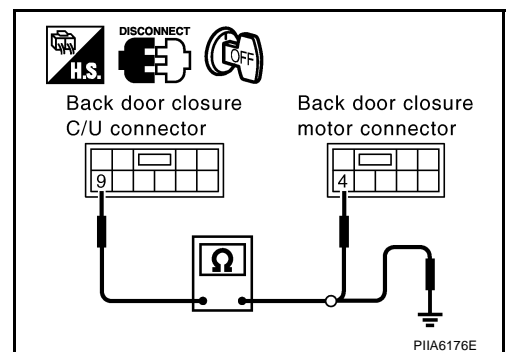
**9 (P) – 4 (P) : Continuity should exist.**

3. Check continuity between back door closure control unit connector D106 terminal 9 and ground.

**9 (P) – Ground : Continuity should not exist.**

OK or NG

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



# BACK DOOR AUTO CLOSURE SYSTEM

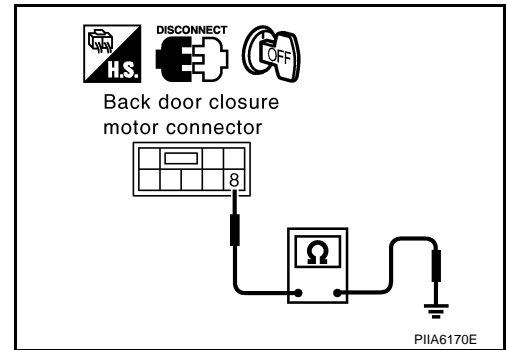
## 3. CHECK GROUND CIRCUIT

Check continuity between back door closure motor connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

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



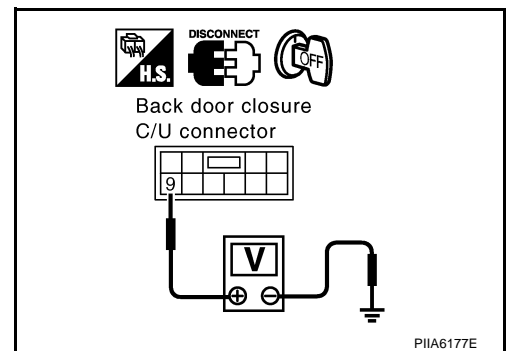
## 4. CHECK BACK DOOR CLOSURE CONTROL UNIT OUTPUT SIGNAL

1. Connect back door closure control unit connector.
2. Check voltage between back door closure control unit connector D106 terminal 9 and ground.

**Back door is closed**  
**9 (P) – Ground : Battery voltage**

OK or NG

- OK >> Replace back door lock assembly.
- NG >> Replace back door closure control unit.



## Back Door Opener Switch Check (With Intelligent Key)

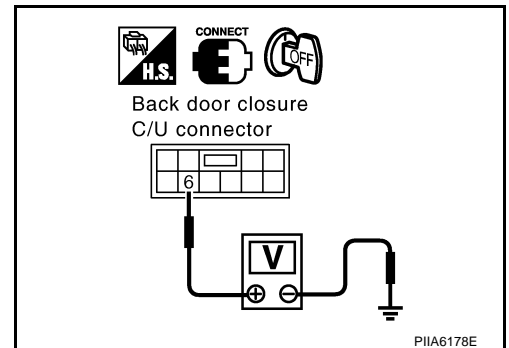
### 1. CHECK BACK DOOR OPENER SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between back door closure control unit connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D106	6 (LG)	Ground	Back door opener switch : ON	0
			Back door opener switch : OFF	5

OK or NG

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



# BACK DOOR AUTO CLOSURE SYSTEM

## 2. CHECK HARNESS 1

1. Disconnect Intelligent Key unit and back door closure control unit connector.
2. Check continuity between Intelligent Key unit connector M34 terminal 23 and back door closure control unit connector D106 terminal 6.

**23 (L/Y) – 6 (LG) : Continuity should exist.**

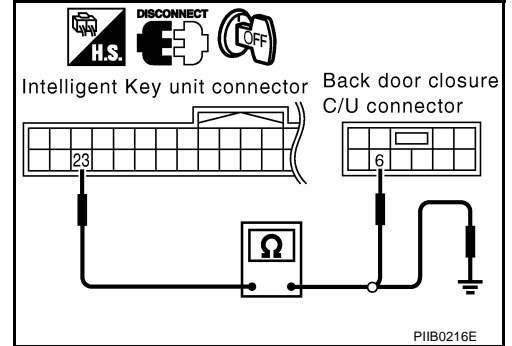
3. Check continuity between Intelligent Key unit connector M34 terminal 23 and ground.

**23 (L/Y) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Replace or repair malfunction harness.



## 3. CHECK HARNESS 2

1. Disconnect Intelligent Key unit and back door opener switch connector.
2. Check continuity between Intelligent Key unit connector M34 terminal 24 and back door opener switch connector D112 terminal 1.

**24 (P) – 1 (Y) : Continuity should exist.**

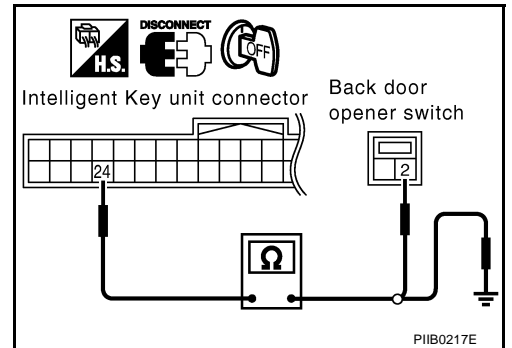
3. Check continuity between Intelligent Key unit connector M34 terminal 24 and ground.

**24 (P) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Replace or repair malfunction harness.



## 4. CHECK BACK DOOR OPENER SWITCH GROUND CIRCUIT

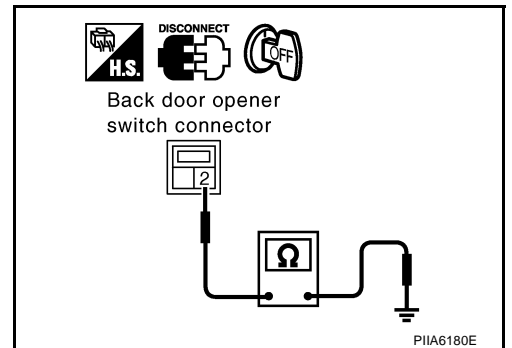
Check continuity between back door opener switch connector D112 terminal 2 and ground.

**2 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness.



## 5. CHECK BACK DOOR OPENER SWITCH

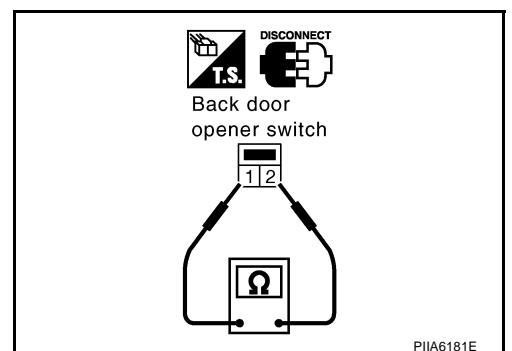
Check continuity between back door opener switch terminals 1 and 2.

Terminals		Condition	Continuity
1	2	Back door opener switch: ON	Yes
		Back door opener switch: OFF	No

OK or NG

OK >> GO TO 6.

NG >> Replace back door opener switch.



# BACK DOOR AUTO CLOSURE SYSTEM

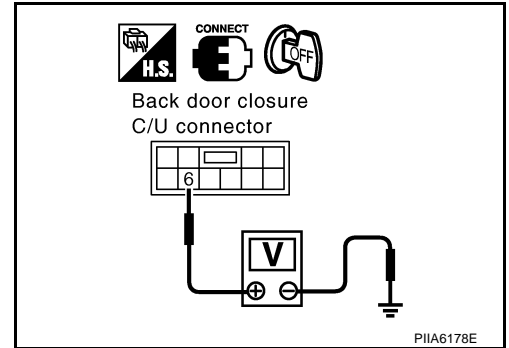
## 6. CHECK BACK DOOR CLOSURE CONTROL UNIT OUTPUT SIGNAL

1. Connect back door closure control unit connector.
2. Check voltage between back door closure control unit connector D106 terminal 6 and ground.

**6 (LG) – Ground : Approx. 5V**

### OK or NG

- OK >> Replace Intelligent Key unit.  
 NG >> Replace back door closure control unit.



## Back Door Opener Switch Check (Without Intelligent Key)

AIS004U9

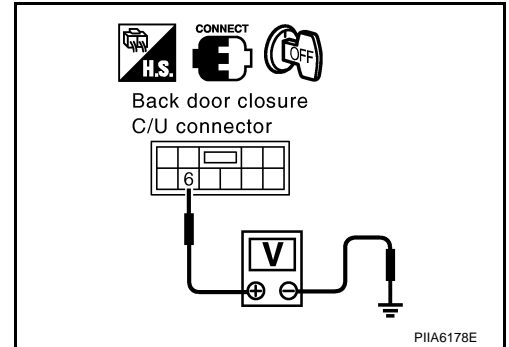
### 1. CHECK BACK DOOR OPENER SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between back door closure control unit connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D106	6 (Y)	Ground	Back door opener switch : ON	0
			Back door opener switch : OFF	5

### OK or NG

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



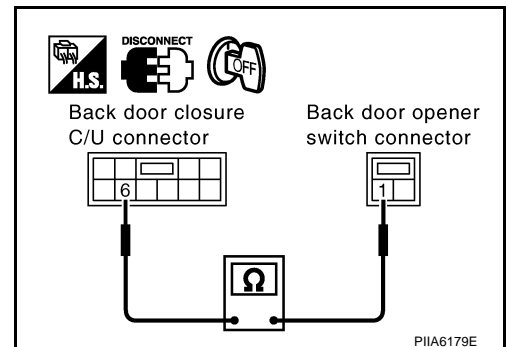
### 2. CHECK HARNESS CONTINUITY

1. Disconnect back door closure control unit and back door opener switch connector.
2. Check continuity between back door closure control unit connector D106 terminal 6 and back door opener switch connector D112 terminal 1.

**6 (Y) – 1 (Y) : Continuity should exist.**

### OK or NG

- OK >> GO TO 3.  
 NG >> Repair or replace harness between back door closure control unit and back door opener switch.



# BACK DOOR AUTO CLOSURE SYSTEM

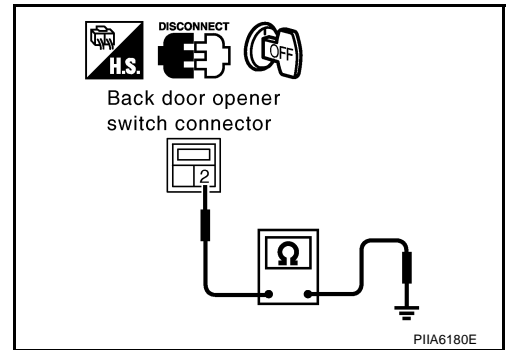
## 3. CHECK GROUND CIRCUIT

Check continuity between back door opener switch connector D112 terminal 2 and ground.

**2 (B) – Ground : Continuity should exist.**

OK or NG

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



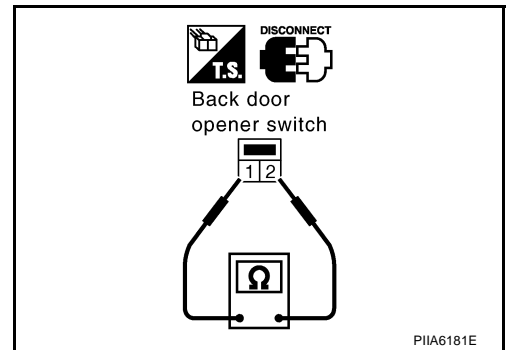
## 4. CHECK BACK DOOR OPENER SWITCH

Check continuity between back door opener switch terminals 1 and 2.

Terminals		Condition	Continuity
1	2	Back door opener switch: ON	Yes
		Back door opener switch: OFF	No

OK or NG

- OK >> GO TO 5.
- NG >> Replace back door opener switch.



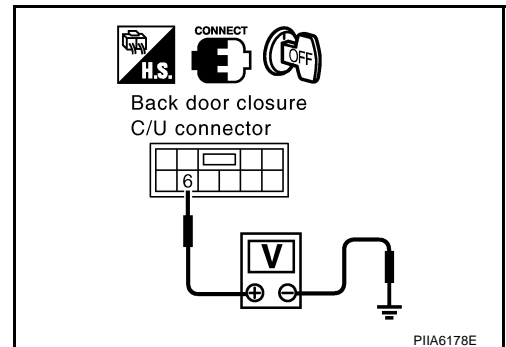
## 5. CHECK BACK DOOR CLOSURE CONTROL UNIT OUTPUT SIGNAL

1. Connect back door closure control unit connector.
2. Check voltage between back door closure control unit connector D106 terminal 6 and ground.

**6 (Y) – Ground : Approx. 5V**

OK or NG

- OK >> Check condition of harness and connector.
- NG >> Replace back door closure control unit.



# BACK DOOR AUTO CLOSURE SYSTEM

AIS004UA

## Unlock Sensor Check (Without Intelligent Key)

### 1. CHECK UNLOCK SENSOR SIGNAL

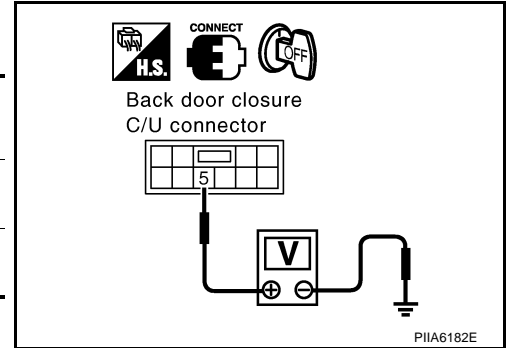
1. Turn ignition switch OFF.
2. Check voltage between back door closure control unit connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D106	5 (W)	Ground	Passenger side door lock is locked	5
			Passenger side door lock is unlocked	0

OK or NG

OK >> Unlock sensor is OK.

NG >> GO TO 2.



### 2. CHECK HARNESS CONTINUITY

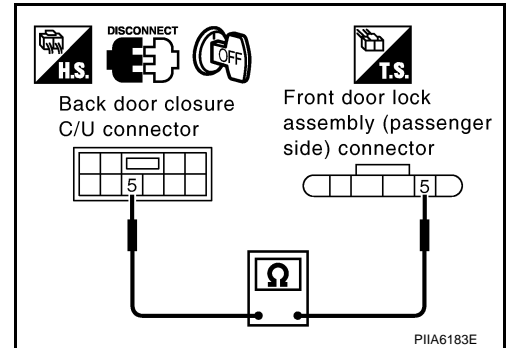
1. Disconnect back door closure control unit and front door lock assembly (passenger side) connector.
2. Check continuity between back door closure control unit connector D106 terminal 5 and front door lock assembly (passenger side) connector D40 terminal 5.

**5 (W) – 5 (W) : Continuity should exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness between back door closure control unit and front door lock assembly (passenger side).



### 3. CHECK GROUND CIRCUIT

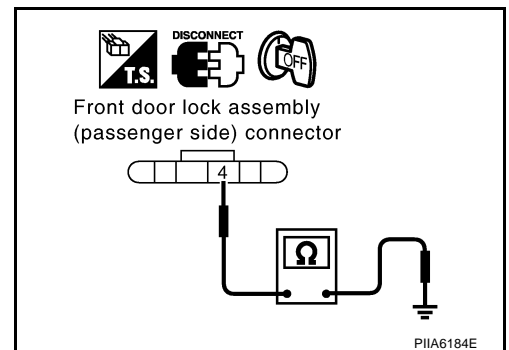
Check continuity between front door lock assembly (passenger side) connector D40 terminal 4 and ground.

**4 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



# BACK DOOR AUTO CLOSURE SYSTEM

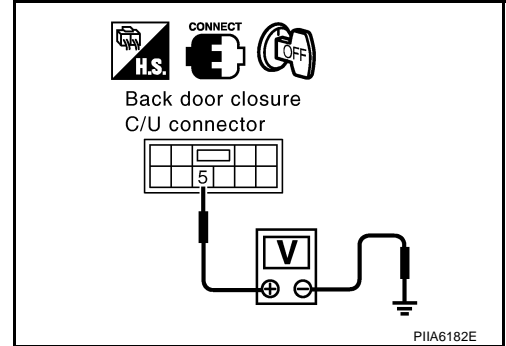
## 4. CHECK BACK DOOR CLOSURE CONTROL UNIT OUTPUT SIGNAL

1. Connect back door closure control unit connector.
2. Check voltage between back door closure control unit connector D106 terminal 5 and ground.

**5 (W) – Ground : Approx. 5V**

OK or NG

- OK >> Replace front door lock assembly (passenger side).  
 NG >> Replace back door closure control unit.

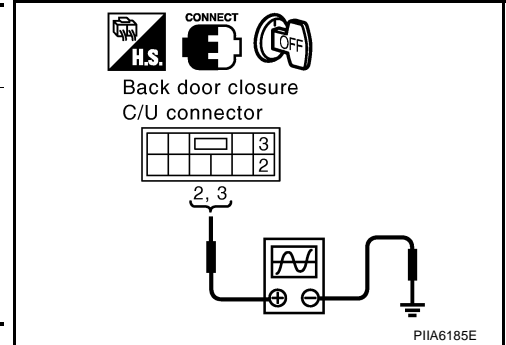


## Closure Motor Check

### 1. CHECK BACK DOOR CLOSURE MOTOR

1. Turn ignition switch OFF.
2. Check the signal between back door closure control unit connector and ground with oscilloscope.

Con- nector	Terminals (Wire color)		Back door condition	Signal (Reference value)
	(+)	(-)		
D106	2 (PU)	Ground	Fully closed → fully open	
	3 (G)		Fully open → fully closed	



OK or NG

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

### 2. CHECK HARNESS CONTINUITY

1. Disconnect back door closure control unit and back door closure motor connector.
2. Check continuity between back door closure control unit connector D106 terminals 2, 3 and back door closure motor connector D109 terminals 1, 2.

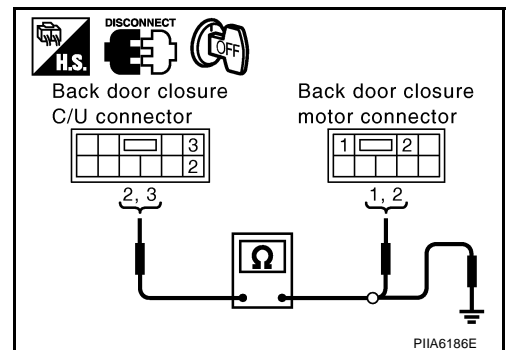
**2 (PU) – 1 (PU) : Continuity should exist.**

**3 (G) – 2 (G) : Continuity should exist.**

3. Check continuity between back door closure control unit connector D106 terminals 2, 3 and ground.

**2 (PU) – Ground : Continuity should not exist.**

**3 (G) – Ground : Continuity should not exist.**



OK or NG

- OK >> Replace back door closure motor.  
 NG >> Repair or replace harness.

## Removal and Installation of Back Door Closer Control Unit

1. Remove the back door finisher. [EI-46, "Removal and Installation"](#) .
2. Disconnect the back door closer control unit harness, remove the screw and back door closer control unit.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

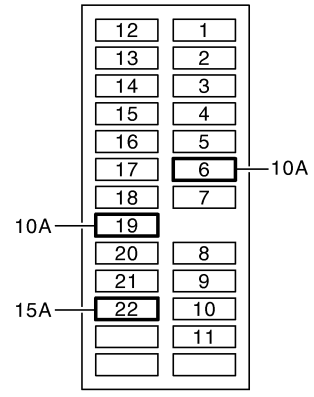
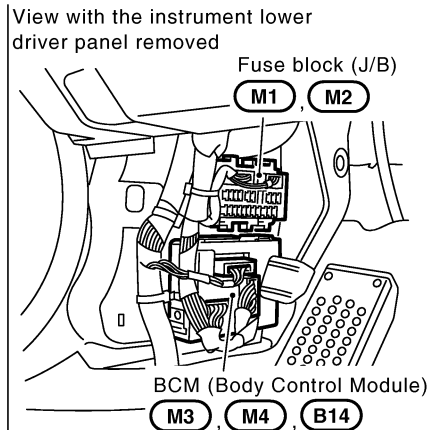
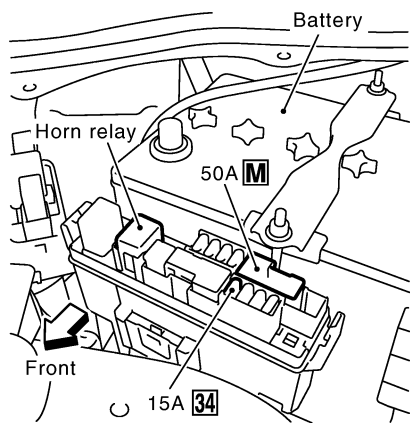
## VEHICLE SECURITY (THEFT WARNING) SYSTEM

PF28491

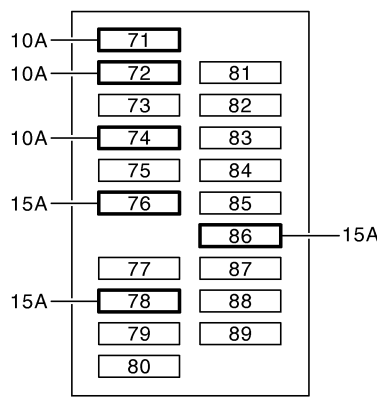
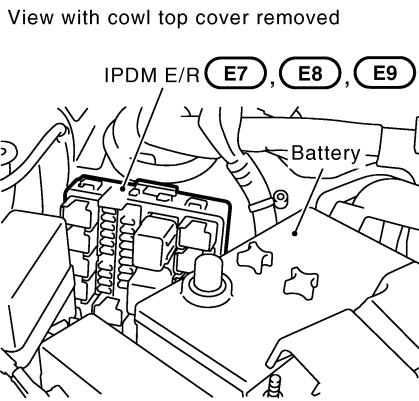
### Component Parts and Harness Connector Location

AIS0040S

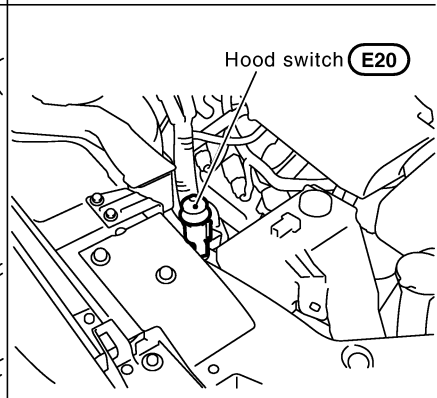
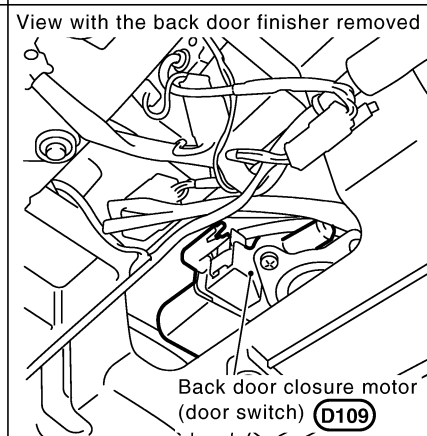
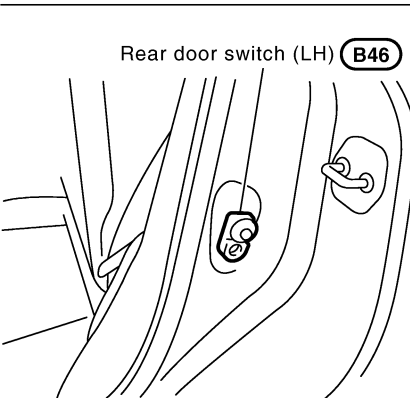
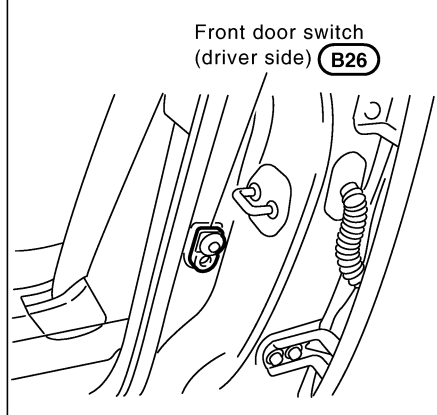
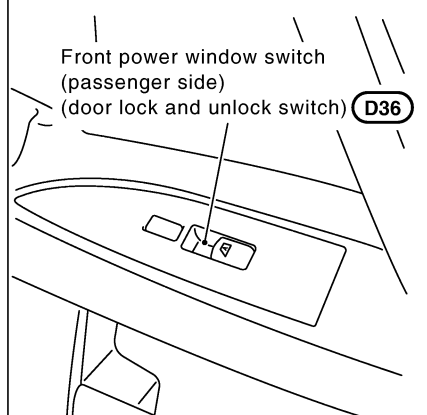
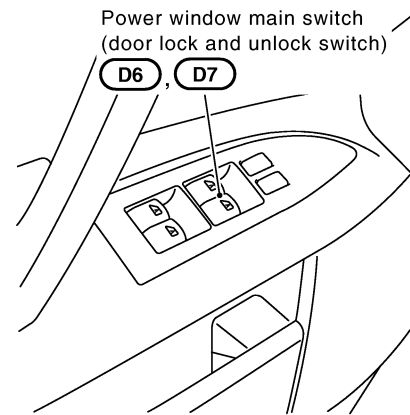
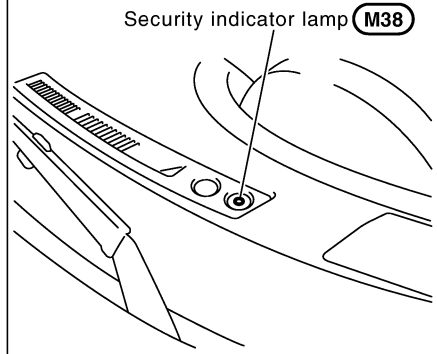
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Fuse block (J/B) fuse layout



IPDM E/R fuse layout



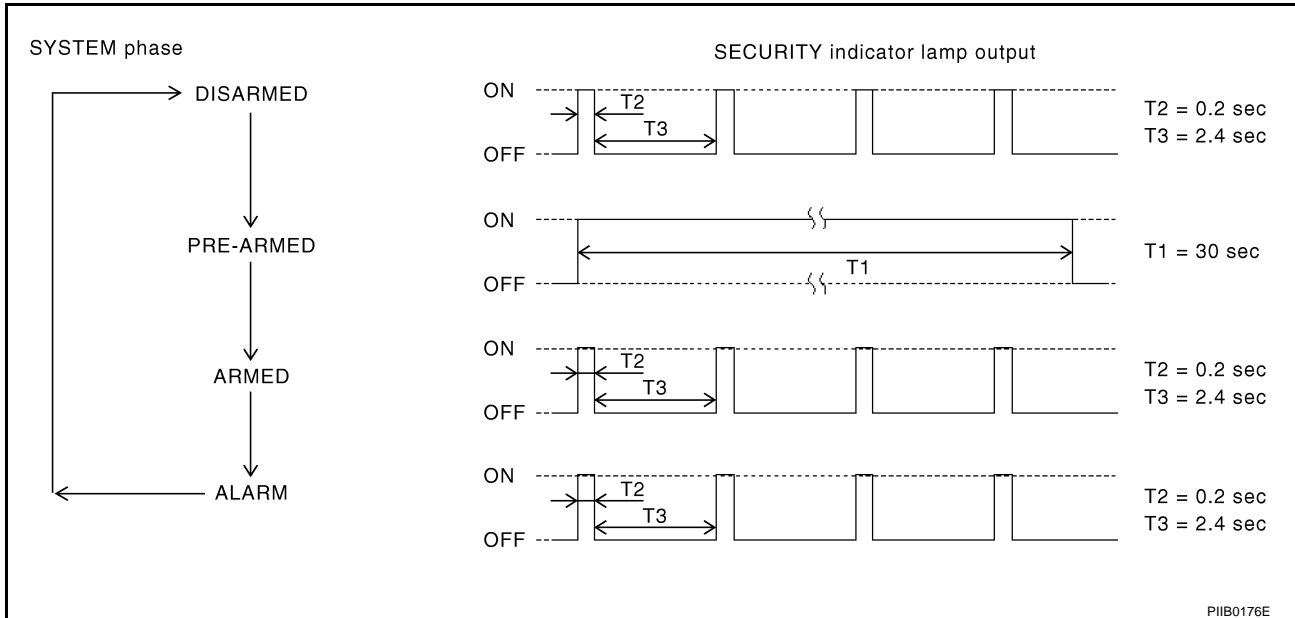
PIIB0407E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AIS0040T

## System Description DESCRIPTION

### Operation Flow



## Setting the Vehicle Security System

### Initial condition

- Ignition switch is in OFF position.

### Disarmed phase

- When hood, doors or back door is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.
- When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds.

### Pre-armed phase and armed phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the “pre-armed” phase. (The security indicator lamp illuminates.)

1. BCM receives LOCK signal from front door key cylinder switch, key fob or Intelligent Key after hood, back door and all doors are closed.
2. Hood, back door and all doors are closed after front doors are locked by key or door lock and unlock switch.

The security indicator lamp illuminates for 30 seconds. then, the system automatically shifts into the “armed” phase.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Canceling the Set Vehicle Security System

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

1. Unlock the doors with the key, key fob or Intelligent Key.
2. Turn ignition switch "ON" or "ACC" position.

## Canceling the Alarm Operation of the Vehicle Security System

When unlock the door with the key, key fob or Intelligent Key the alarm operation is canceled.

## Activating the Alarm Operation of the Vehicle Security System

Make sure the system is in the armed phase. (The security indicator lamp brinks every 2.4 seconds.)

When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

1. Hood, back door or any door is opened during armed phase.
2. Disconnecting and connecting the battery connector before canceling armed phase.

## POWER SUPPLY

Power is supplied at all times

- through 10A fuse [No.19, located in the fuse block (J/B)]
- to security indicator lamp terminal 1.
- through 50A fusible link (letter **M** , located in the fuse and fusible link box)
- to BCM terminal 55.
- through 15A fuse [No.22, located in the fuse block (J/B)]
- to BCM terminal 42.
- through 15A fuse [No.34, located in the fuse and fusible link box]
- to horn relay terminal 2.
- through 10A fuse [No.71, located in the IPDM E/R]
- to IPDM E/R internal CPU.
- through 15A fuse [No.78, 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. 6, located in the fuse block (J/B)]
- to BCM terminal 11.

## INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors, hood and back door.

To activate the vehicle security system, BCM must receive signals indicating the doors, hood and back door are closed and the doors are locked by key fob, Intelligent Key or ignition key.

When a door is open, BCM terminal 12 (passenger side door), 13 (rear RH door), 62 (driver side door), 63 (rear LH door) receives a ground signal from each door switch.

When front door LH is unlocked by power window main switch (door lock and unlock switch), BCM terminal 22 receives a signal from terminal 14 of power window main switch with power window serial link.

When front door RH is unlocked by front power window switch (passenger side) (door lock and unlock switch), BCM terminal 22 receives a signal from terminal 16 of front power window switch (passenger side) with power window serial link.

When the hood is open, IPDM E/R receives a ground signal

- to IPDM E/R terminal 56
- through hood switch terminal 2
- through hood switch terminal 1
- through body grounds E21, E50 and E51.

The IPDM E/R then sends a signal to the BCM through the CAN SYSTEM.

When the back door is open,

- to BCM terminal 58
- through back door closure motor terminal 7

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

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- through back door closure motor terminal 8
- through body grounds B15 and B45.

## VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

- opening a door
- opening the back door
- opening the hood
- detection of battery disconnect and connect.

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

When BCM receives a ground signal at terminals 12 (passenger side door), 13 (rear RH door), 58 (back door), 62 (driver side door), 63 (rear LH door), or receives a signal from the IPDM E/R (hood switch).

When the vehicle security system is triggered,

ground is supplied intermittently from IPDM E/R terminals 38 and 60.

When headlamp high relay (with built-in IPDM E/R) and horn relay are energized and then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).

The headlamps flash and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds, but will reactivate if the vehicle is tampered with again.

## VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, a door or the back door must be unlocked with the key, key fob or Intelligent Key.

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

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

When the BCM receives either one of these signals or unlock signal from key cylinder switch, key fob or Intelligent Key, the vehicle security system is deactivated. (Disarmed phase)

## PANIC ALARM OPERATION

Remote keyless entry system may or may not operate vehicle security system (horn and headlamps) as required.

When the remote keyless entry system is triggered, ground is supplied intermittently from IPDM E/R terminals 38 and 60.

When headlamp relay (which built-in IPDM E/R) and horn relay are energized and then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 25 seconds or when BCM receives any signal from key fob or Intelligent Key.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## CAN Communication System Description

AIS0040U

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

## CAN Communication Unit

AIS0040V

Refer to [LAN-6, "CAN COMMUNICATION"](#) .

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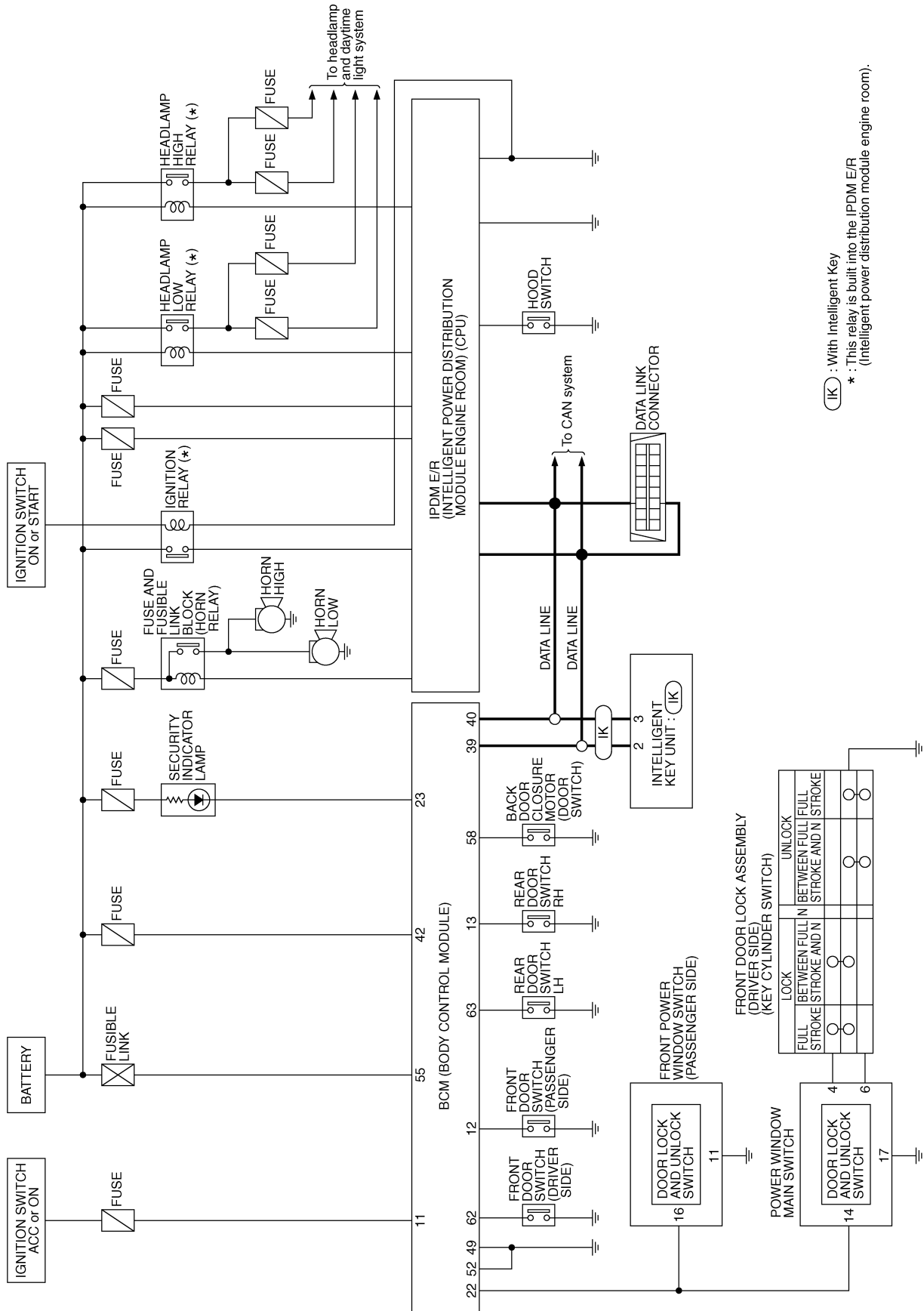
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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Schematic

AI50040W



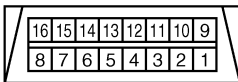
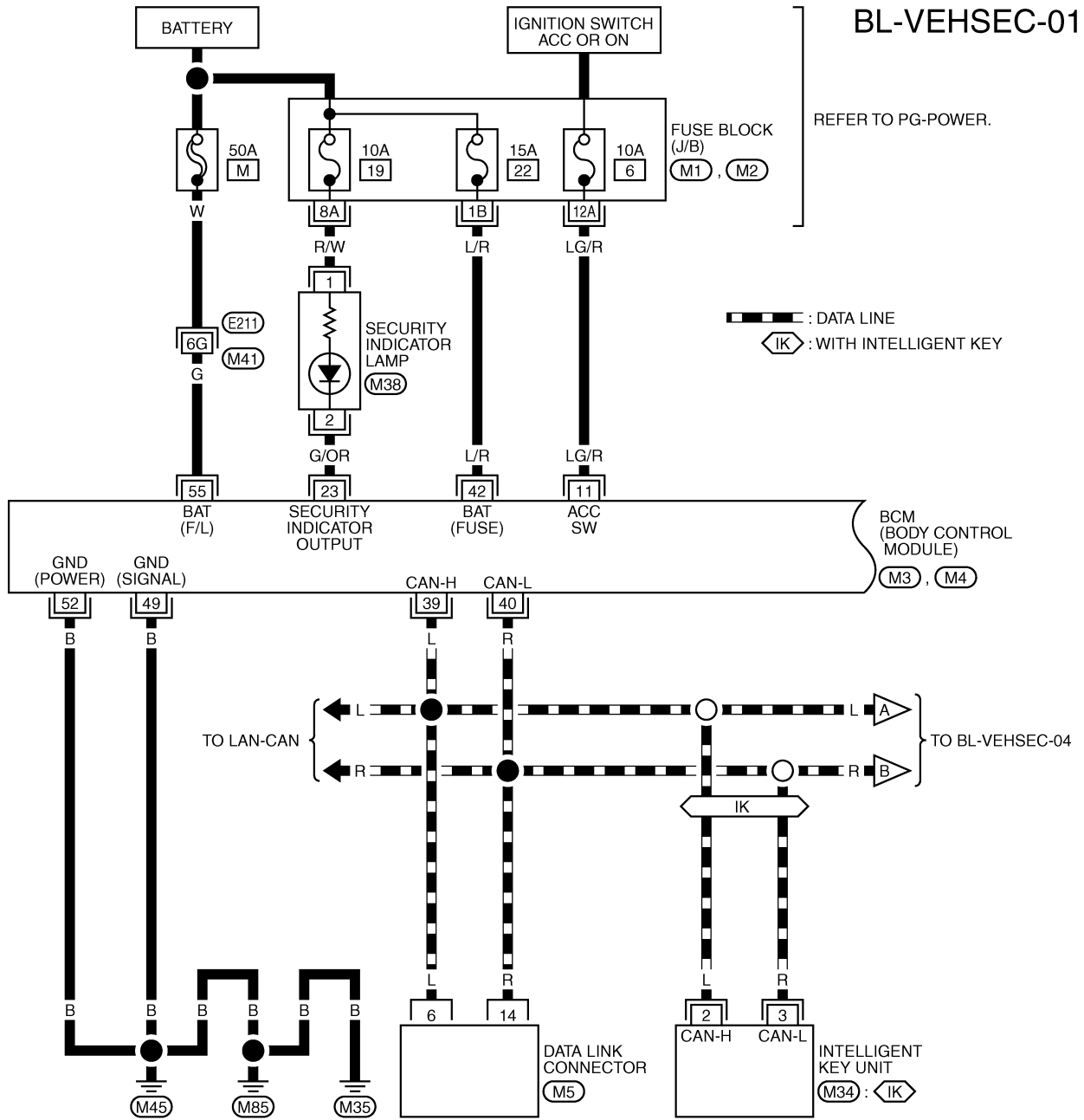
TIWM0333E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Wiring Diagram -VEHSEC-

AIS0040X

BL-VEHSEC-01



(M5)  
W

(M38)  
BR

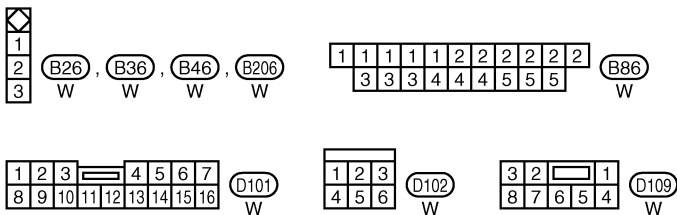
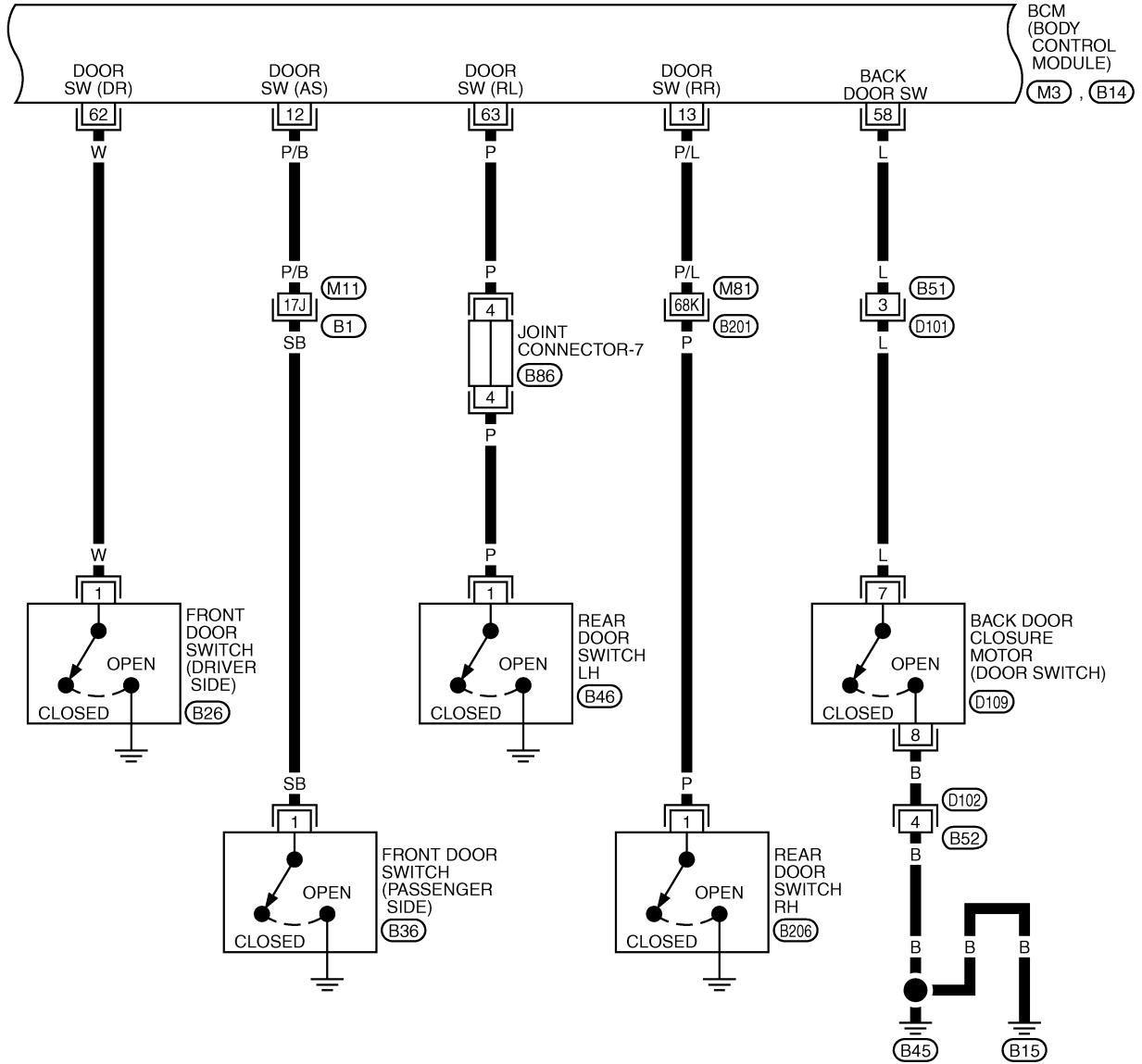
REFER TO THE FOLLOWING.

- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (M34) -ELECTRICAL UNITS

TIWM0334E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-02



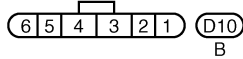
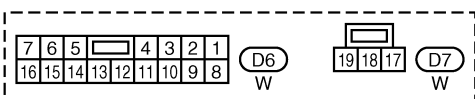
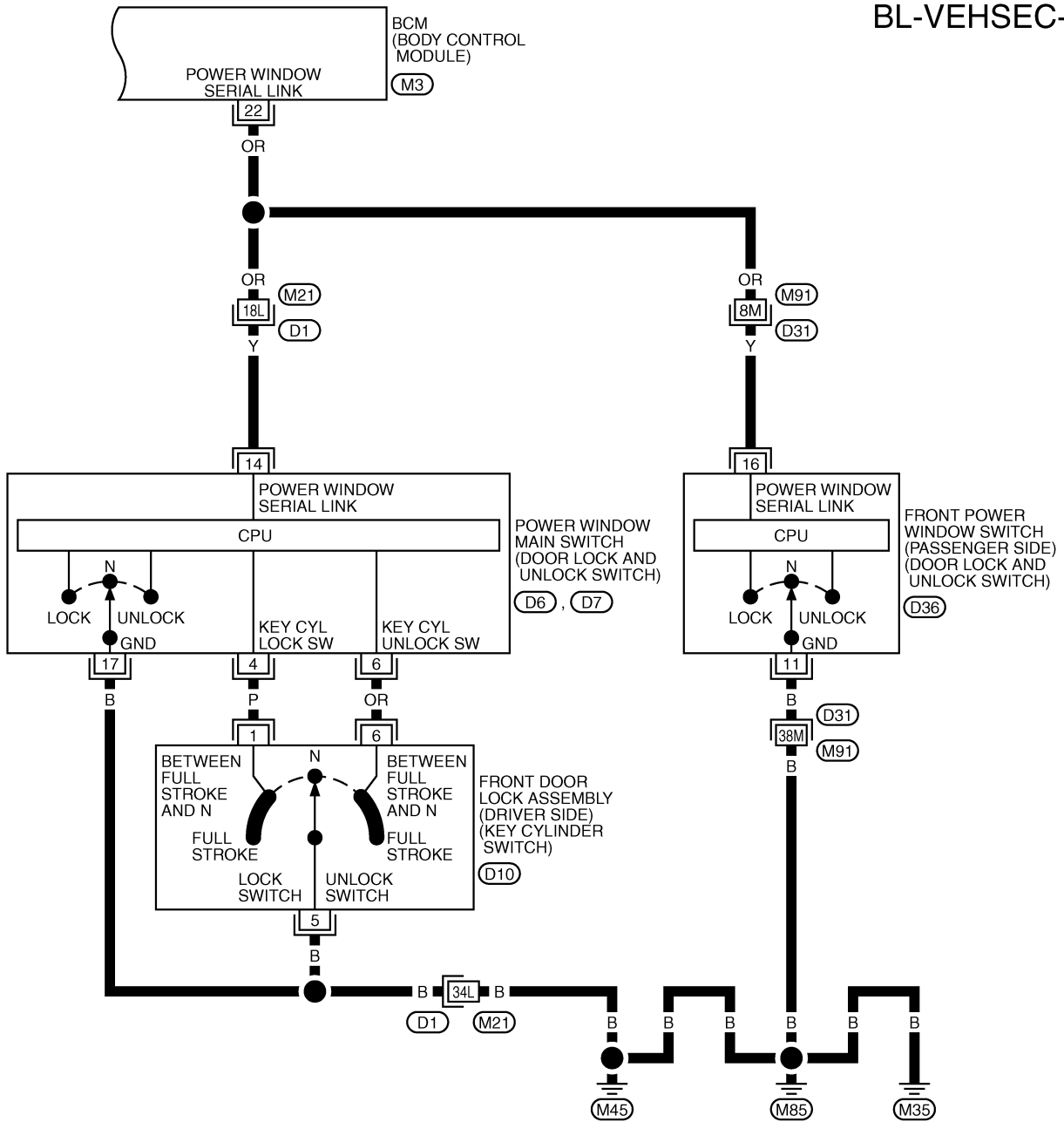
REFER TO THE FOLLOWING.  
 (B1), (B201) -SUPER MULTIPLE  
 JUNCTION (SMJ)  
 (M3), (B14) -ELECTRICAL  
 UNITS

TIWH0049E



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-03



REFER TO THE FOLLOWING.

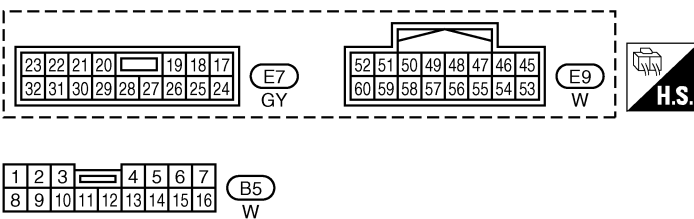
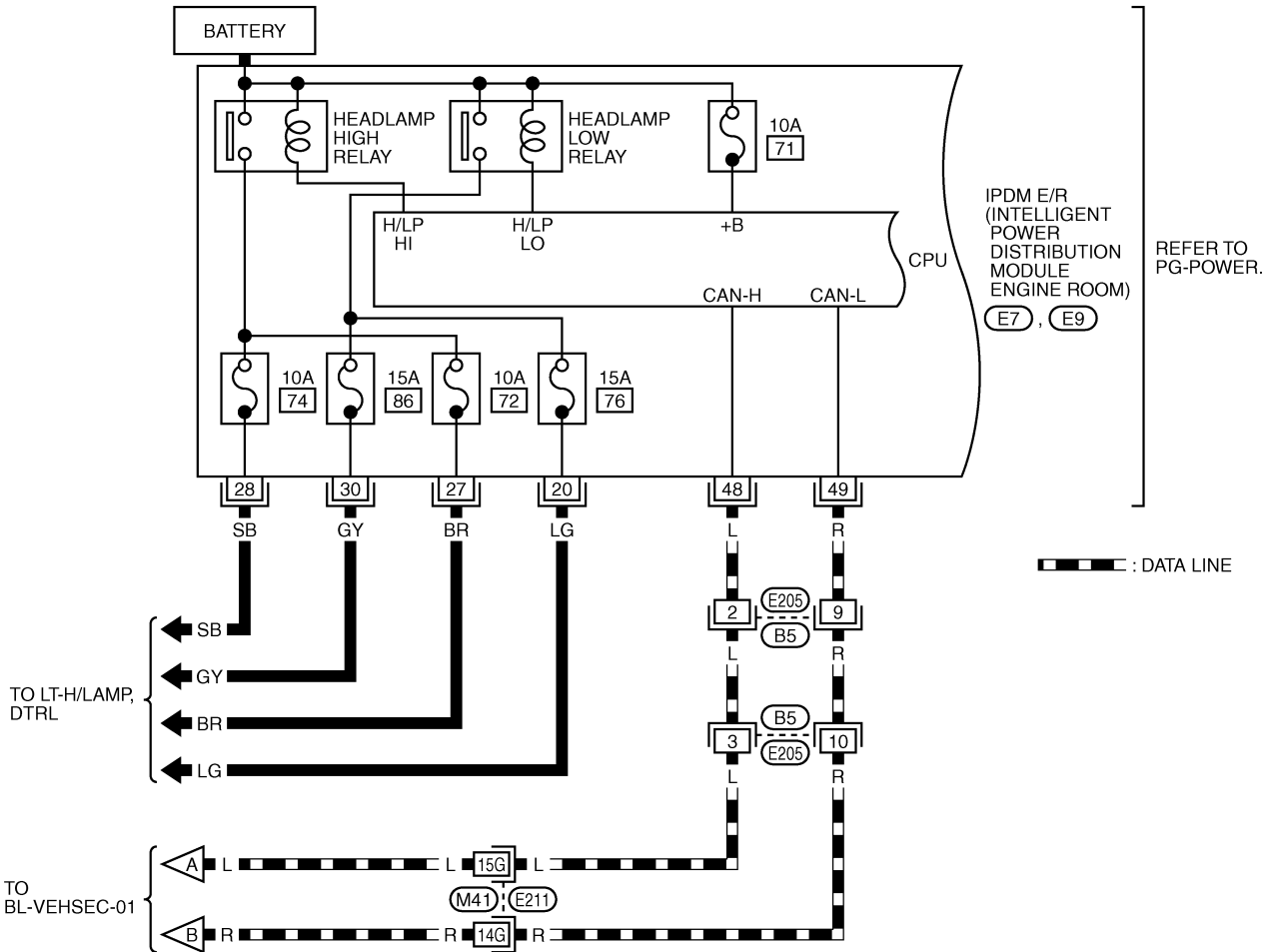
(D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)

(M3) -ELECTRICAL UNITS

TIWH0094E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-04



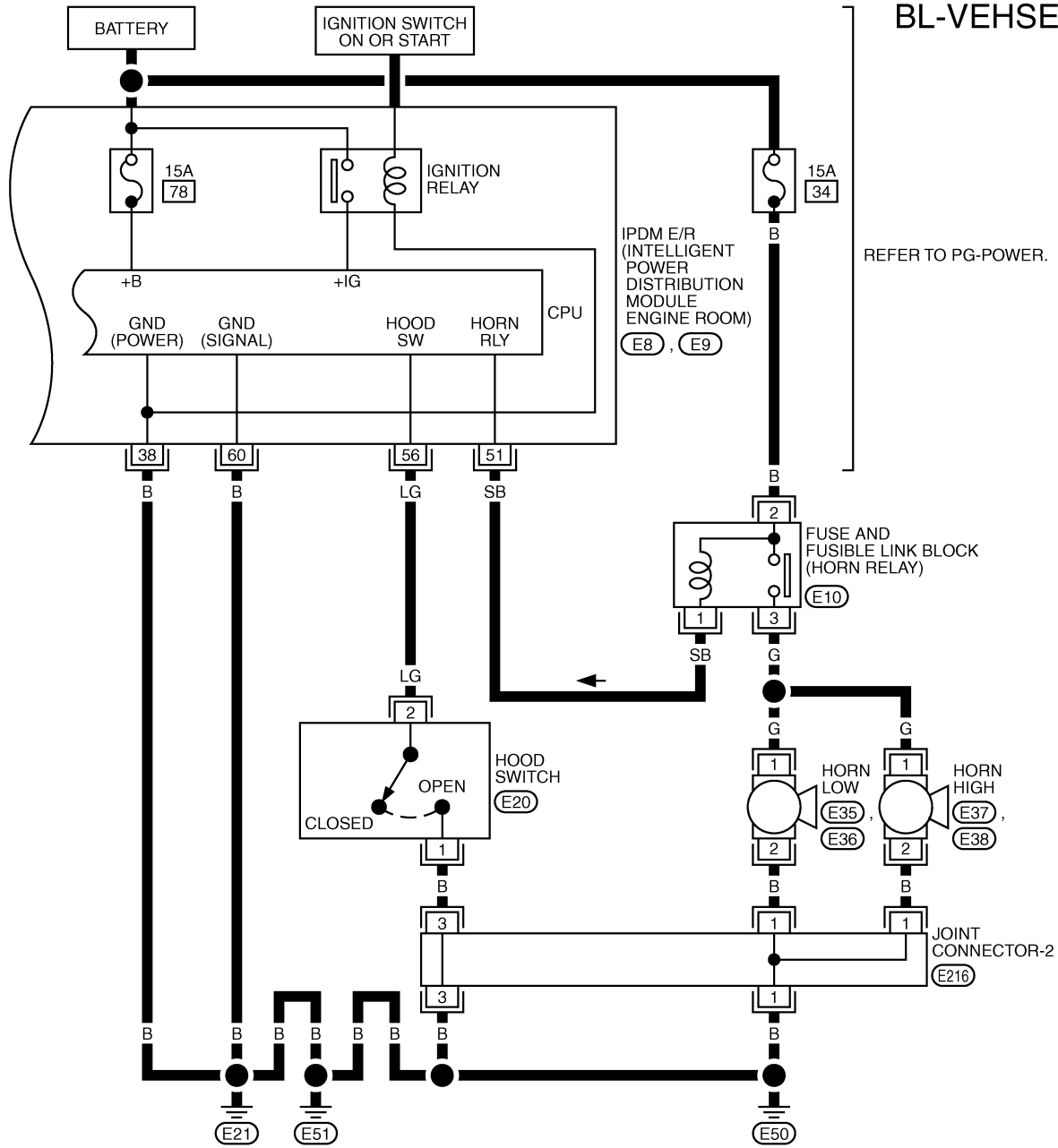
REFER TO THE FOLLOWING.

**(E211)** -SUPER MULTIPLE JUNCTION (SMJ)

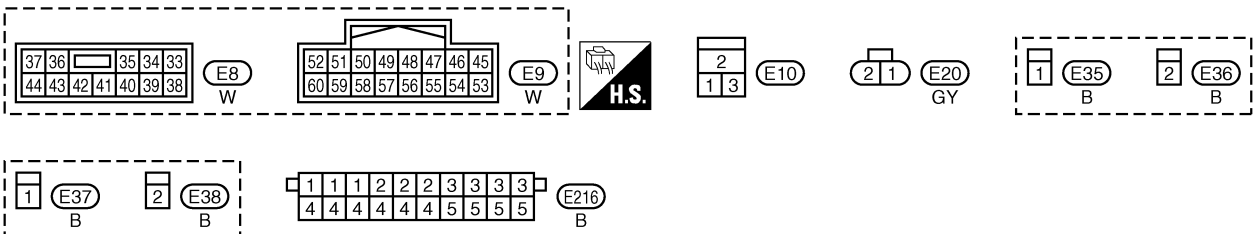
TIWM0337E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-05



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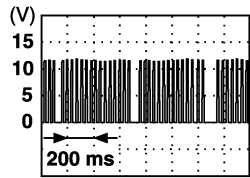


TIWM0338E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Terminals and Reference Value for BCM

AIS0040Y

Terminal	Wire color	Item	Condition	Voltage (V) (Approx.)
11	LG/R	ACC power supply (ACC or ON)	Ignition switch (ACC or ON position)	Battery voltage
12	P/B	Front door switch passenger side signal	ON (Open) → OFF (Closed)	0 → Battery voltage
13	P/L	Rear door (RH) switch signal	ON (Open) → OFF (Closed)	0 → Battery voltage
22	OR	Power window serial link	IGN SW ON or power window timer operating	 PIIA2344J
23	G/OR	Security indicator lamp	Goes off → Illuminates	Battery voltage → 0
39	L	CAN-H	—	—
40	R	CAN-L	—	—
42	L/R	Battery power supply	—	Battery voltage
49	B	Ground (signal)	—	0
52	B	Ground (power)	—	0
55	G	Battery power supply	—	Battery voltage
58	L	Back door switch signal	ON (Open) → OFF (Closed)	0 → 9
62	W	Front door switch driver side signal	ON (Open) → OFF (Closed)	0 → Battery voltage
63	P	Rear door (LH) switch signal	ON (Open) → OFF (Closed)	0 → Battery voltage

## Terminals and Reference Value for IPDM E/R

AIS0040Z

Terminal	Wire color	Item	Condition	Voltage (V) (Approx.)
20	LG	Headlamp low (RH)	Lighting switch 2ND position ON → OFF	Battery voltage → 0
27	BR	Headlamp high (RH)	Lighting switch HIGH or PASS position ON → OFF	Battery voltage → 0
28	SB	Headlamp high (LH)	Lighting switch HIGH or PASS position ON → OFF	Battery voltage → 0
30	GY	Headlamp low (LH)	Lighting switch 2ND position ON → OFF	Battery voltage → 0
38	B	Ground (power)	—	0
48	L	CAN-H	—	—
49	R	CAN-L	—	—
51	SB	Horn relay control signal	Panic alarm is operating	0
			Other than above	Battery voltage
56	LG	Hood switch signal	ON (Open) → OFF (closed)	0 → Battery voltage
60	B	Ground (signal)	—	0

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

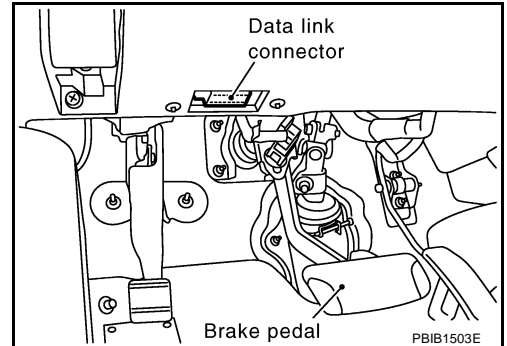
## CONSULT-II Inspection Procedure

AIS004P0

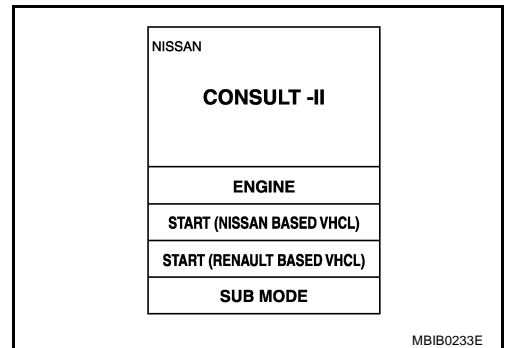
### CAUTION:

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

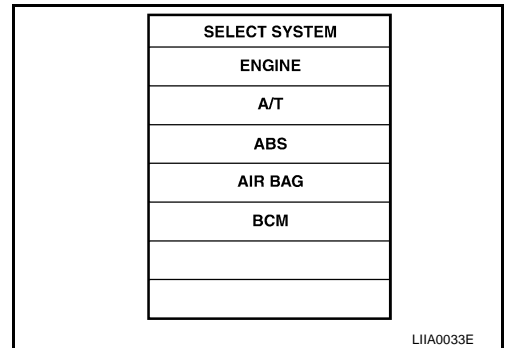
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



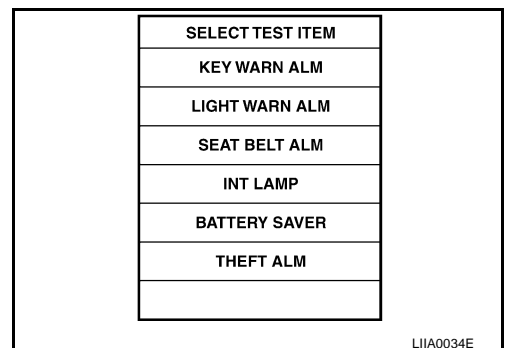
3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "BCM".  
If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



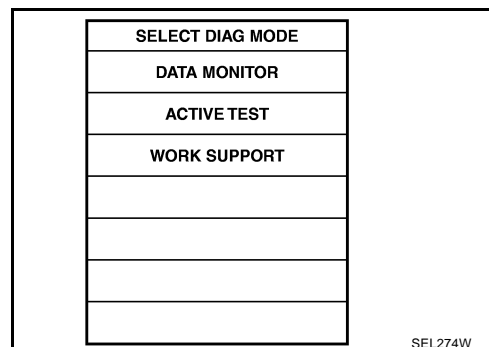
6. Touch "THEFT ALM".



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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

7. Select diagnosis mode.  
 “DATA MONITOR”, “ACTIVE TEST” AND “WORK SUPPORT”



## CONSULT-II APPLICATION ITEM

### Work Support

Test Item	Description
SECURITY ALARM SET	This mode is able to 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.

### Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
TRUNK OPNR SW	This is displayed even when it is not equipped.
TRUNK CYL SW	This is displayed even when it is not equipped.
TRUNK OPN MNTR	This is displayed even when it is not equipped.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from key fob.
KEYLESS TRUNK	Indicates [ON/OFF] condition of trunk opener signal from key fob.
HOOD SW	Indicates [ON/OFF] condition of hood switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.

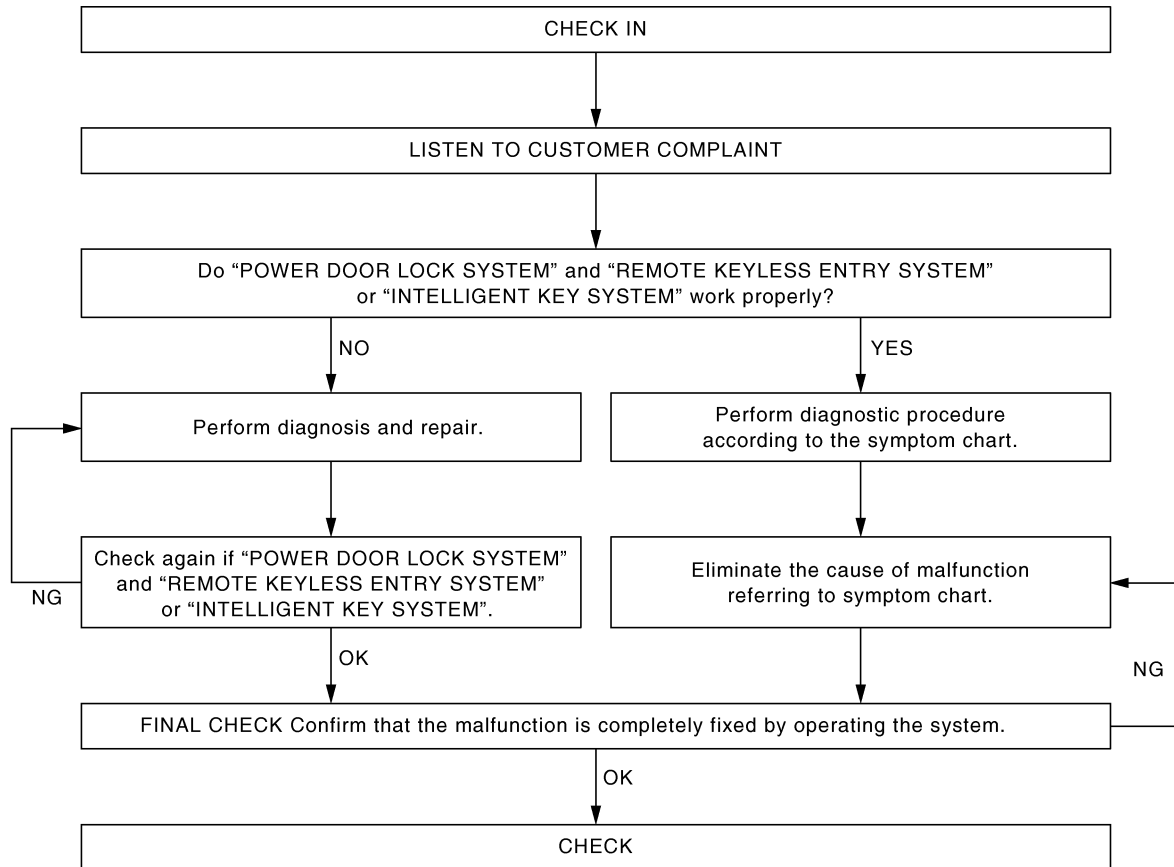
### Active Test

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.
ANTI THEFT 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.
HEADLAMP(HI)	This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Trouble Diagnosis WORK FLOW

AIS004P1



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PIIA6909E

- "POWER DOOR LOCK SYSTEM" Diagnosis; refer to [BL-37, "Work Flow"](#) .
- "REMOTE CONTROL SYSTEM" Diagnosis; refer to [BL-68, "Work Flow"](#) .
- "INTELLIGENT KEY SYSTEM" Diagnosis; refer to [BL-113, "WORK FLOW"](#) .

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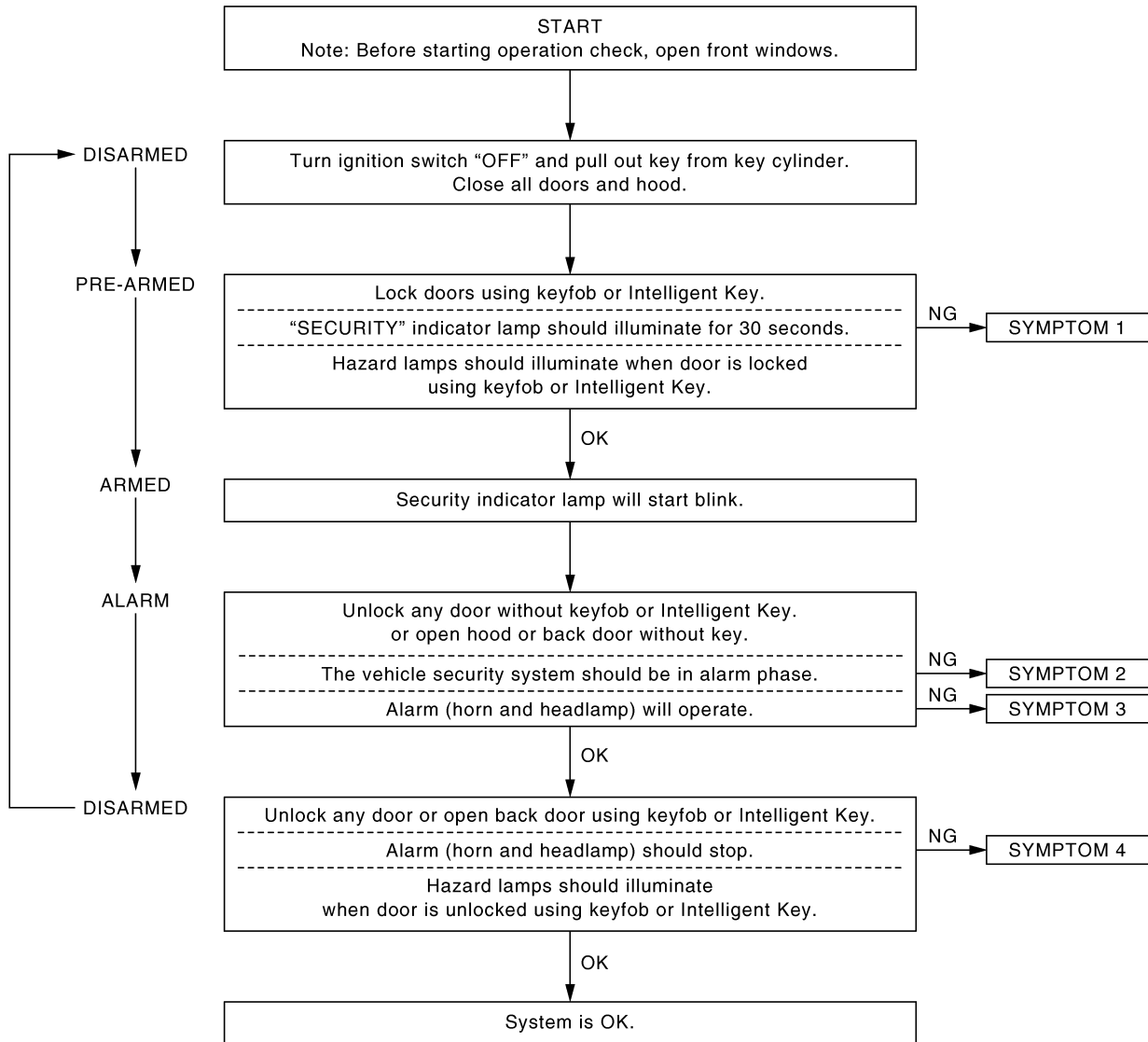
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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AIS004P2

## 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.



PIIA6910E

After performing preliminary check, go to symptom chart. Refer to [BL-197, "Trouble Diagnosis Symptom Chart"](#).



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Trouble Diagnosis Symptom Chart

AIS004P3

Procedure		Diagnostic procedure	Refer to page
Symptom			
1	Vehicle security system cannot be set by ....	Door switch	Diagnostic Procedure 1 (Check door, hood and back door switch) <a href="#">BL-198</a>
		Lock / unlock switch	Diagnostic Procedure 6 (Check door lock / unlock switch) <a href="#">BL-205</a>
		Door outside key	Diagnostic Procedure 3 (Check door key cylinder switch) <a href="#">BL-205</a>
		Key fob	Check remote keyless entry. <a href="#">BL-56</a>
		Intelligent Key	Check Intelligent Key. <a href="#">BL-84</a>
	—	If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>	
Security indicator does not turn "ON".		Diagnostic Procedure 2 (Check security indicator lamp) <a href="#">BL-204</a>	
		If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>	
2	*1 Vehicle security system does not alarm when ....	Any door is opened.	Diagnostic Procedure 1 (Check door, hood and back door switch) <a href="#">BL-198</a>
			If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>
3	Vehicle security alarm does not activate.	Horn alarm	Diagnostic Procedure 4 (Check vehicle security horn alarm) <a href="#">BL-205</a>
			Check horn function. <a href="#">BL-79</a>
			If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>
		Head lamp alarm	Diagnostic Procedure 5 (Check head lamp alarm) <a href="#">BL-205</a>
If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>			
4	Vehicle security system cannot be canceled by ....	Door outside key	Diagnostic Procedure 3 (Check door key cylinder switch) <a href="#">BL-205</a>
			If the above systems are "OK", check power window main switch. <a href="#">EI-35</a>
		Key fob	Check remote keyless entry function. <a href="#">BL-57</a>
			If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>
		Intelligent Key	Check Intelligent Key <a href="#">BL-86</a>
			If the above systems are "OK", replace BCM. <a href="#">BCS-15</a>

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

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AIS004P4

## Diagnostic Procedure 1 1 – 1 DOOR SWITCH CHECK

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, when perform the each trouble diagnosis. Refer to [BCS-14, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

### 1. CHECK DOOR SWITCH INPUT SIGNAL

#### Ⓟ With CONSULT-II

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

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

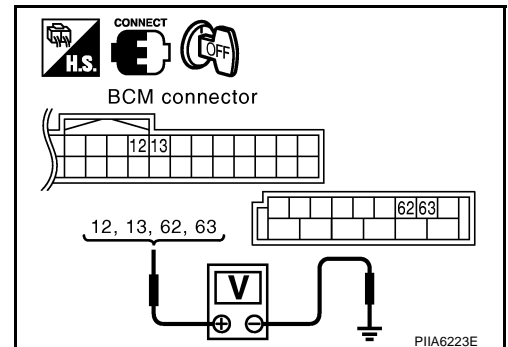
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF

PIIA6222E

#### ⓧ Without CONSULT-II

Check voltage between BCM connector M3, B14 terminals and ground.

Item	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
Front door switch driver side	62 (W)	Ground	OPEN	0
			CLOSE	Battery voltage
Front door switch passenger side	12 (P/B)		OPEN	0
			CLOSE	Battery voltage
Rear door switch LH	63 (P)		OPEN	0
			CLOSE	Battery voltage
Rear door switch RH	13 (P/L)	OPEN	0	
		CLOSE	Battery voltage	



#### OK or NG

- OK >> Door switch circuit is OK, and go to [BL-200, "1 – 2 HOOD SWITCH CHECK"](#).
- NG >> GO TO 2.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and door switches connector.
3. Check continuity between BCM connector B14 terminals 62, 63 and door switch connector B26, B46 terminal 1, and ground.

### BCM – Front door switch (driver side)

**62 (W) – 1 (W) : Continuity should exist.**

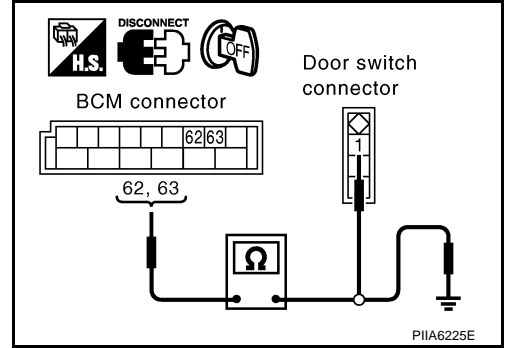
### BCM – Rear door switch LH

**63 (P) – 1 (P) : Continuity should exist.**

### BCM – Ground

**62 (W) – Ground : Continuity should not exist.**

**63 (P) – Ground : Continuity should not exist.**



4. Check continuity between BCM connector M3 terminals 12, 13 and door switch connector B36, B206 terminal 1, and ground.

### BCM – Front door switch (passenger side)

**12 (P/B) – 1 (SB) : Continuity should exist.**

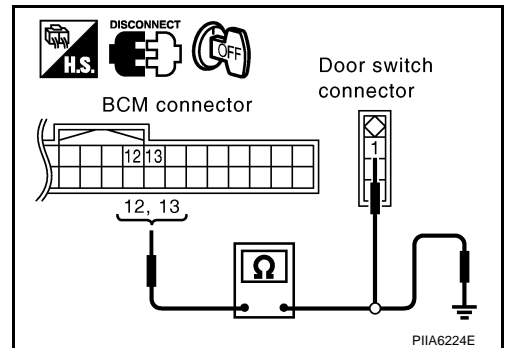
### BCM – Rear door switch RH

**13 (P/L) – 1 (P) : Continuity should exist.**

### BCM – Ground

**12 (P/B) – Ground : Continuity should not exist.**

**13 (P/L) – Ground : Continuity should not exist.**



### OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.

## 3. CHECK DOOR SWITCH

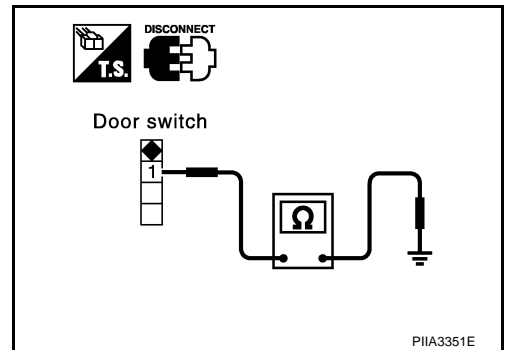
Check continuity between each door switch terminal 1 and ground part of door switch.

Terminal	Condition	Continuity
1	Pushed	No
	Released	Yes

### OK or NG

OK >> GO TO 4.

NG >> Replace malfunctioning door switch.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

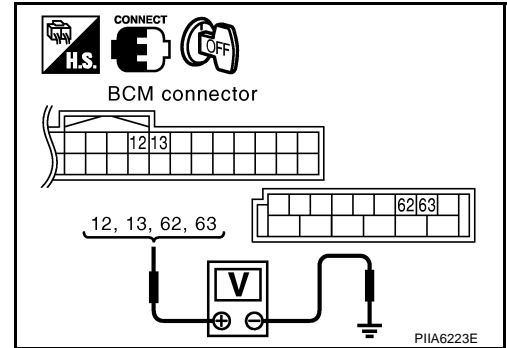
## 4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M3, B14 terminals 12, 13, 62, 63 and ground.

**12 (P/B) – Ground : Battery voltage**  
**13 (P/L) – Ground : Battery voltage**  
**62 (W) – Ground : Battery voltage**  
**63 (P) – Ground : Battery voltage**

OK or NG

- OK >> Check condition of harness and connector.  
 NG >> Replace BCM.



## 1 – 2 HOOD SWITCH CHECK

### 1. CHECK HOOD SWITCH

Check hood switch and hood fitting condition.

OK or NG

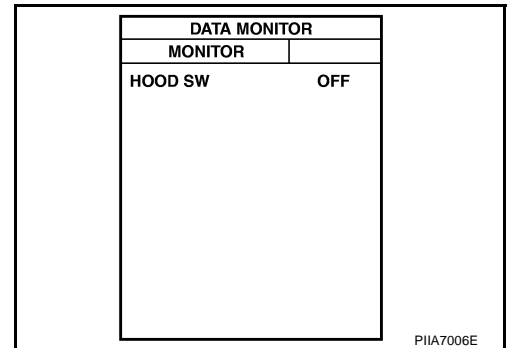
- OK >> GO TO 2.  
 NG >> Adjust installation of hood switch.

### 2. CHECK HOOD SWITCH INPUT SIGNAL

**With CONSULT-II**

Check ("HOOD SW") in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition	
HOOD SW	OPEN	: ON
	CLOSE	: OFF



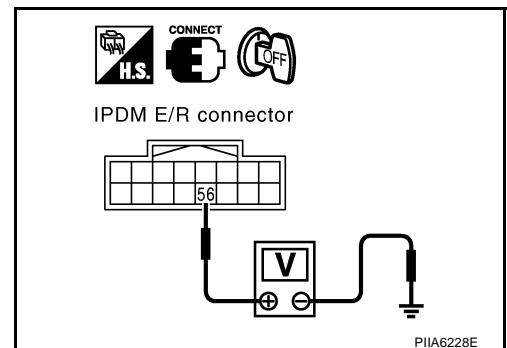
**Without CONSULT-II**

Check voltage between IPDM E/R connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
E9	56 (LG)	Ground	OPEN	0
			CLOSE	Battery voltage

OK or NG

- OK >> Hood switch is OK, and go to [BL-202, "1 – 3 BACK DOOR SWITCH CHECK"](#) .  
 NG >> GO TO 3.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

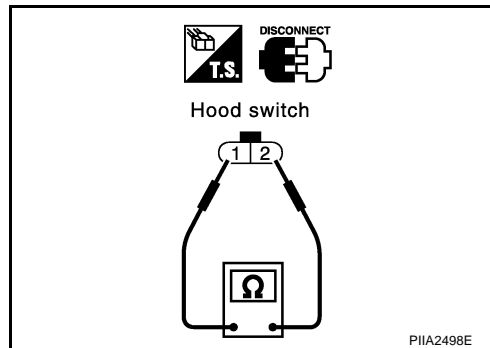
## 3. CHECK HOOD SWITCH

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

Terminals		Condition	Continuity
1	2	Pressed	No
		Released	Yes

### OK or NG

- OK >> GO TO 4.  
 NG >> Replace hood switch.



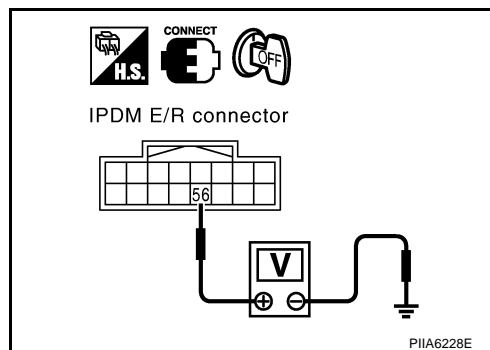
## 4. CHECK IPDM E/R OUTPUT SIGNAL

Check voltage between IPDM E/R connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
E9	56 (LG)	Ground	OPEN	0
			CLOSE	Battery voltage

### OK or NG

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



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

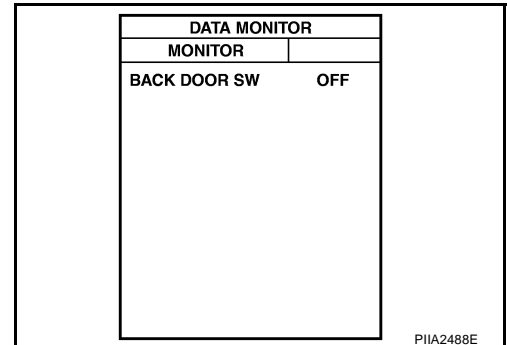
## 1 – 3 BACK DOOR SWITCH CHECK

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

#### Ⓟ With CONSULT-II

Check ("BACK DOOR SW") in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition
BACK DOOR SW	OPEN : ON
	CLOSE : OFF



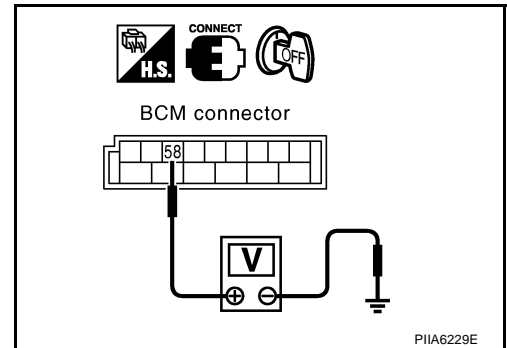
#### ⊗ Without CONSULT-II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B14	58 (L)	Ground	OPEN	0
			CLOSE	9

OK or NG

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



## 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and back door closure motor connector.
3. Check continuity between BCM connector B14 terminal 58 and back door closure motor connector D109 terminal 7.

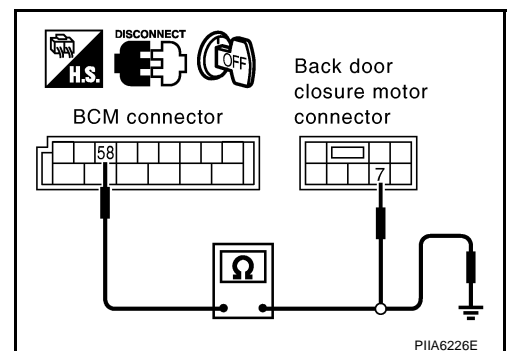
**58 (L) – 7 (L) : Continuity should exist.**

4. Check continuity between BCM connector B14 terminal 58 and ground.

**58 (L) – Ground : Continuity should not exist.**

OK or NG

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



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

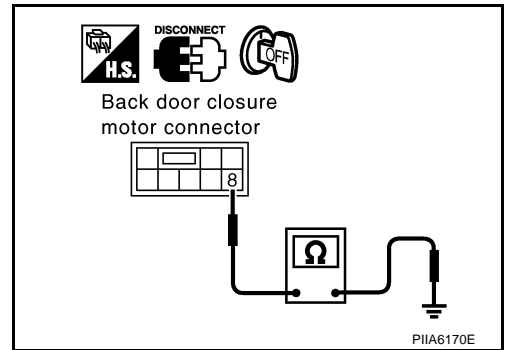
## 3. CHECK GROUND CIRCUIT

Check continuity between back door closure motor connector D109 terminal 8 and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

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



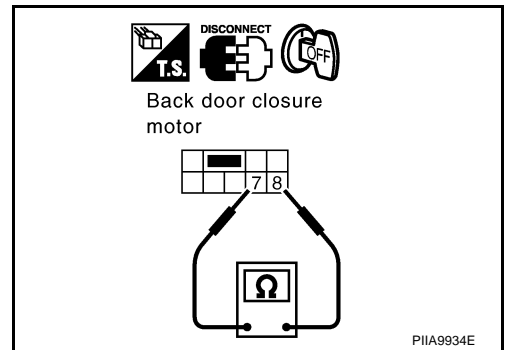
## 4. CHECK BACK DOOR SWITCH

Check continuity between back door closure motor D109 terminals 7 and 8.

Terminals		Back door condition	Continuity
7	8	Open	Yes
		Close	No

OK or NG

- OK >> GO TO 5.
- NG >> Replace back door closure motor.



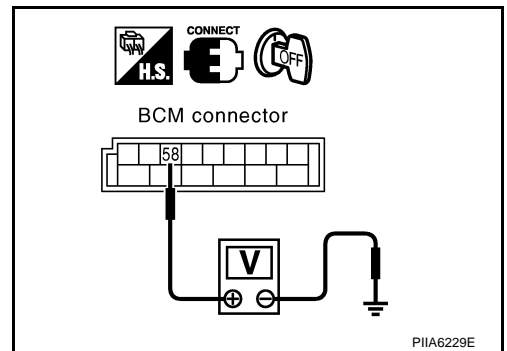
## 5. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector and ground.

**58 (L) – Ground : Approx. 9V**

OK or NG

- OK >> Check condition of harness and connector.
- NG >> Replace BCM.



A  
B  
C  
D  
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BL  
J  
K  
L  
M

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AI5004P5

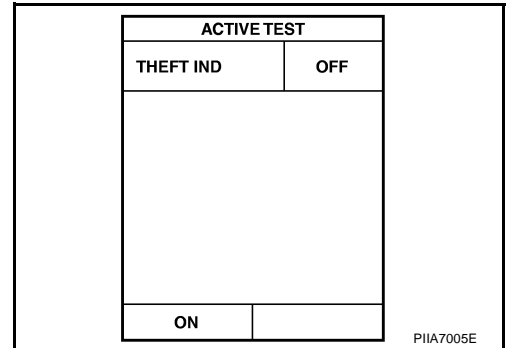
## Diagnostic Procedure 2 SECURITY INDICATOR LAMP CHECK

### 1. SECURITY INDICATOR LAMP ACTIVE TEST

#### ④ With CONSULT-II

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

**Perform operation shown on display indicator lamp should illuminate.**



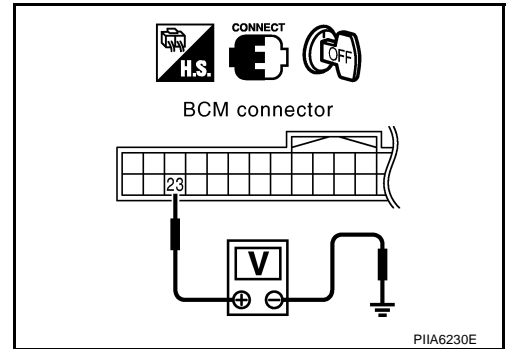
#### ⊗ Without CONSULT-II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M3	23 (G/OR)	Ground	Illuminates	0
			Goes off	Battery voltage

OK or NG

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



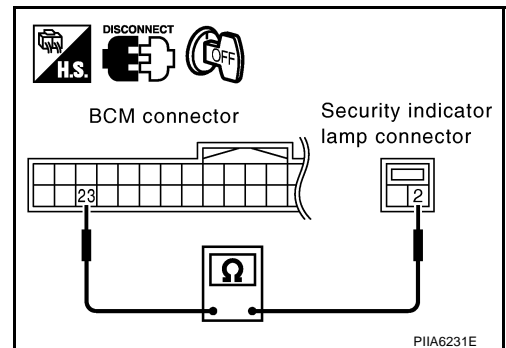
### 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.
3. Check continuity between BCM connector M3 terminal 23 and security indicator lamp connector M38 terminal 2.

**23 (G/OR) – 2 (G/OR) : Continuity should exist.**

OK or NG

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





# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Diagnostic Procedure 3 FRONT DOOR KEY CYLINDER SWITCH CHECK

AIS004P6

A

### 1. CHECK KEY CYLINDER SWITCH OPERATION

Check door key cylinder switch using key.

B

Do doors lock / unlock when using the key?

YES >> Front door key cylinder switch operation is OK.

NO >> Check door key cylinder switch circuit. Refer to [GW-69, "Front Door Key Cylinder Switch Check"](#).

C

## Diagnostic Procedure 4 VEHICLE SECURITY HORN ALARM CHECK

AIS004P7

D

### 1. CHECK HORN OPERATION

Check if horn sounds with horn switch.

E

Does horn operate?

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

NO >> Check horn circuit. Refer to [WW-56, "HORN"](#).

F

## Diagnostic Procedure 5 VEHICLE SECURITY HEADLAMP ALARM CHECK

AIS004P8

G

### 1. CHECK HEADLAMP OPERATION

Check if headlamp operates by lighting switch.

H

Does headlamp come on when turning switch "ON"?

YES >> Headlamp alarm circuit is OK.

NO >> Check headlamp system. Refer to [LT-7, "HEADLAMP - XENON TYPE -"](#) or [LT-38, "DAYTIME LIGHT SYSTEM"](#).

BL

## Diagnostic Procedure 6 DOOR LOCK AND UNLOCK SWITCH CHECK

AIS004P9

J

### 1. CHECK DOOR LOCK AND UNLOCK SWITCH INPUT SIGNAL

Check if power door lock operated by door lock and unlock switch.

K

Do doors lock / unlock when using each door lock and unlock switches?

YES >> Door lock and unlock switch is OK.

NO >> Check door lock and unlock switch. Refer to [BL-48, "Check Door Lock and Unlock Switch"](#).

L

M

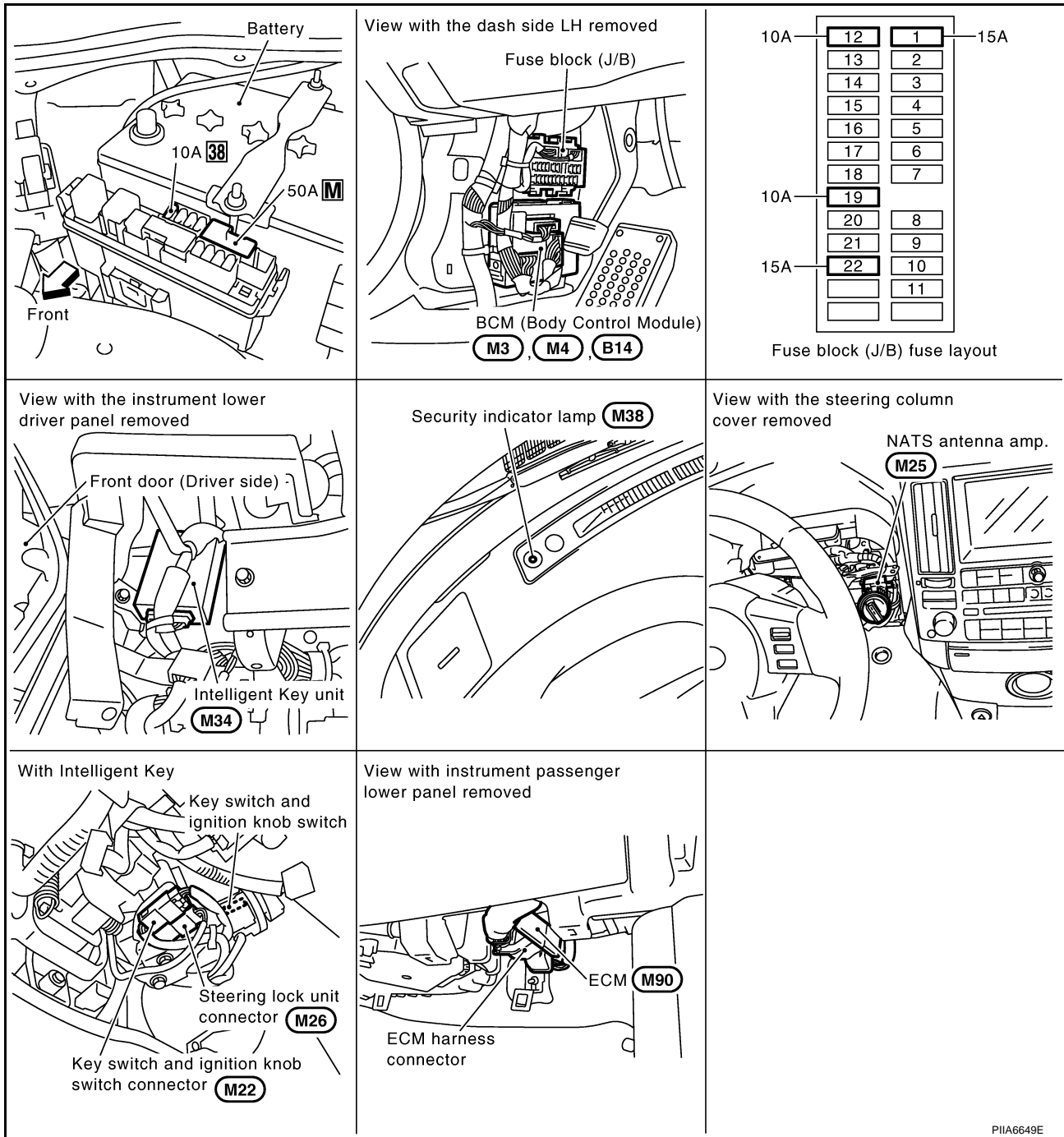
# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

PFP:28591

### Component Parts and Harness Connector Location

AIS004PA



PIIA6649E

**NOTE:**

If customer reports a “NO START” condition, request ALL ignition key (without intelligent key system) or mechanical key (with intelligent key system) to be brought to the dealer to check for a NATS malfunction.

**System Description**  
**DESCRIPTION**

AIS004PB

IVIS (Infiniti Vehicle Immobilizer System – NATS) has the following immobilizer functions:

- Engine immobilizer shows high anti-theft performance to prevent engine start by other than the owner (registered key: ignition key, mechanical key and Intelligent Key).
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

- In the vehicle without Intelligent Key system, security indicator always flashes with other than ignition switch ON or START position. A
- In the vehicle with Intelligent Key system, security indicator always flashes with mechanical key removed condition (key switch OFF) and ignition knob released condition on LOCK position (ignition knob switch OFF). B
- Therefore, IVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- If system detects malfunction, it turns on security indicator in ignition switch ON position.
- If the owner requires, mechanical key ID can be registered for up to 5 keys. C
- During trouble diagnosis or when the following parts have been replaced, and if ignition key or mechanical key is added, registration\* is required. D
  - \*: All keys kept by the owner of the vehicle should be registered with ignition key or mechanical key.
  - ECM
  - BCM
  - Ignition key (models without Intelligent Key system) E
  - Mechanical key (models with Intelligent Key system)
- IVIS (NATS) trouble diagnoses, system initialization and additional registration of other IVIS (NATS) ignition key or mechanical key IDs must be carried out using CONSULT-II hardware and CONSULT-II IVIS (NATS) software. When IVIS (NATS) initialization has been completed, the ID of the inserted ignition key or mechanical key or mechanical key IDs can be carried out. F

Regarding the procedures of IVIS (NATS) initialization and ignition key or mechanical key ID registration, refer to CONSULT-II operation manual, NATS-IVIS/NVIS. G

## SECURITY INDICATOR

- Warns that the vehicle has IVIS (NATS). H
- In the vehicle without Intelligent Key system, security indicator always flashes with other than ignition switch ON or START position. In the vehicle with Intelligent Key system, security indicator always flashes with mechanical key removed condition (key switch OFF) and ignition knob released condition on LOCK position (ignition knob switch OFF). BL

### NOTE:

Because security indicator is highly efficient, the battery is barely affected. J

## Condition of Security Indicator

### WITHOUT INTELLIGENT KEY SYSTEM

Security indicator condition	Ignition key	Operation or condition of ignition key			
		Ignition switch: ON position	Ignition switch: ACC position	Ignition switch: OFF position (Key is inserted.)	Ignition switch: OFF position (Remove key.)
Register key		OFF	Flashing	Flashing	Flashing
Ignition key not registered		ON	Flashing	Flashing	Flashing

K  
L  
M

### WITH INTELLIGENT KEY SYSTEM

- In ignition knob operation with Intelligent Key, it always turns on with pushing ignition knob, and always flashes with ignition knob released (ignition knob switch OFF) condition on ignition knob "LOCK" position.
- In ignition knob operation with mechanical key, it turns off on the condition that mechanical key is inserted in key cylinder, and always flashes with ignition knob released (ignition knob switch OFF) condition on mechanical key removed condition.

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS004PC

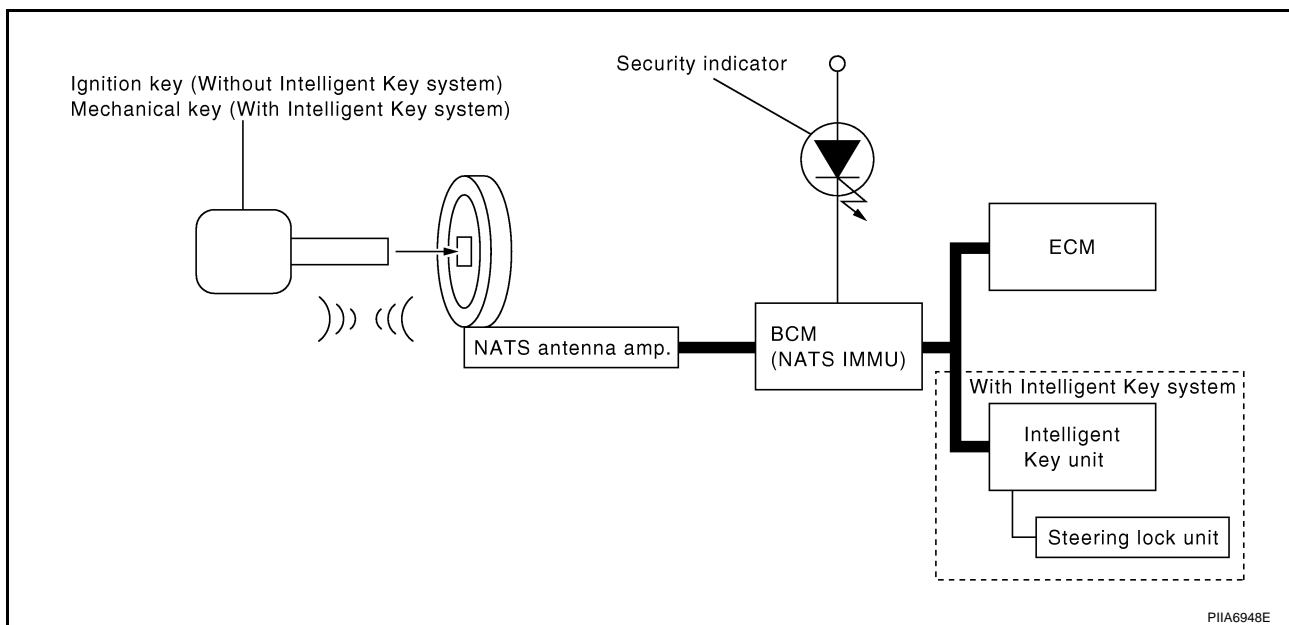
## System Composition

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

- Ignition key (models without Intelligent Key system)
- Mechanical key (models with Intelligent Key system)
- NATS antenna amp.
- Steering lock unit. (models with Intelligent Key system)
- BCM
- Intelligent Key unit (models with Intelligent Key system)
- Engine control module (ECM)
- Security indicator

### NOTE:

The communication between ECM, BCM and/or Intelligent Key unit uses the CAN communication system.



## ECM Re-communicating Function

AIS004PD

Performing following procedure can automatically perform re-communication of ECM and BCM or Intelligent Key unit, but only when the ECM has been replaced with a new one (\*1).

\*1: New one means a virgin ECM which has never been energized on-board.

(In this step, initialization procedure by CONSULT-II is not necessary)

### NOTE:

- When registering new Key IDs or replacing the ECM other than brand new, refer to CONSULT-II Operation Manual NATS-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 (\*2), turn ignition switch to "ON".

\*2: 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.

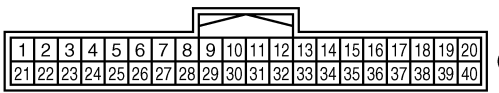
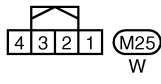
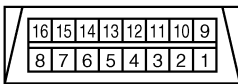
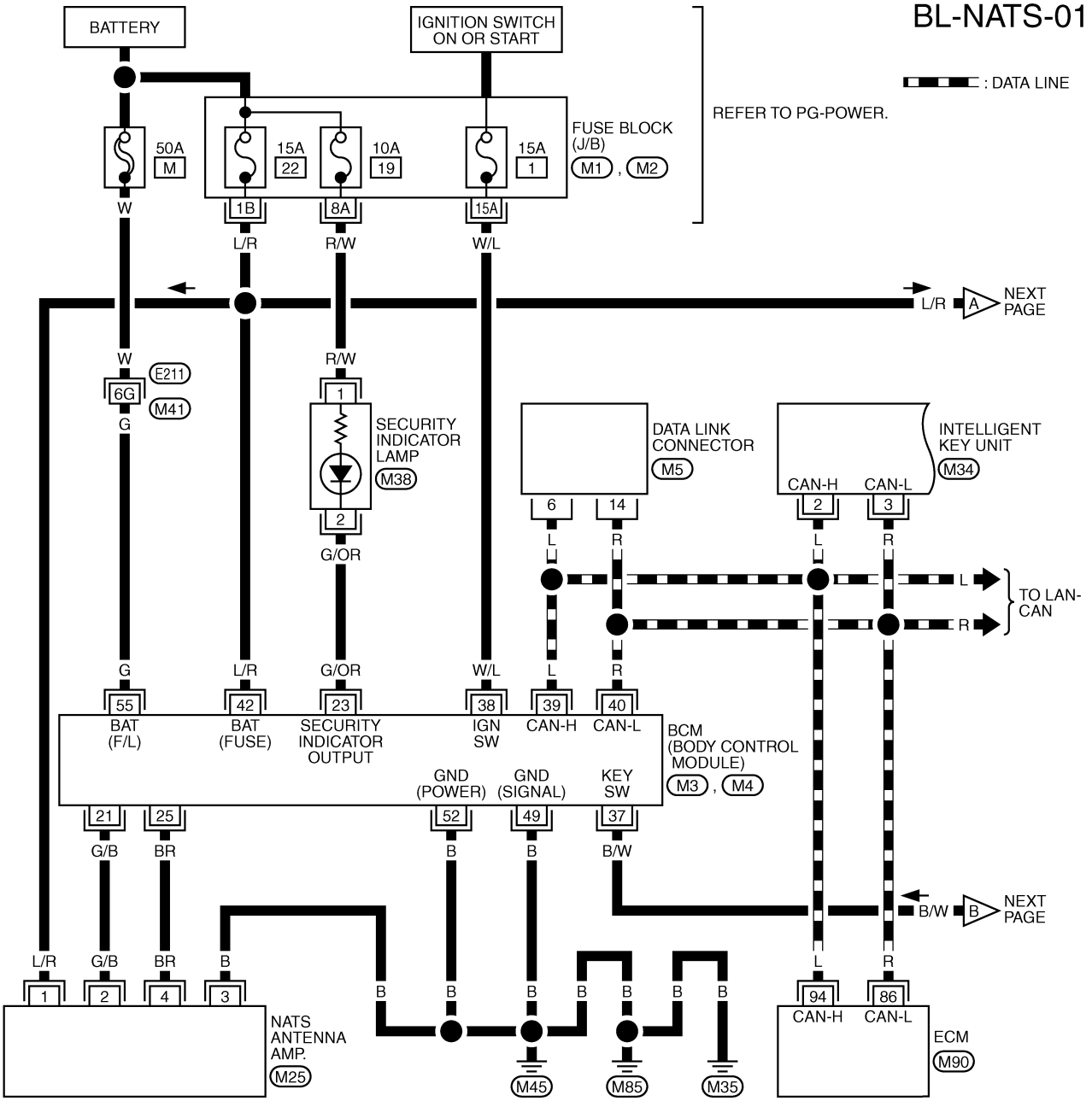
If engine cannot be started, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS and initialize control unit.

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS004PE

## Wiring Diagram – NATS – MODELS WITH INTELLIGENT KEY SYSTEM

BL-NATS-01



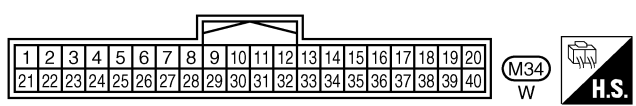
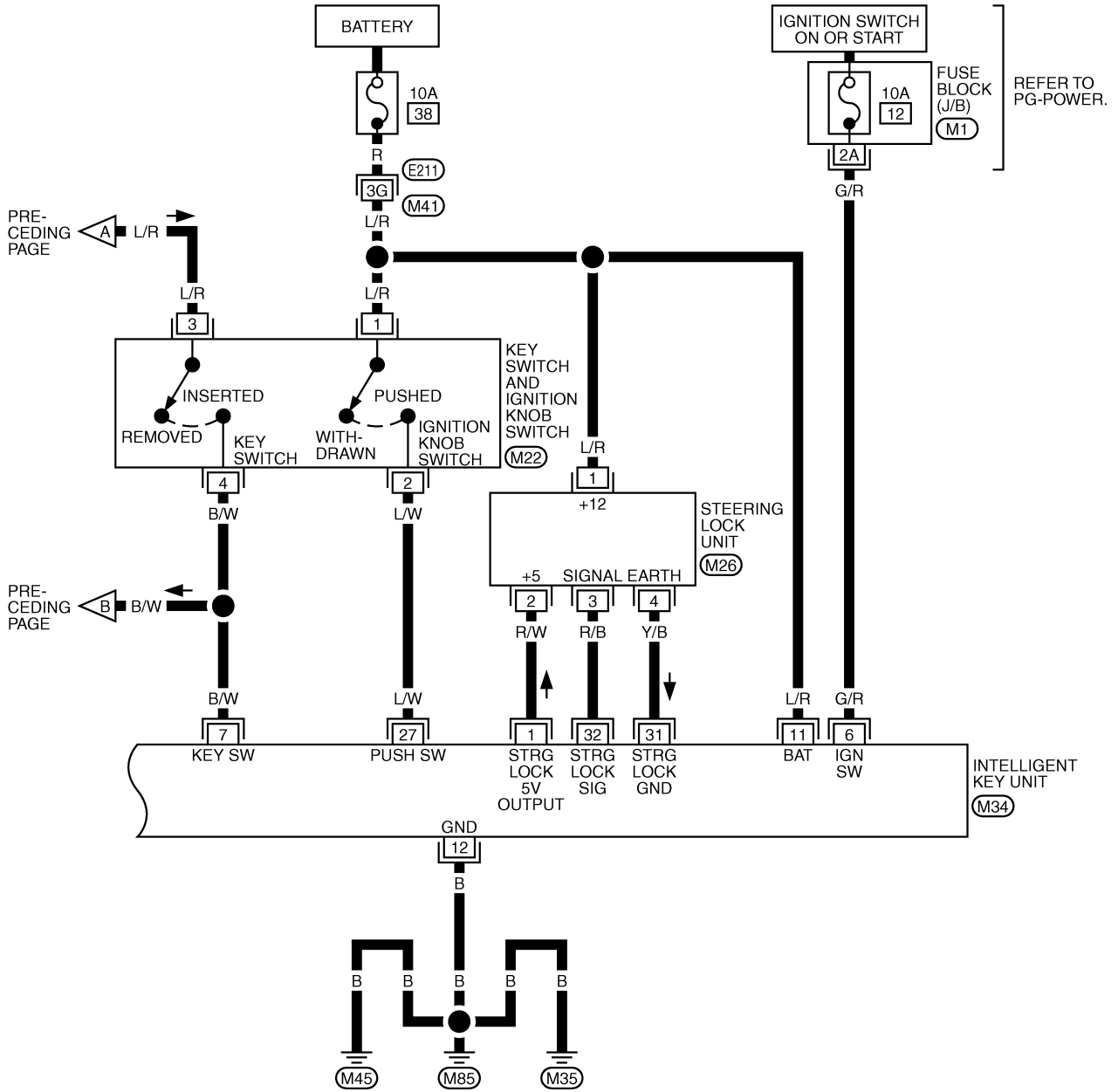
REFER TO THE FOLLOWING.

- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (M90) -ELECTRICAL UNITS

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

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

BL-NATS-02



REFER TO THE FOLLOWING.  
 (E211) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1) -FUSE BLOCK-JUNCTION BOX (J/B)

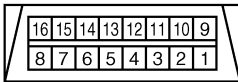
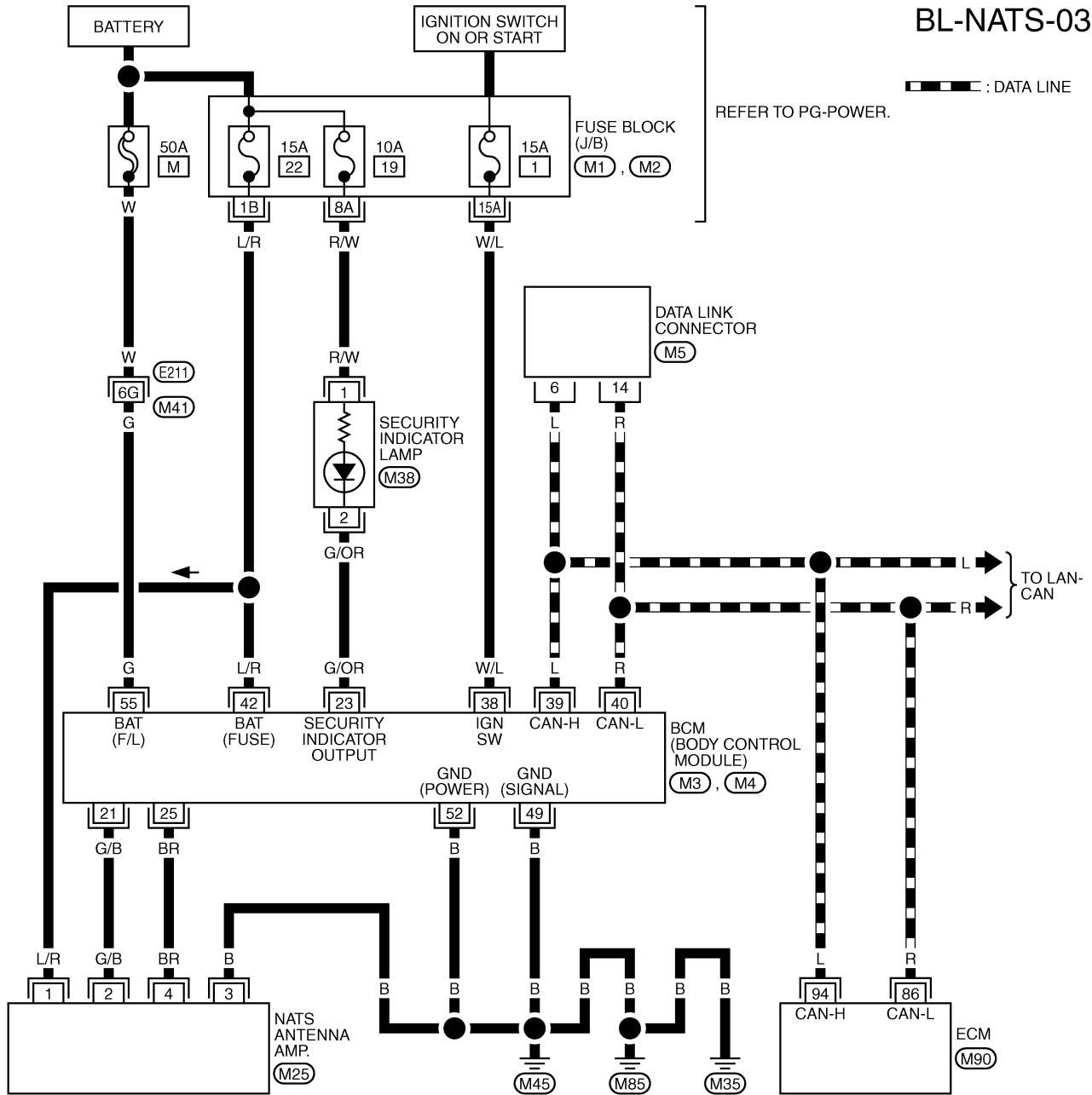
TIWM0423E

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

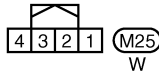
## MODELS WITHOUT INTELLIGENT KEY SYSTEM

BL-NATS-03

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



(M5)  
W



(M25)  
W



(M38)  
BR

REFER TO THE FOLLOWING.

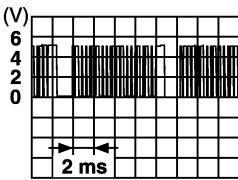
- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (M90) -ELECTRICAL UNITS

T1WM0339E

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## Terminals and Reference Value for Steering Lock Unit/with Intelligent Key System

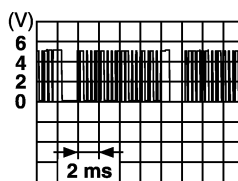
AIS004PF

Terminal No.	Wire color	Signal Designation	Measuring condition		Voltage (V) Approx.
			Ignition knob position	Operation or conditions	
1	L/R	Battery power supply	LOCK	—	Battery voltage
2	R/W	Steering lock unit power supply	LOCK	—	5
3	R/B	Steering lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	
				Other than the above	
4	Y/B	Steering lock unit ground	—	—	0

SIIA1911J

## Terminals and Reference Value for Intelligent Key Unit/with Intelligent Key System

AIS004PG

Terminal No.	Wire color	Signal designation	Measuring condition		Voltage (V) Approx.
			Ignition knob position	Operation or conditions	
1	R/W	Steering lock unit power supply	LOCK	—	5
2	L	CAN communication H	—	—	—
3	R	CAN communication L	—	—	—
6	G/R	Ignition power supply	ON	—	Battery voltage
7	B/W	Key switch	LOCK	Insert mechanical key into ignition key cylinder.	Battery voltage
				Remove mechanical key from ignition key cylinder.	0
11	L/R	Battery power supply	—	—	Battery voltage
12	B	GND	—	—	0
27	L/W	Ignition knob switch	—	Press ignition knob.	Battery voltage
				Return ignition knob to LOCK position.	0
31	Y/B	Steering lock unit ground	—	—	0
32	R/B	Steering lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	
				Other than the above	

SIIA1911J



# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## Terminals and Reference Value for BCM

AIS004PH

Terminal No.	Wire color	Signal designation	Measuring condition		Voltage (V) Approx.
			Ignition knob position	Operation or conditions	
21	G/B	NATS antenna apm.	—	Ignition knob OFF → ON position	Tester pointer should move just after turning ignition knob "ON"
23	G/OR	Security indicator lamp	LOCK	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0
25	BR	NATS antenna amp.	—	Ignition knob OFF → ON position	Tester pointer should move just after turning ignition knob "ON"
37*	B/W	Key switch	—	Insert mechanical key into ignition key cylinder	Battery voltage
				Remove mechanical key from ignition key cylinder	0
38	W/L	Ignition power supply	ON	Ignition knob ON or START position	Battery voltage
39	L	CAN-H	—	—	—
40	R	CAN-L	—	—	—
42	L/R	Battery power supply	—	—	Battery voltage
49	B	GND	—	—	0
52	B	GND	—	—	0
55	G	Battery power supply	—	—	Battery voltage

\*: With Intelligent Key system

A  
B  
C  
D  
E  
F  
G  
H

BL

J  
K  
L  
M

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

AI5004PI

## CONSULT-II CONSULT-II INSPECTION PROCEDURE

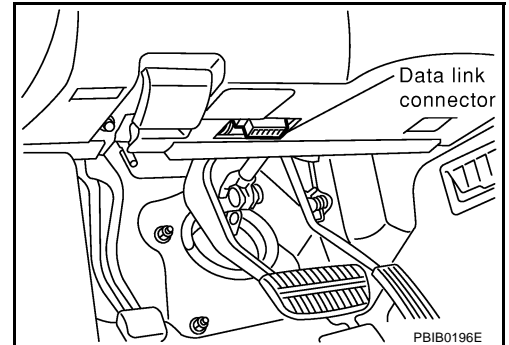
### CAUTION:

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

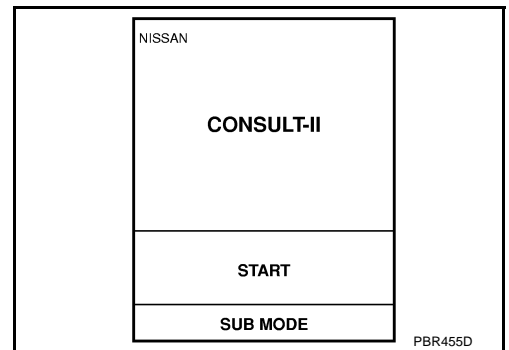
1. Turn ignition switch OFF.
2. Insert IVIS (NATS) program card into CONSULT-II.

**Program card : NATS (AEN02C)**

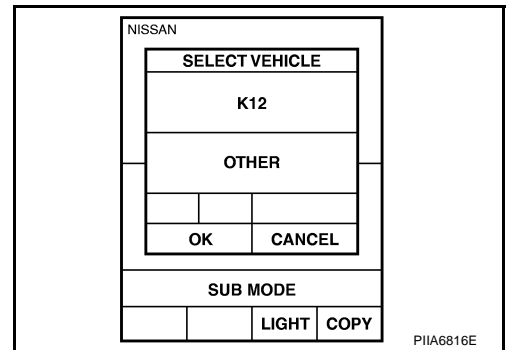
3. Connect CONSULT-II and "CONSULT-II CONVERTER" to data link connector.



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

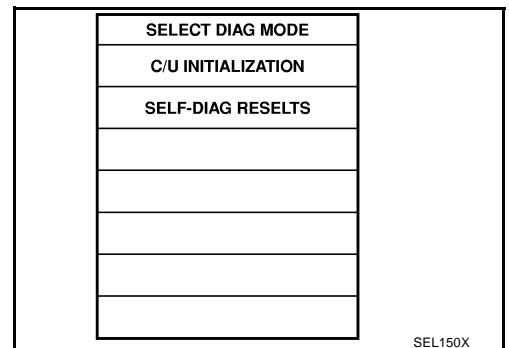


6. Touch "OTHER".



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

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





# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

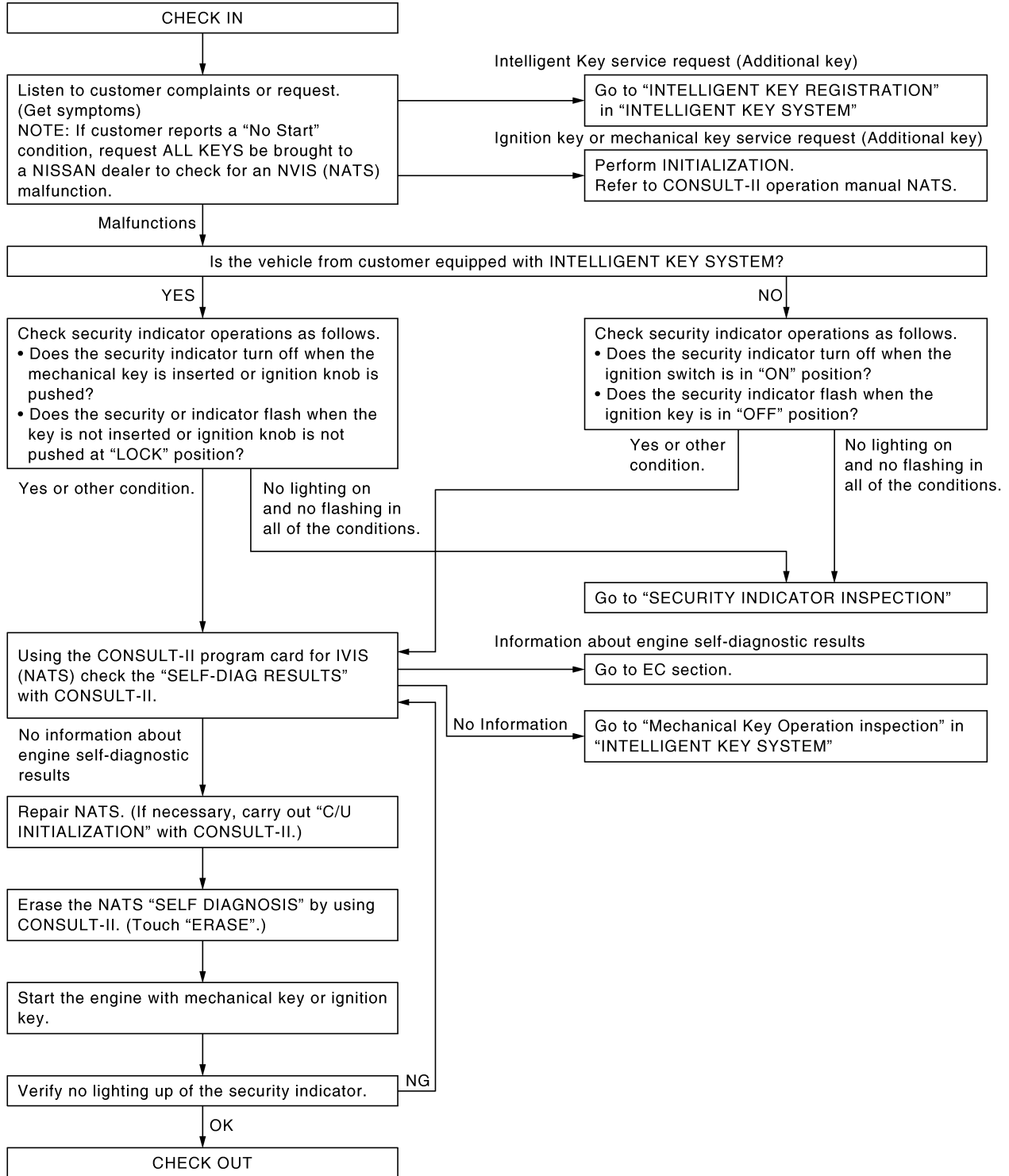
## NATS SELF-DIAGNOSTIC RESULT ITEM CHART

Detected items (Screen terms)	P No.Code (Self-diagnostic result of "ENGINE")	Description	Diagnostic procedure
ECM INT CIRC-IMMU	P1613	The malfunction of ECM internal circuit to BCM communication line is detected.	Refer to <a href="#">BL-219, "Diagnostic Procedure 1"</a> .
CHAIN OF ECM-IMMU	P1612	Communication impossible between ECM and BCM.	Refer to <a href="#">BL-220, "Diagnostic Procedure 2"</a> .
DIFFERENCE OF KEY	P1615	BCM can receive the key ID signal but the result of ID verification between key ID and BCM is NG.	Refer to <a href="#">BL-221, "Diagnostic Procedure 3"</a> .
CHAIN OF IMMU-KEY	P1614	BCM cannot receive the key ID signal.	Refer to <a href="#">BL-224, "Diagnostic Procedure 6"</a> .
ID DISCORD, IMM-ECM	P1611	The result of ID verification between BCM and ECM is NG. System initialization is required.	Refer to <a href="#">BL-222, "Diagnostic Procedure 4"</a> .
LOCK MODE	P1610	When the starting operation is carried out 5 or more times consecutively under the following conditions, IVIS(NATS) will shift the mode to prevent the engine start. <ul style="list-style-type: none"> <li>● unregistered ignition key is used (without intelligent key system)</li> <li>● BCM or ECM malfunctioning</li> </ul>	Refer to <a href="#">BL-223, "Diagnostic Procedure 5"</a> .
DON'T ERASE BEFORE CHECKING ENG DIAG	—	Engine trouble data and IVIS (NATS) trouble data have been detected in ECM.	Refer to <a href="#">BL-217, "WORK FLOW"</a> .

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS004PJ

## Diagnosis Procedure WORK FLOW



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

MIB0391E

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## Trouble Diagnosis Symptom Chart

AIS004PK

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	DIAGNOSTIC PROCEDURE	SYSTEM (Malfunctioning part or mode)
<ul style="list-style-type: none"> <li>● Security indicator lighting up*</li> <li>● Engine hard to start</li> </ul>	ECM INT CIRC-IMMU [P1613]	Refer to <a href="#">BL-219, "Diagnostic Procedure 1"</a> .	ECM
	CHAIN OF ECM-IMMU [P1612]	Refer to <a href="#">BL-220, "Diagnostic Procedure 2"</a> .	Open circuit in battery voltage line to BCM (NATS IMMU) circuit
			Open circuit in ignition line to BCM (NATS IMMU) circuit
			Open circuit in ground line to BCM (NATS IMMU) circuit
			Open or short circuit between BCM (NATS IMMU) and ECM communication line.
			ECM
	BCM (NATS IMMU)		
	DIFFERENCE OF KEY [P1615]	Refer to <a href="#">BL-221, "Diagnostic Procedure 3"</a> .	Unregistered key NATS IMMU
	CHAIN OF IMMU-KEY [P1614]	Refer to <a href="#">BL-224, "Diagnostic Procedure 6"</a> .	Open or short circuit between BCM (NATS IMMU) and NATS antenna amp.
			Malfunction of key ID chip
BCM (NATS IMMU) Antenna amp.			
ID DISCORD, IMM-ECM [P1611]	Refer to <a href="#">BL-222, "Diagnostic Procedure 4"</a> .	System initialization has not yet been completed. ECM	
LOCK MODE [P1610]	Refer to <a href="#">BL-223, "Diagnostic Procedure 5"</a> .	LOCK MODE	
<ul style="list-style-type: none"> <li>● MIL staying ON</li> <li>● Security indicator lighting up*</li> </ul>	DON'T ERASE BEFORE CHECKING ENG DIAG	Refer to <a href="#">BL-217, "WORK FLOW"</a> .	Engine trouble data and IVIS (NATS) trouble data have been detected in ECM

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

## Security Indicator Inspection

AIS004PL

SYMPTOM	SYSTEM (Malfunctioning part or mode)	DIAGNOSTIC PROCEDURE
Security indicator does not operate*	Security indicator	Refer to <a href="#">BL-226, "Diagnostic Procedure 7"</a> .
	Open circuit between Fuse and BCM (NATS IMMU)	
	Continuation of initialization mode	
	BCM (NATS IMMU)	

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

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## Diagnostic Procedure 1

AIS004PM

### Self-diagnostic results:

“ECM INT CIRC-IMMU” is displayed on CONSULT-II screen

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm that SELF-DIAGNOSTIC RESULTS “ECM INT CIRC-IMMU” is displayed on CONSULT-II screen.

Does CONSULT-II screen display as shown in figure?

YES >> ECM is malfunctioning.

- Replace ECM.
- 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"](#) .

NO >> GO TO [BL-218, "Trouble Diagnosis Symptom Chart"](#) .

SELF DIAGNOSIS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL314W

A

B

C

D

E

F

G

H

BL

J

K

L

M

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS004PN

## Diagnostic Procedure 2

Self-diagnostic results:

“CHAIN OF ECM-IMMU” is display on CONSULT-II screen

First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated “SELF-DIAG RESULTS” of “BCM”. Refer to [BCS-14, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm that SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” is displayed on the screen?

Does CONSULT-II screen display as shown in figure?

YES >> GO TO 2.

NO >> GO TO [BL-218, "Trouble Diagnosis Symptom Chart"](#) .

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

PIIA1260E

### 2. CHECK POWER SUPPLY CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Disconnect BCM connector M4.
3. Check voltage between BCM connector M4 terminals 42 (L/R), 55 (G) and ground.

**42 (L/R) – Ground : Battery voltage**

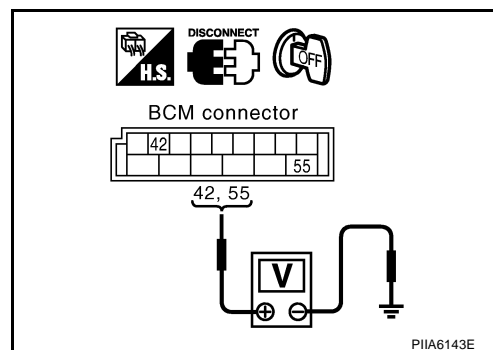
**55 (G) – Ground : Battery voltage**

OK or NG

OK >> GO TO 3.

NG >> Check the following.

- 50A fusible link [Letter **M** , located in fuse block (J/B)]
- 15A fuse [No.22, located in fuse block (J/B)]
- Harness for open or short between fusible link or fuse and BCM.



### 3. CHECK IGNITION SWITCH ON SIGNAL

1. Turn ignition switch ON.
2. Check voltage between BCM connector M3 terminal 38 (W/L) and ground.

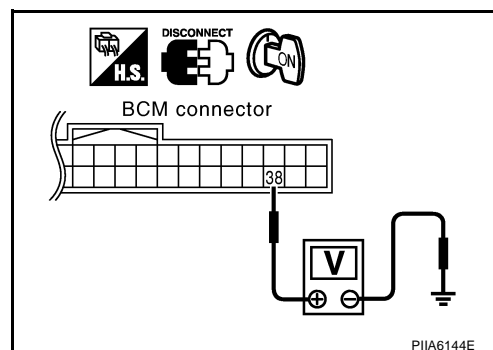
**38 (W/L) – Ground : Battery voltage**

OK or NG

OK >> GO TO 4.

NG >> Check the following.

- 15A fuse [No.1, located in fuse block (J/B)]
- Harness for open or short between fuse and BCM.





# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

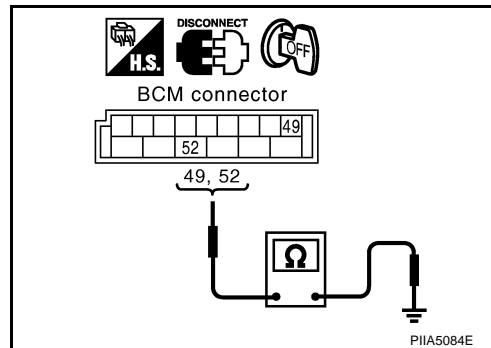
## 4. CHECK GROUND CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Check continuity between BCM connector M4 terminals 49 (B), 52 (B) and ground.

**49 (B) – Ground : Continuity should exist.**  
**52 (B) – Ground : Continuity should exist.**

OK or NG

- OK >> GO TO 5.  
NG >> Repair or replace harness between BCM and ground.



## 5. REPLACE BCM

1. Replace BCM.
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.
- Replace BCM.
  - Perform initialization with CONSULT-II.
  - For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.
- NO >> ECM is malfunctioning.
- Replace ECM.
  - Perform initialization or re-communicating function.
    - For re-communicating function, refer to [BL-208, "ECM Re-communicating Function"](#).
    - For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

## Diagnostic Procedure 3

AIS004PO

**Self-diagnostic results:**

**“DIFFERENCE OF KEY” is displayed on CONSULT-II screen**

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Does CONSULT-II screen display as shown in figure?

- YES >> GO TO 2.  
NO >> GO TO [BL-218, "Trouble Diagnosis Symptom Chart"](#).

The screenshot shows a table with the following content:

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

The reference code 'PIIA1261E' is at the bottom right.

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## 2. PERFORM INITIALIZATION WITH CONSULT-II

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

### NOTE:

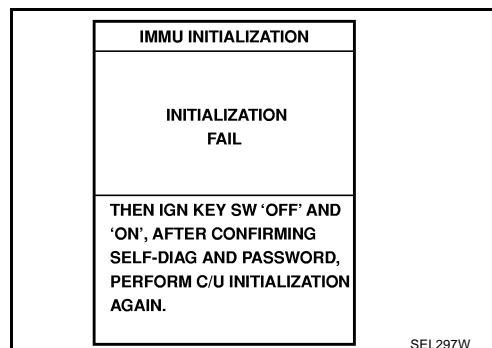
If the initialization is not completed or malfunction, CONSULT-II shows message on the screen.

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

YES >> Ignition key ID was unregistered.

NO >> BCM is malfunctioning.

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



## Diagnostic Procedure 4

AIS004PP

### Self-diagnostic results:

"ID DISCORD, IMM-ECM" is displayed on CONSULT-II screen

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm that SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" is displayed on CONSULT-II screen.

### NOTE:

"ID DISCORD IMM-ECM":

Registered ID of BCM is in discord with that of ECM.

Does CONSULT-II screen display as shown in figure?

YES >> GO TO 2.

NO >> GO TO [BL-218, "Trouble Diagnosis Symptom Chart"](#).

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 ignition key or mechanical key IDs.

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

### NOTE:

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

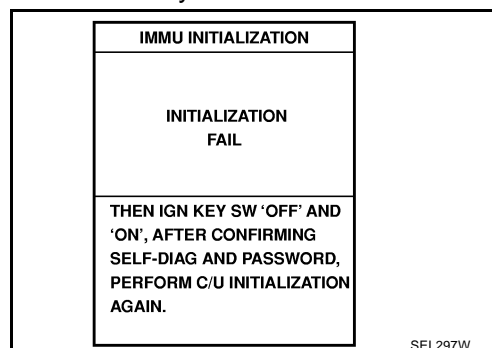
Can the system be initialized?

YES >> Start engine. (END)

- System initialization had not been completed.

NO >> ECM is malfunctioning.

- Replace ECM.
- Perform initialization 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"](#).



# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS004PQ

## Diagnostic Procedure 5

### 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.

Does CONSULT-II screen display as shown in figure?

- YES >> GO TO 2.  
NO >> GO TO [BL-218, "Trouble Diagnosis Symptom Chart"](#).

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

PIIA1264E

### 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 malfunction, 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

# IVIS (INFINITI 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.

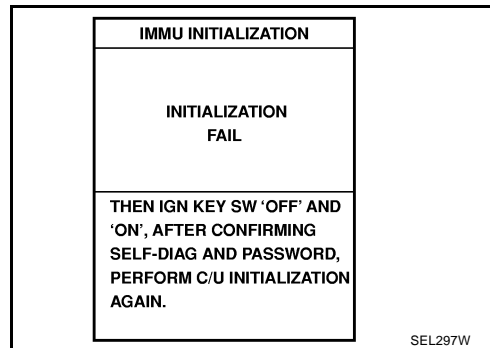
Can the system be initialized?

YES >> System is OK. BCM is malfunctioning.

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

NO >> ECM is malfunctioning.

- Replace ECM.
- 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 6

AIS004PR

### Self-diagnostic results:

"CHAIN OF IMMU-KEY" is displayed on CONSULT-II screen

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm self-diagnostic results "CHAIN OF IMMU-KEY" is displayed on CONSULT-II screen.

Does CONSULT-II screen display as shown?

YES >> GO TO 2.

NO >> GO TO [BL-218, "Trouble Diagnosis Symptom Chart"](#).

### 2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [BL-227, "Removal and Installation NATS Antenna Amp."](#).

OK or NG

OK >> GO TO 3.

NG >> Reinstall NATS antenna amp. correctly.

### 3. CHECK KEY ID CHIP

Start engine with another registered ignition key or mechanical key.

Does the engine start?

YES >> Ignition key or mechanical key ID chip is malfunctioning.

- Replace the ignition key or mechanical key.
- Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

NO >> GO TO 4.

# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## 4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

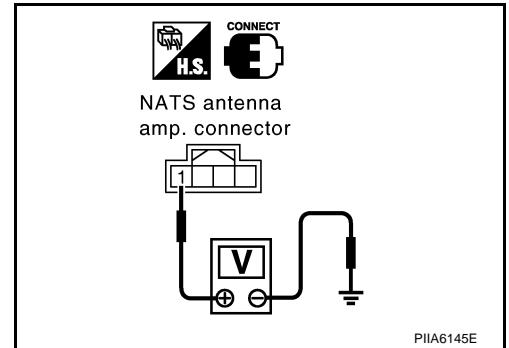
Check voltage between NATS antenna amp. connector M25 terminal 1 (L/R) and ground with CONSULT-II or tester.

**1 (L/R) – Ground : Battery voltage**

OK or NG

OK >> GO TO 5.

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



## 5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

Check voltage between NATS antenna amp. connector M25 terminal 2 (G/B) and ground with analogue tester.

**Before inserting mechanical key in ignition knob**

**Voltage: 0V**

**Just after inserting mechanical key in ignition knob**

**: Pointer of tester should move.**

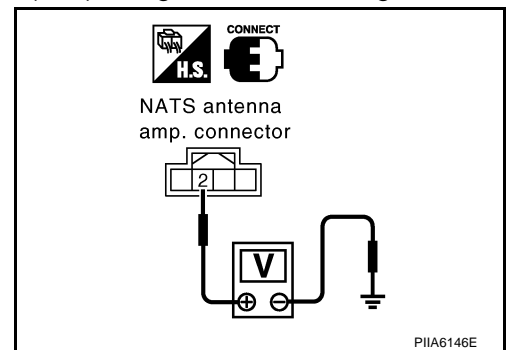
OK or NG

OK >> GO TO 6.

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

**NOTE:**

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



## 6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

Check voltage between NATS antenna amp. connector M25 terminal 4 (BR) and ground with analogue tester.

**Before inserting mechanical key in ignition knob**

**Voltage: 0V**

**Just after inserting mechanical key in ignition knob**

**: Pointer of tester should move.**

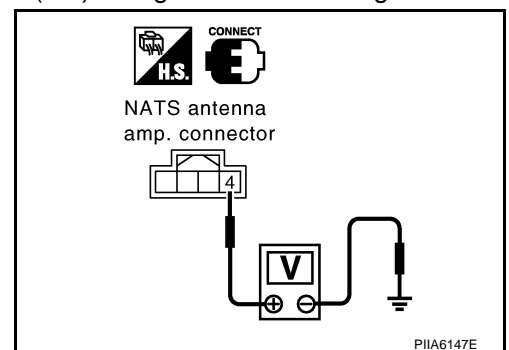
OK or NG

OK >> GO TO 7.

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

**NOTE:**

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



# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## 7. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch "OFF".
2. Check continuity between NATS antenna amp. connector M25 terminal 3 (B) and ground.

**3 (B) – Ground : Continuity should exist.**

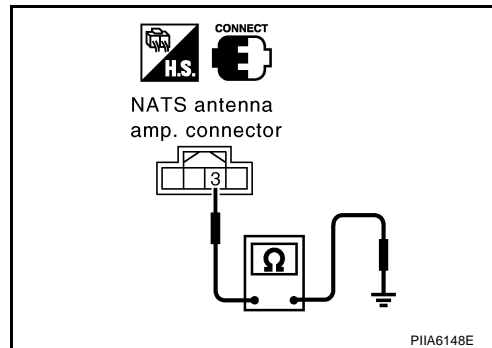
OK or NG

OK >> NATS antenna amp. is malfunctioning.

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

**NOTE:**

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



## Diagnostic Procedure 7

AIS004PS

**"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 >> Replace fuse.

### 2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse [No.19, located in the fuse block (J/B)]
2. Start engine and turn ignition switch OFF.
3. 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

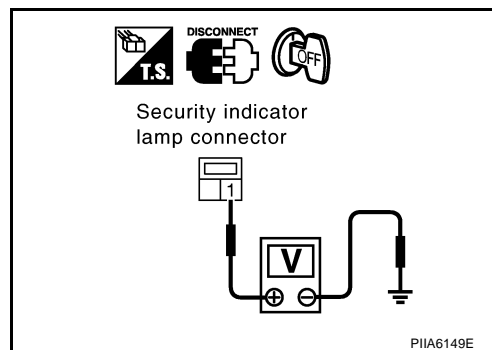
1. Disconnect security indicator lamp connector.
2. Check voltage between security indicator lamp connector M38 terminal 1 (R/W) and ground.

**1 (R/W) – Ground : Battery voltage**

OK or NG

OK >> GO TO 4.

NG >> Check harness for open or short between fuse and security indicator lamp.



# IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS)

## 4. CHECK BCM FUNCTION

1. Connect security indicator lamp connector.
2. Disconnect BCM connector M3.
3. Check voltage between BCM connector M3 terminal 23 (G/OR) and ground.

**23 (G/OR) – Ground : Battery voltage**

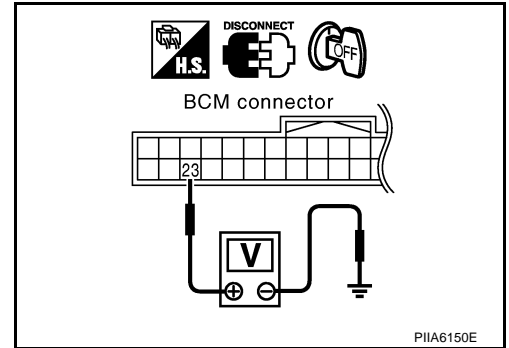
OK or NG

OK >> BCM is malfunctioning.

- Replace BCM.
- 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.
- Indicator lamp condition



## Removal and Installation NATS Antenna Amp.

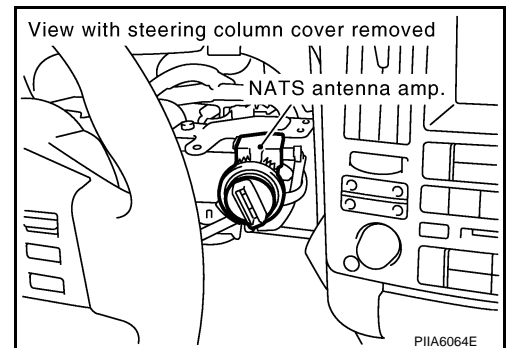
### REMOVAL

AIS004PT

#### CAUTION:

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

1. Remove the steering column cover. Refer to [IP-11, "Removal and Installation"](#).
2. Disconnect the NATS antenna amp. connect, remove the screw and NATS antenna amp.



### INSTALLATION

Install in the reverse order of removal.

# INTEGRATED HOMELINK TRANSMITTER

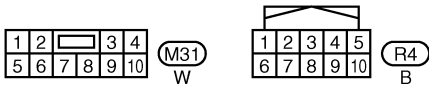
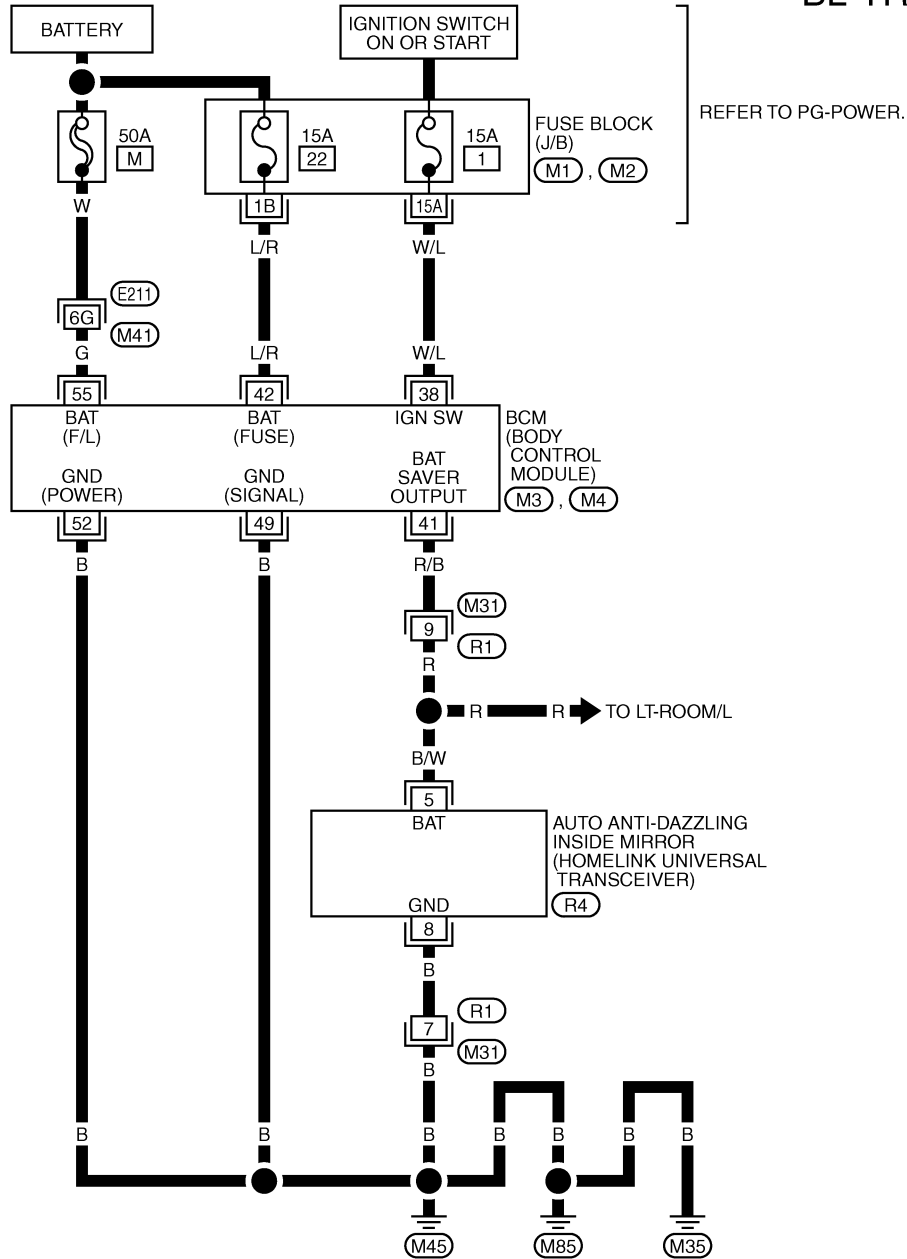
PFP:96401

## INTEGRATED HOMELINK TRANSMITTER

### Wiring Diagram —TRNSCV—

AIS004PU

#### BL-TRNSCV-01



REFER TO THE FOLLOWING.

- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) , (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3) , (M4) -ELECTRICAL UNITS

TIWM0340E



# INTEGRATED HOMELINK TRANSMITTER

## Trouble Diagnoses DIAGNOSTIC PROCEDURE

AIS004PV

### SYMPTOM: Transmitter Does Not Activate Receiver.

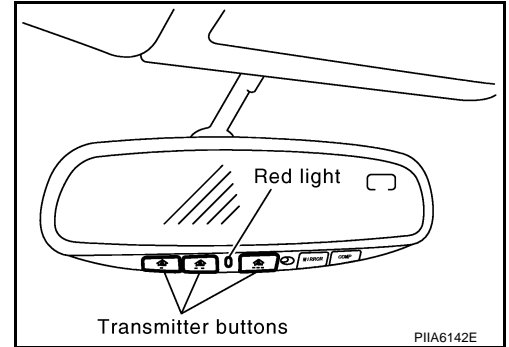
Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is malfunctioning, not vehicle related.

#### 1. CHECK ILLUMINATION

1. Turn ignition switch "OFF".
2. Does red light (LED) of transmitter illuminate when any transmitter button is pressed?

##### YES or NO

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



#### 2. CHECK TRANSMITTER

Check transmitter with Tool\*.

\*:For details, refer to Technical Service Bulletin.

##### OK or NG

- OK >> Receiver or hand-held transmitter malfunction, not vehicle related.  
NG >> Replace inside mirror assembly.

#### 3. CHECK BCM OUTPUT POWER SUPPLY

Does room lamp come on when driver side door opened. Refer to [LT-157](#) .

Does room lamp illumination?

- YES >> GO TO 4.  
NO >> Repair or replace the malfunction part.

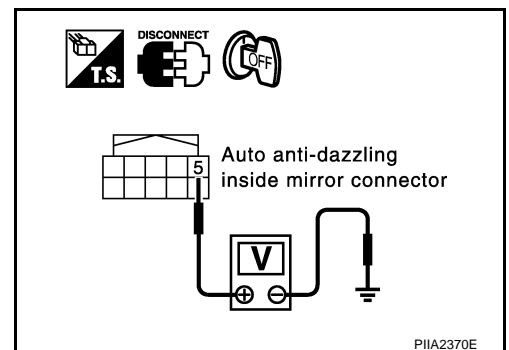
#### 4. CHECK POWER SUPPLY

1. Disconnect transmitter connector.
2. Turn ignition switch "OFF".
3. Check voltage between auto anti-dazzling inside mirror (homelink universal transceiver) connector R4 terminal 5 (B/W) and ground.

**5 (B/W) – Ground : Battery voltage**

##### OK or NG

- OK >> GO TO 5.  
NG >> Repair or replace harness between BCM and anti-dazzling inside mirror (homelink universal transceiver).



# INTEGRATED HOMELINK TRANSMITTER

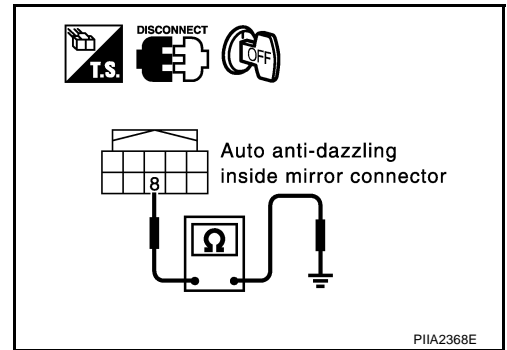
## 5. CHECK GROUND CIRCUIT

Check continuity between anti-dazzling inside mirror (homelink universal transceiver) connector R4 terminal 8 (B) and ground.

**8 (B) – Ground :Continuity should exist.**

OK or NG

- OK >> Replace inside mirror assembly.
- NG >> Harness for open or short between anti-dazzling inside mirror (homelink universal transceiver) ground.



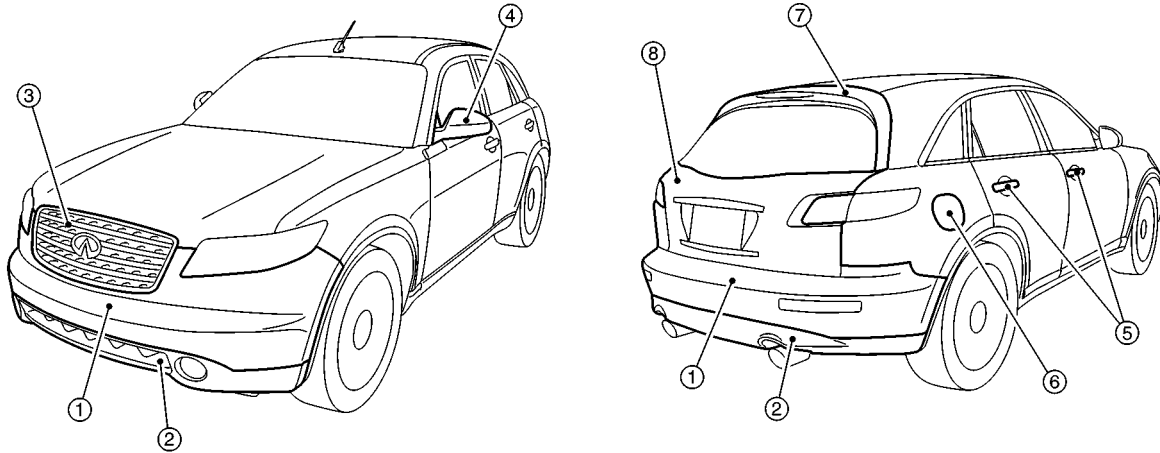
# BODY REPAIR

## BODY REPAIR

PFP:60100

### Body Exterior Paint Color

AIS00622



SIIA2248E

Component		Color code	BAX6	BC16	BEY0	BKH3	BKY0	BQX1	BR12	BWV2	
		Description	Red	Grayish brown	Light Gold	Black	Silver	White	Brownish orange	Silver	
		Paint type	2S	PM	RPM	2S	M	3P	M	M	
		Hard clear coat	×	×	-	×	-	-	-	-	
1	Bumper fascia	Body color	BAX6	BC16	BEY0	BKH3	BKY0	BQX1	BR12	BWV2	
2	Bumper finisher	Black	G01-1	G01-1	G01-1	G01-1	G01-1	G01-1	G01-1	G01-1	
3	Front grille	Chromium-plate + Color clear coat	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	
4	Door outside mirror	Housing	Body color	BAX6	BC16	BEY0	BKH3	BKY0	BQX1	BR12	BWV2
		Base	Black	G01-2	G01-2	G01-2	G01-2	G01-2	G01-2	G01-2	G01-2
5	Door outside handle	Chromium-plate	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	
6	Fuel filler lid	Body color	BAX6	BC16	BEY0	BKH3	BKY0	BQX1	BR12	BWV2	
7	Rear spoiler	Body color	BKH3	BKH3	BKH3	BKH3	BKH3	BKH3	BKH3	BKH3	
8	Back door	Body color	BAX6	BC16	BEY0	BKH3	BKY0	BQX1	BR12	BWV2	

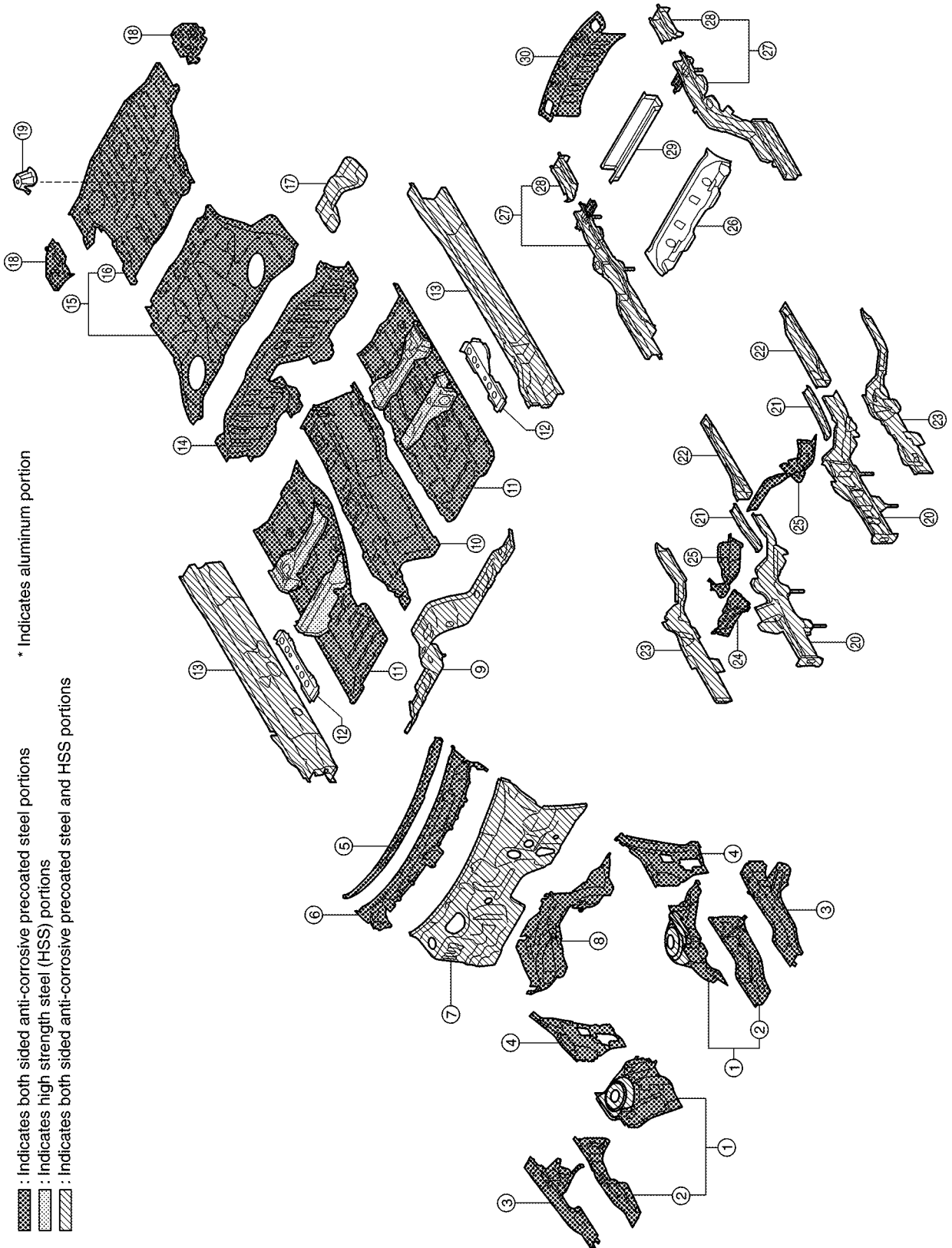
2S:Solid + Clear, PM:Pearl + Metallic, M:Metallic, 3P:3-Coat pearl, RPM:Multi flex color

A  
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# BODY REPAIR

## Body Component Parts UNDERBODY COMPONENT PARTS

AIS00623



SIIA2386E

# BODY REPAIR

---

- |                                    |  |   |
|------------------------------------|--|---|
| 1. Hoodledge assembly              | 16. Rear floor rear                              | A |
| 2. Upper front hoodledge           | 17. Rear floor seat belt anchor reinforcement    |   |
| 3. Hoodledge reinforcement         | 18. Rear floor side                              |   |
| 4. Upper hoodledge                 | 19. Spare tire clamp bracket                     | B |
| 5. Upper dash extension            | 20. Front side member                            |   |
| 6. Upper dash crossmember assembly | 21. Front side member rear reinforcement         |   |
| 7. Upper dash assembly             | 22. Front side member front extension            | C |
| 8. Front cowl top assembly         | 23. Front side member closing plate              |   |
| 9. Lower dash                      | 24. Front side member outrigger assembly (RH&LH) |   |
| 10. Front floor center             | 25. Front crossmember                            | D |
| 11. Front floor                    | 26. 2ND rear crossmember                         |   |
| 12. Front floor reinforcement      | 27. Rear side member assembly                    |   |
| 13. Inner sill                     | 28. Rear side member extension                   | E |
| 14. Lower rear seat crossmember    | 29. Rear center crossmember assembly             |   |
| 15. Rear floor front               | 30. Rear end crossmember assembly                | F |

BL

J

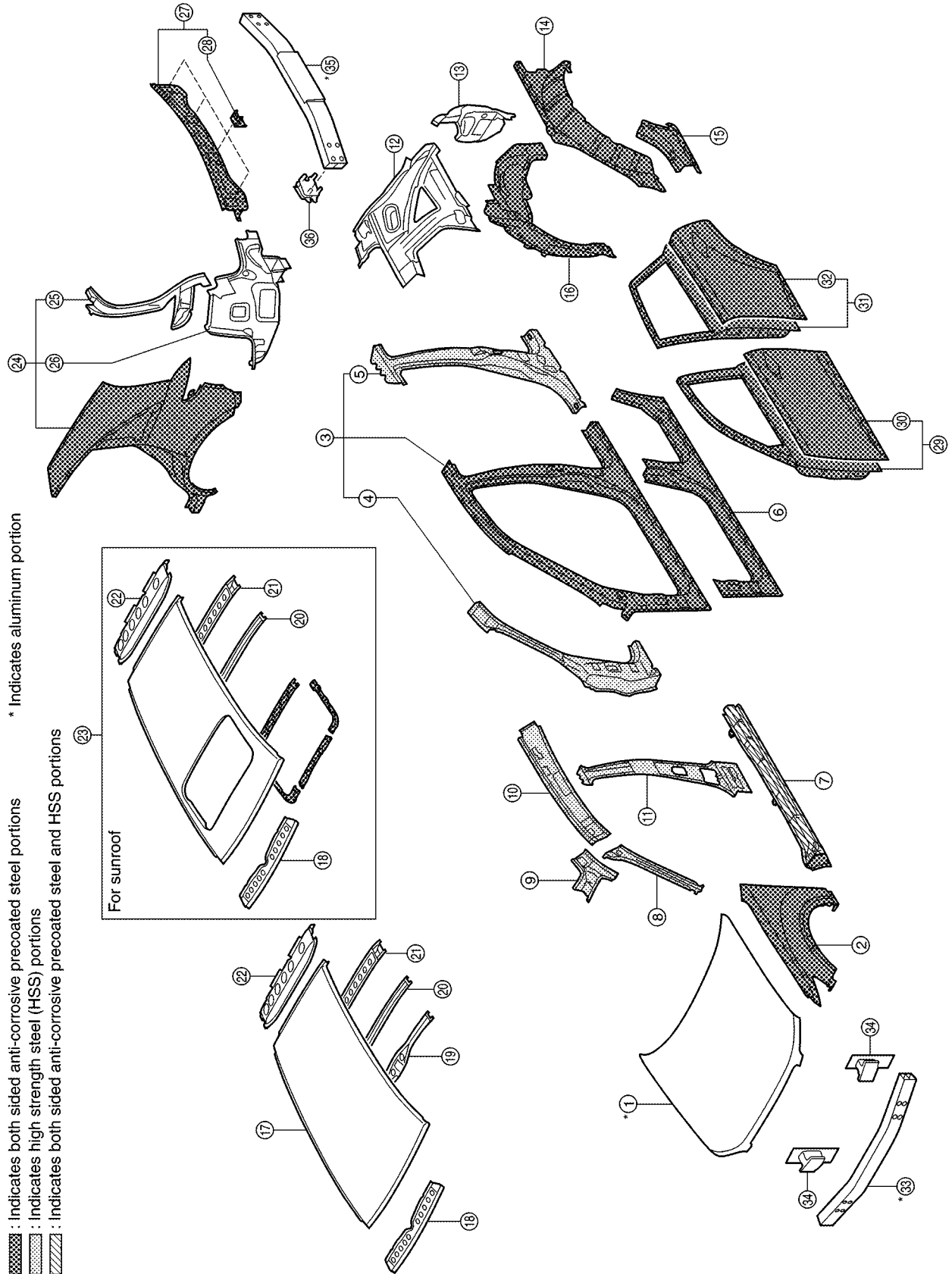
K

L

M

# BODY REPAIR

## BODY COMPONENT PARTS



SIIA2387E

# BODY REPAIR

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- |  |  |   |
|--|--|---|
| 1. Hood                                      | 19. Roof bow No.1                      | A |
| 2. Front fender (RH&LH)                      | 20. Roof bow No.2                      |   |
| 3. Side body assembly (RH&LH)                | 21. Roof bow No.3                      |   |
| 4. Outer front pillar reinforcement (RH&LH)  | 22. Rear roof rail assembly            | B |
| 5. Outer center pillar reinforcement (RH&LH) | 23. Roof assembly (for sunroof)        |   |
| 6. Outer sill (RH&LH)                        | 24. Rear fender assembly (RH&LH)       |   |
| 7. Outer sill reinforcement assembly (RH&LH) | 25. Upper back pillar assembly (RH&LH) | C |
| 8. Upper inner front pillar assembly (RH&LH) | 26. Back pillar assembly (RH&LH)       |   |
| 9. Front roof rail brace (RH&LH)             | 27. Rear panel assembly                |   |
| 10. Inner side roof rail (RH&LH)             | 28. Upper rear bumper retainer         | D |
| 11. Inner center pillar (RH&LH)              | 29. Front door assembly (RH&LH)        |   |
| 12. Inner rear pillar (RH&LH)                | 30. Outer front door panel (RH&LH)     |   |
| 13. Lower inner rear pillar (RH&LH)          | 31. Rear door assembly (RH&LH)         | E |
| 14. Outer rear wheelhouse (RH&LH)            | 32. Outer rear door panel (RH&LH)      |   |
| 15. Outer rear wheelhouse extension (RH&LH)  | 33. Front bumper reinforcement         |   |
| 16. Inner rear wheelhouse (RH&LH)            | 34. Front bumper stay                  | F |
| 17. Roof                                     | 35. Rear bumper reinforcement          |   |
| 18. Front roof rail assembly                 | 36. Rear bumper stay (RH&LH)           |   |

A  
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# BODY REPAIR

AIS0065Q

## Corrosion Protection

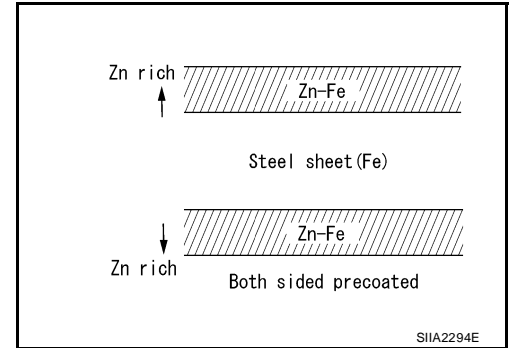
### DESCRIPTION

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 electrodeposition primer.



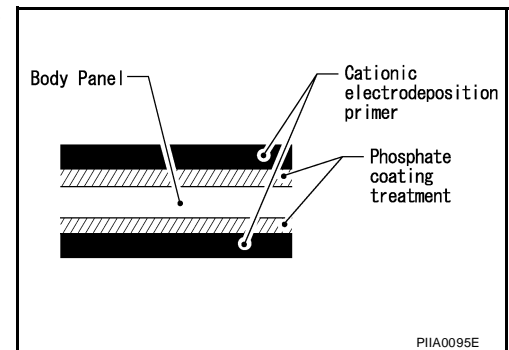
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

### Phosphate Coating Treatment and Cationic Electrodeposition Primer

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

#### CAUTION:

Confine paint removal during welding operations to an absolute minimum.



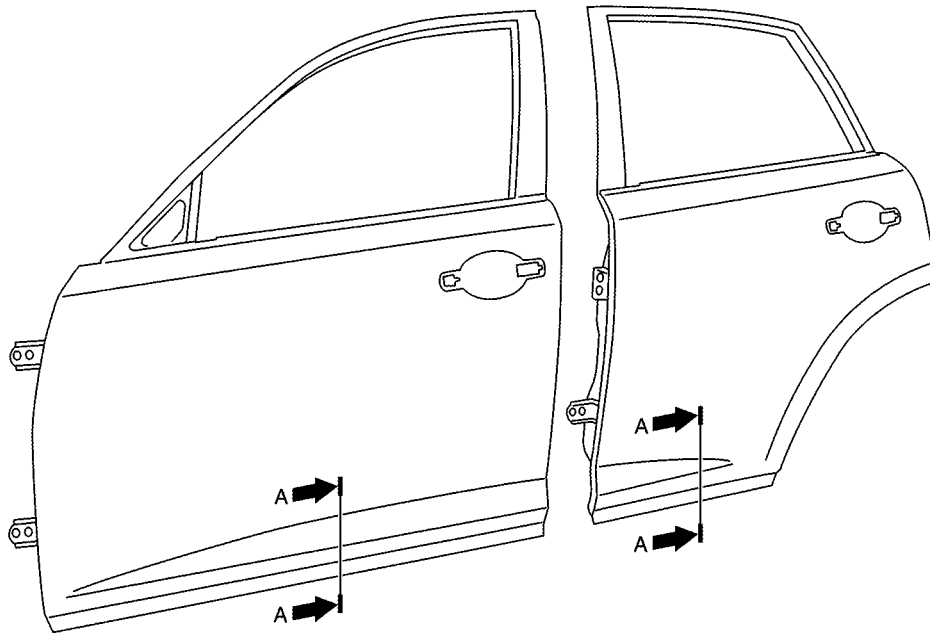
Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.




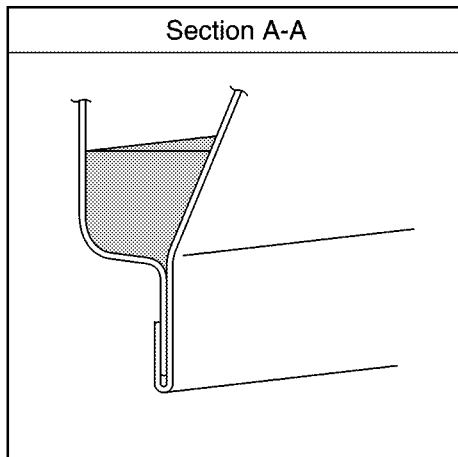
# BODY REPAIR

## 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 anti-corrosive wax coated portions.



SIIA2251E


# BODY REPAIR


## UNDERCOATING

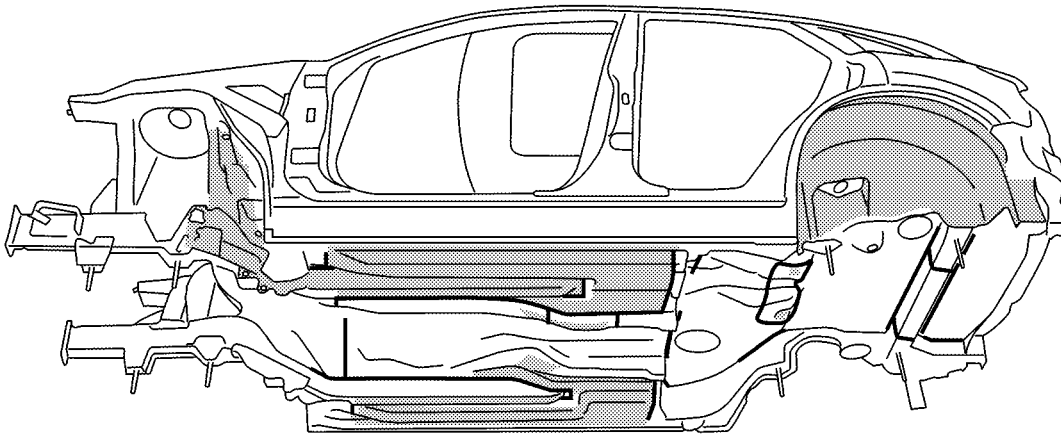
The underside of the floor and wheelhouse are undercoated to prevent rust, vibration, noise and stone chipping. Therefore, when such a panel is replaced or repaired, apply undercoating to that part. Use an undercoating which is rust preventive, soundproof, vibration-proof, shock-resistant, adhesive,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

 : Indicates undercoated portions.

 : Indicates sealed portions.

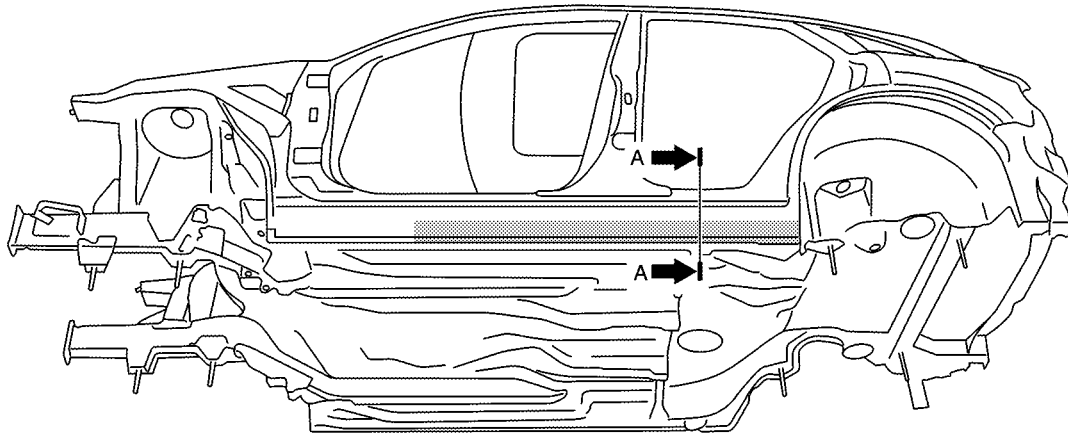



SIA2252E

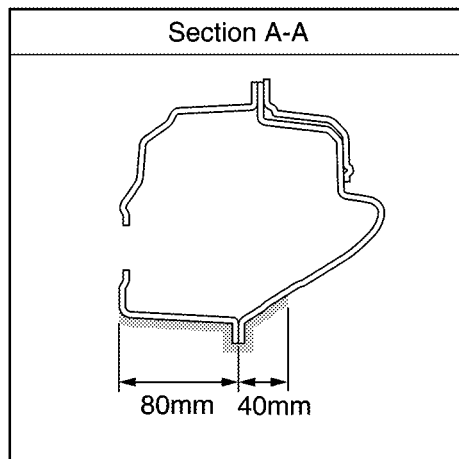
# BODY REPAIR

## STONE GUARD COAT

To prevent damage caused by stones, the lower outer body panel (fender, door, etc.) have an additional layer of Stone Guard Coating over the ED primer coating. When replacing or repairing these panels, apply Stone Guard coating to the same portions as before. Use a coating which is rust preventive, durable, shock-resistant and has a long shelf life.



 : Indicates stone guard coated portions.



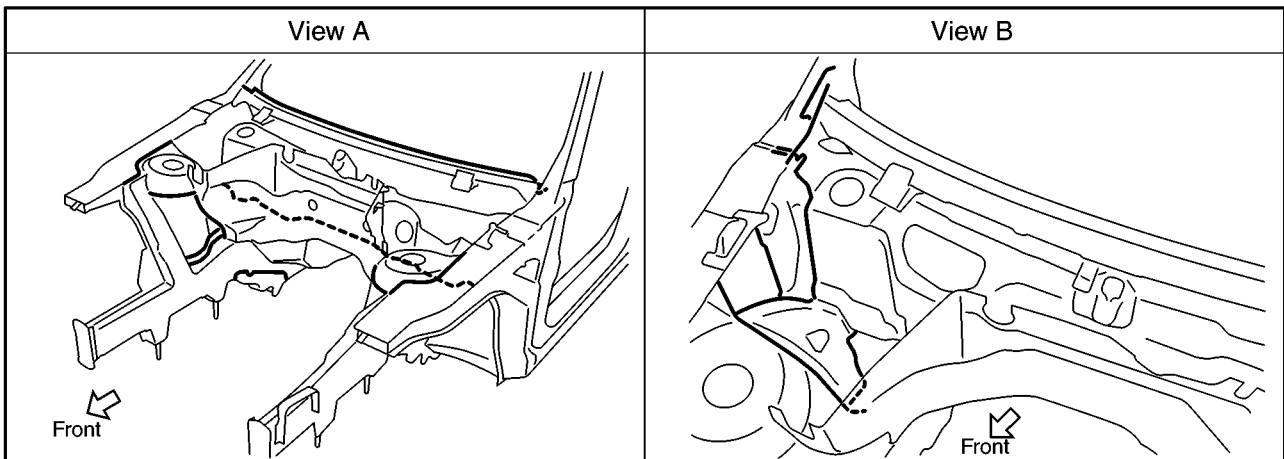
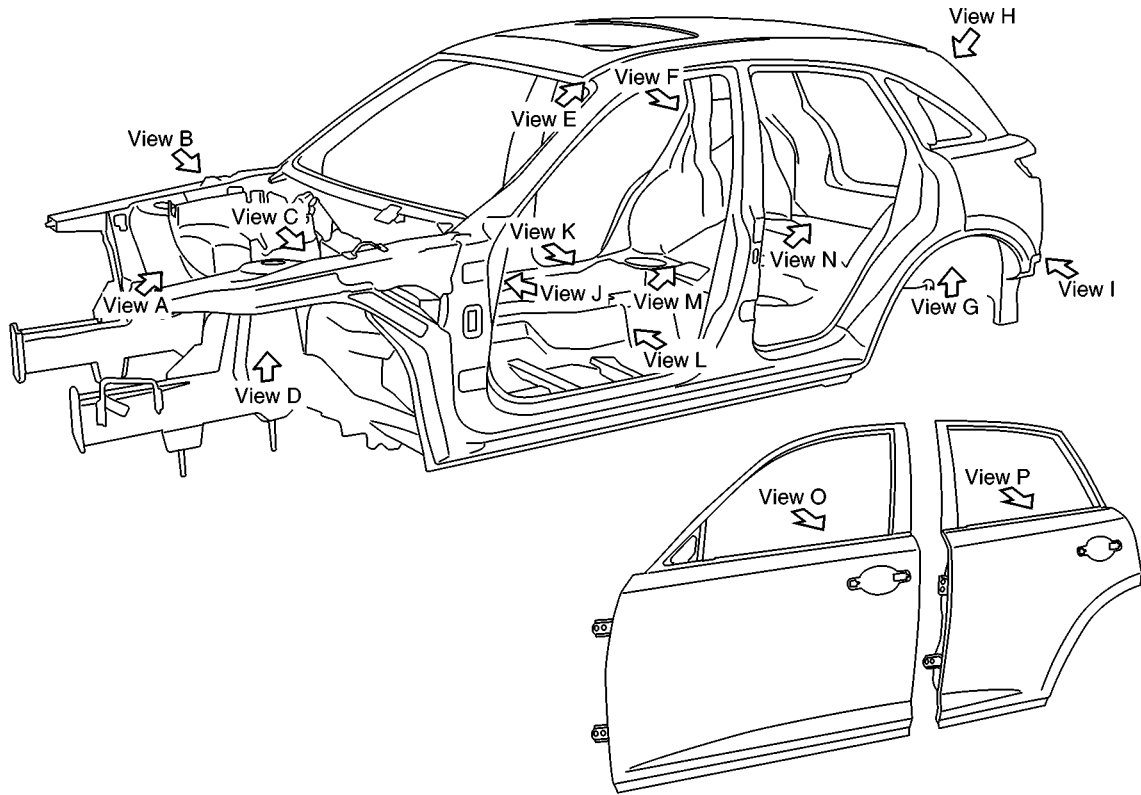
SIIA2253E

# BODY REPAIR

## Body Sealing DESCRIPTION

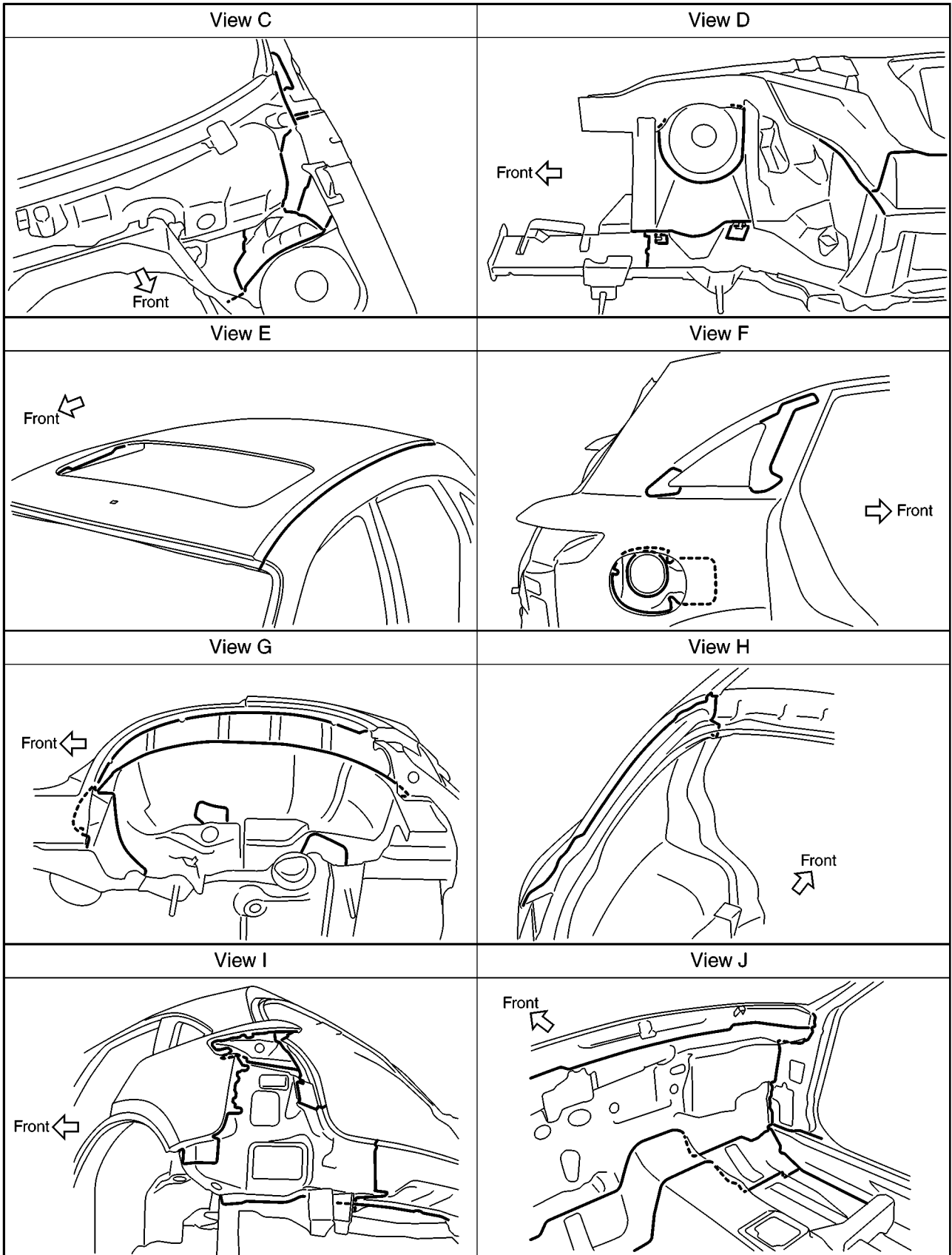
AIS00625

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.



SIA2254E

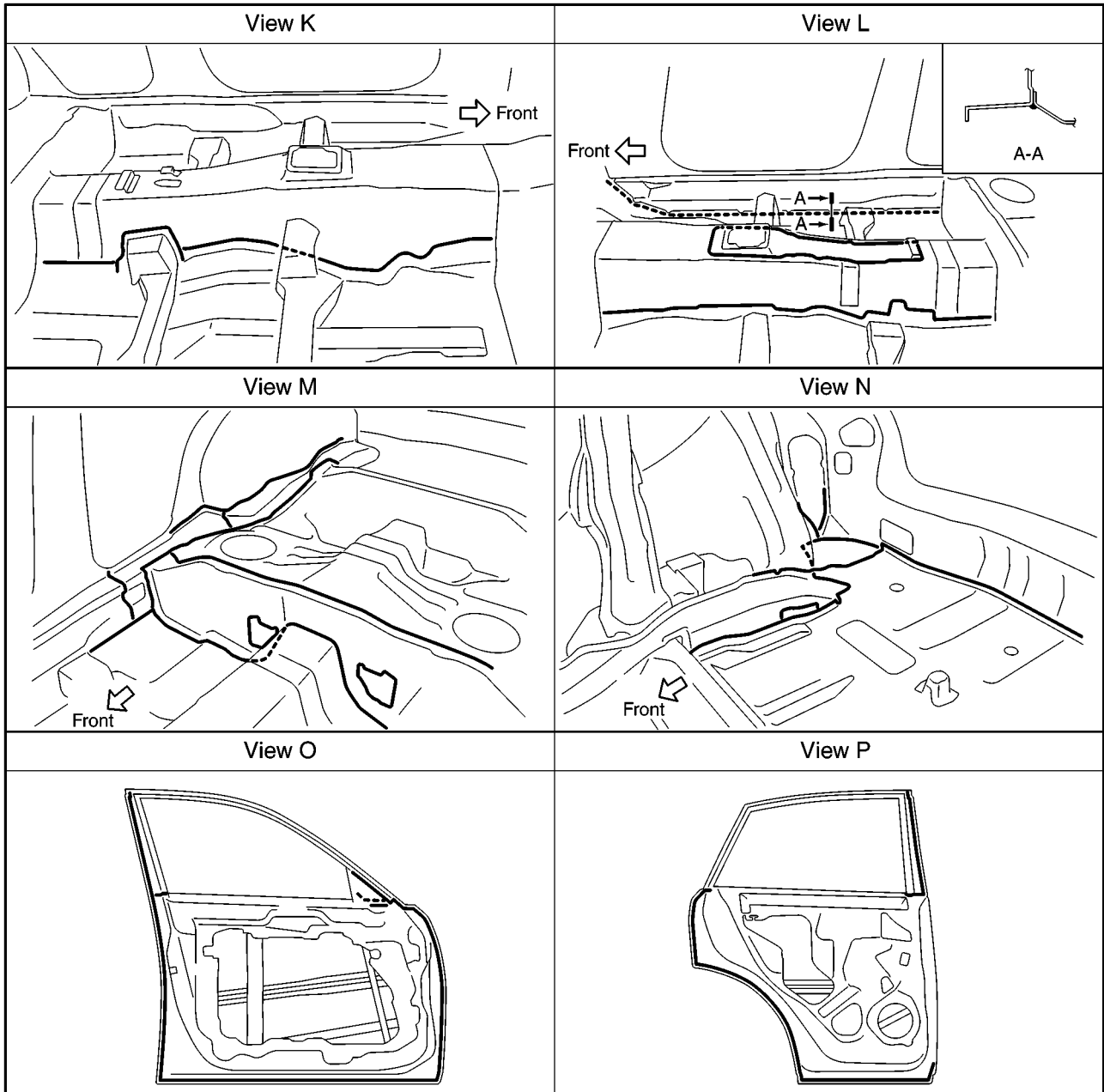
# BODY REPAIR



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SIIA2255E

# BODY REPAIR

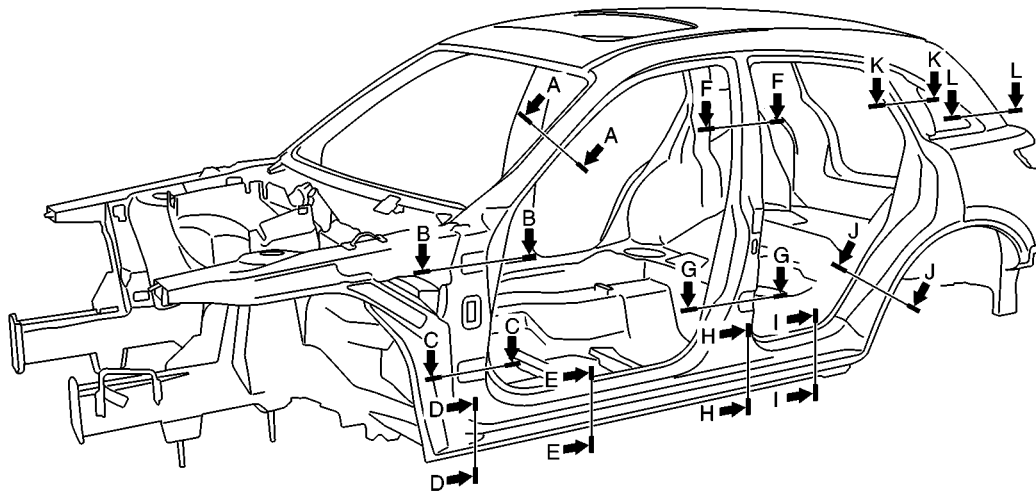


SIA2256E

# BODY REPAIR

## Body Construction BODY CONSTRUCTION

AI500626



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

A  
B  
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D  
E  
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G  
H  
BL  
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K  
L  
M

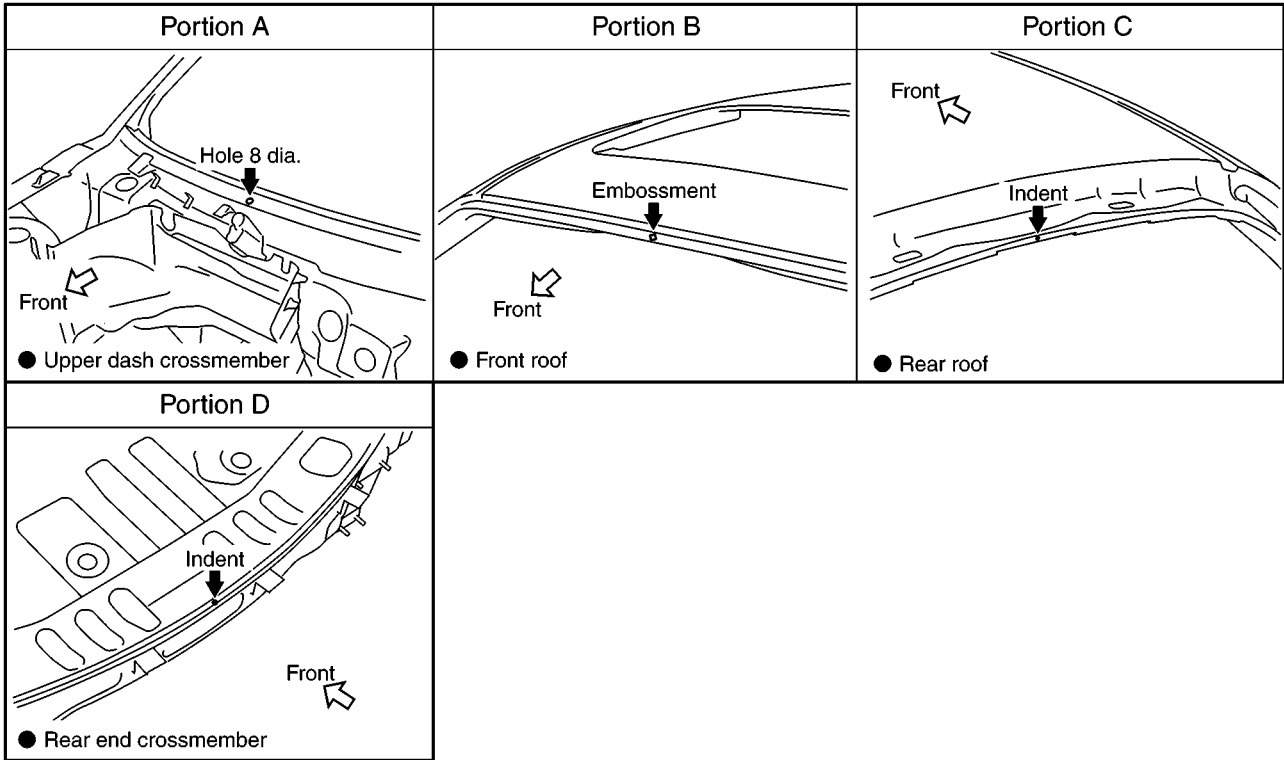
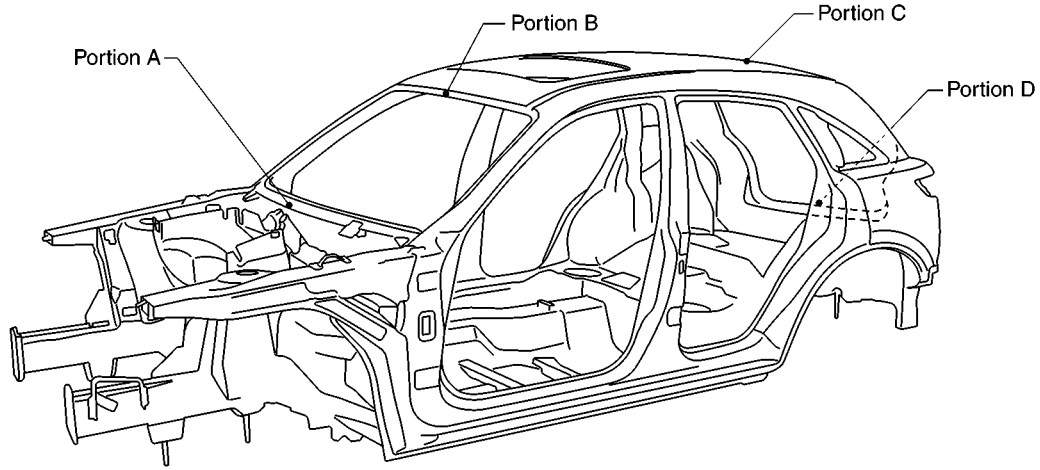
SIIA2257E

# BODY REPAIR

AIS00627

## Body Alignment BODY CENTER MARKS

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



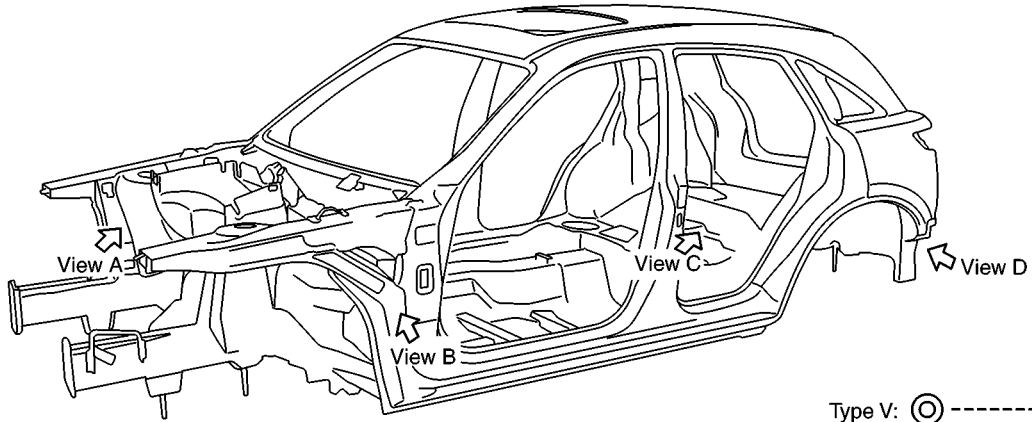
SIA2258E

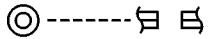
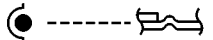
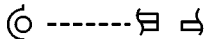


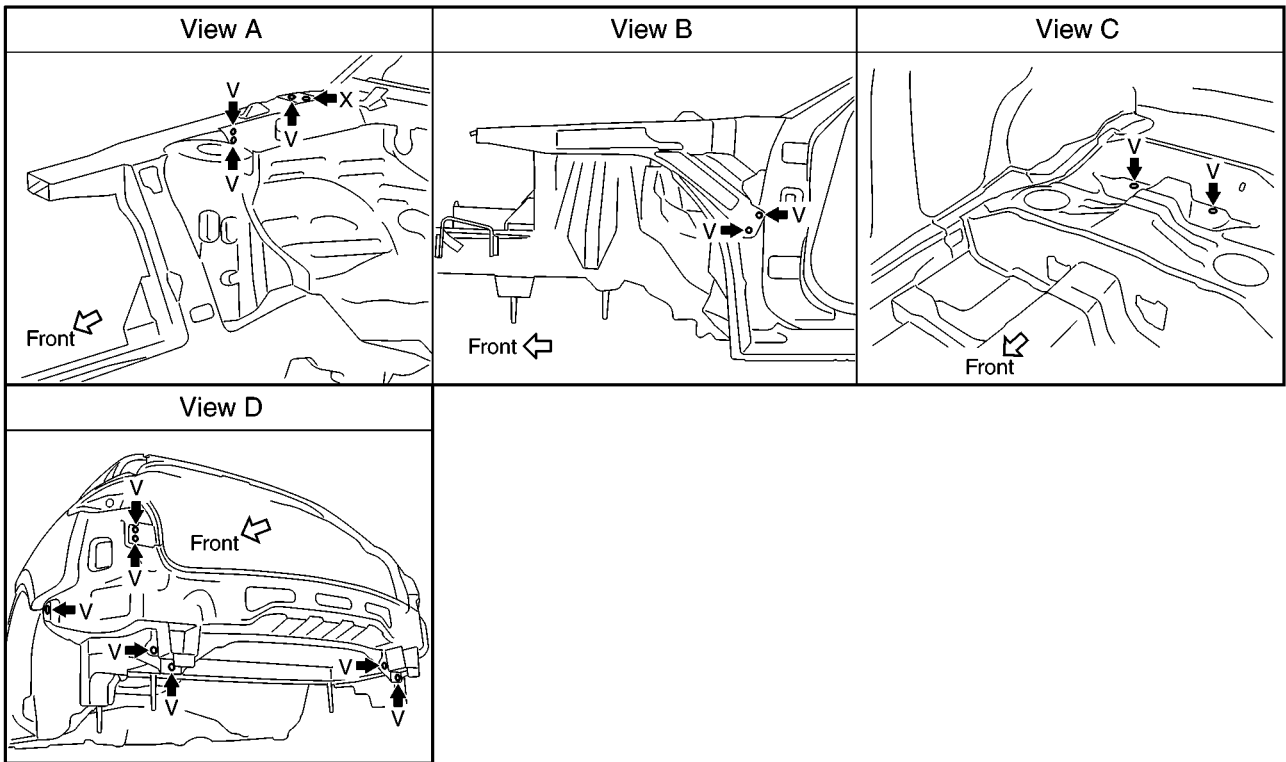
# BODY REPAIR

## 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.



- Type V: 
- Type W: 
- Type X: 



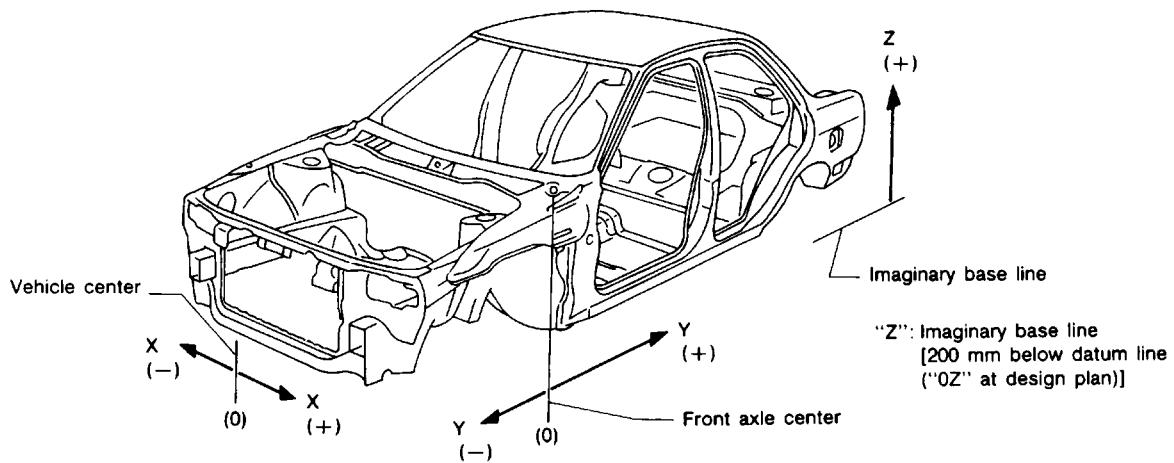
A  
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SIA2259E

# 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

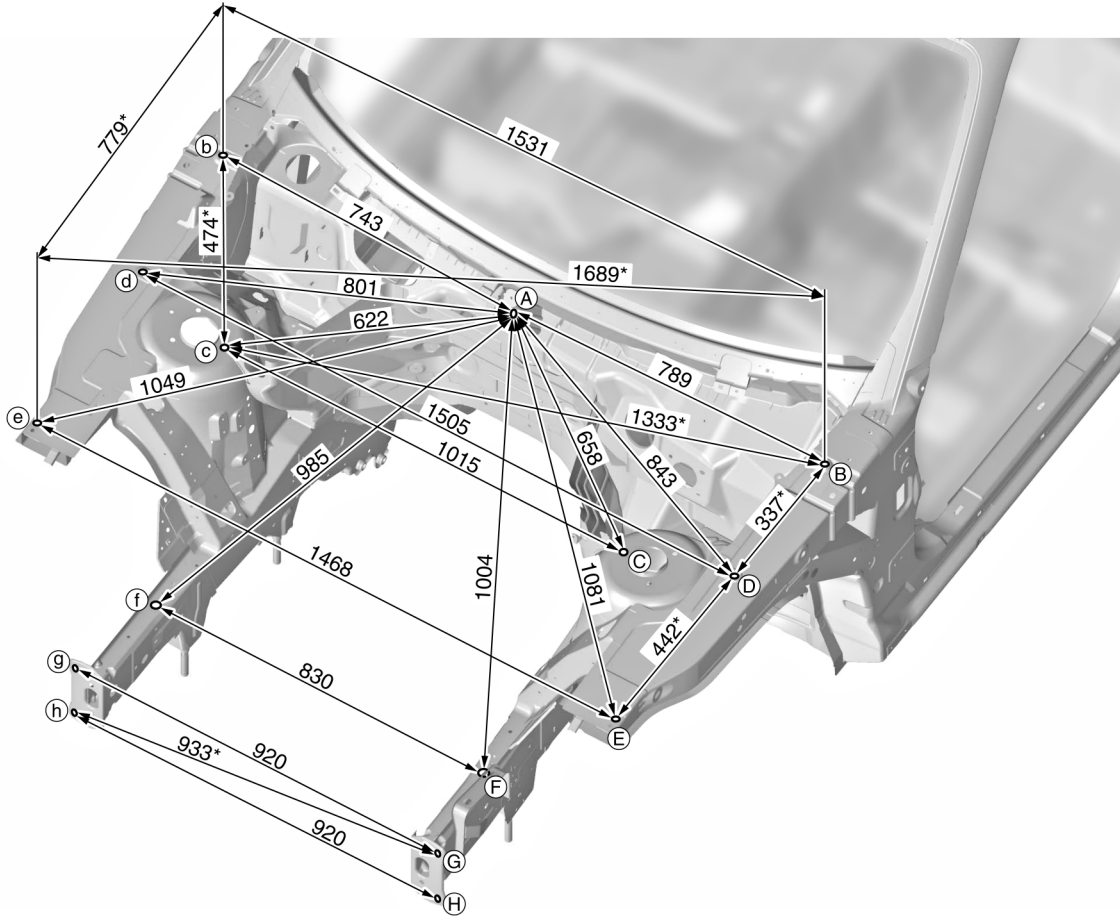
# BODY REPAIR

## ENGINE COMPARTMENT

### Measurement

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

Unit : mm



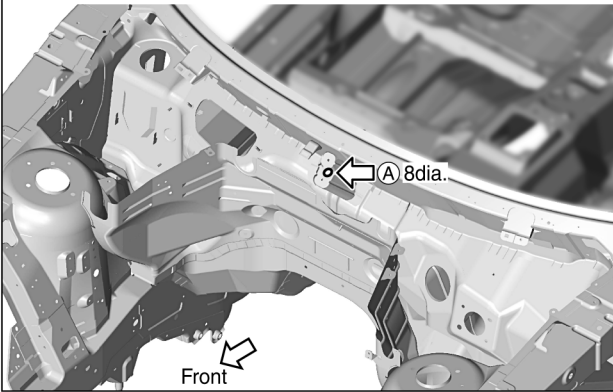
A  
B  
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SIIA2260E

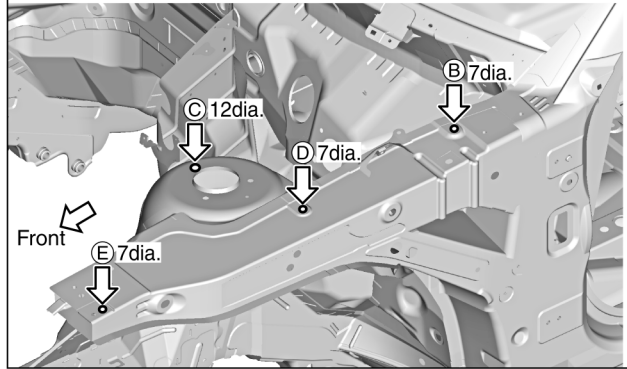
# BODY REPAIR

## Measurement Points

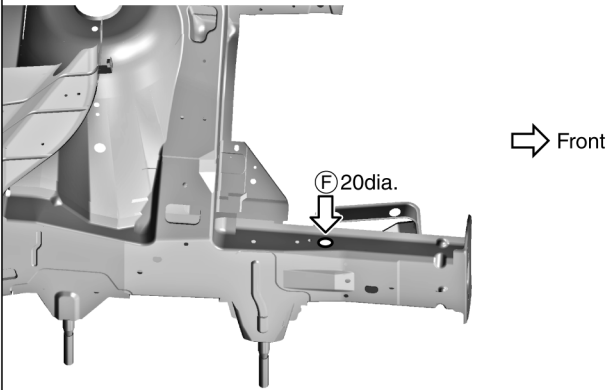
(A) : Wiper bracket installing hole center (8dia.)



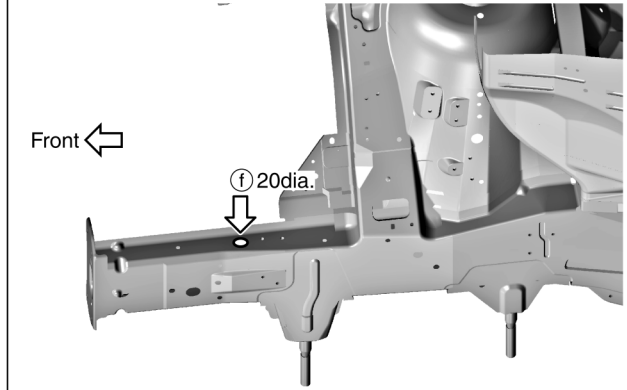
(B, b, D, d, E, e) : Front fender installing hole center (7dia.)  
(C, c) : Front strut installing hole center (12dia.)



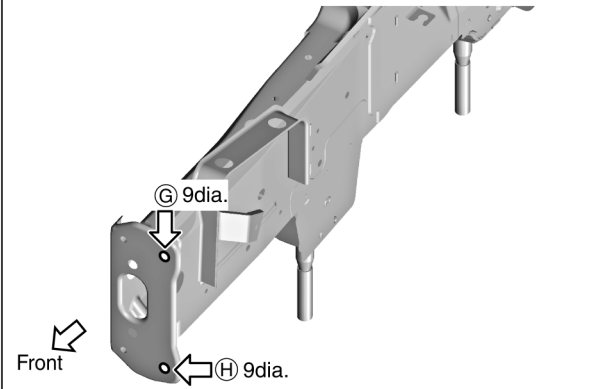
(F) : Front side member hole center (20dia.)



(f) : Front side member hole center (20dia.)



(G, g, H, h) : Front bumper stay installing hole center (9dia.)



SIIA2261E

# BODY REPAIR

## UNDERBODY Measurement

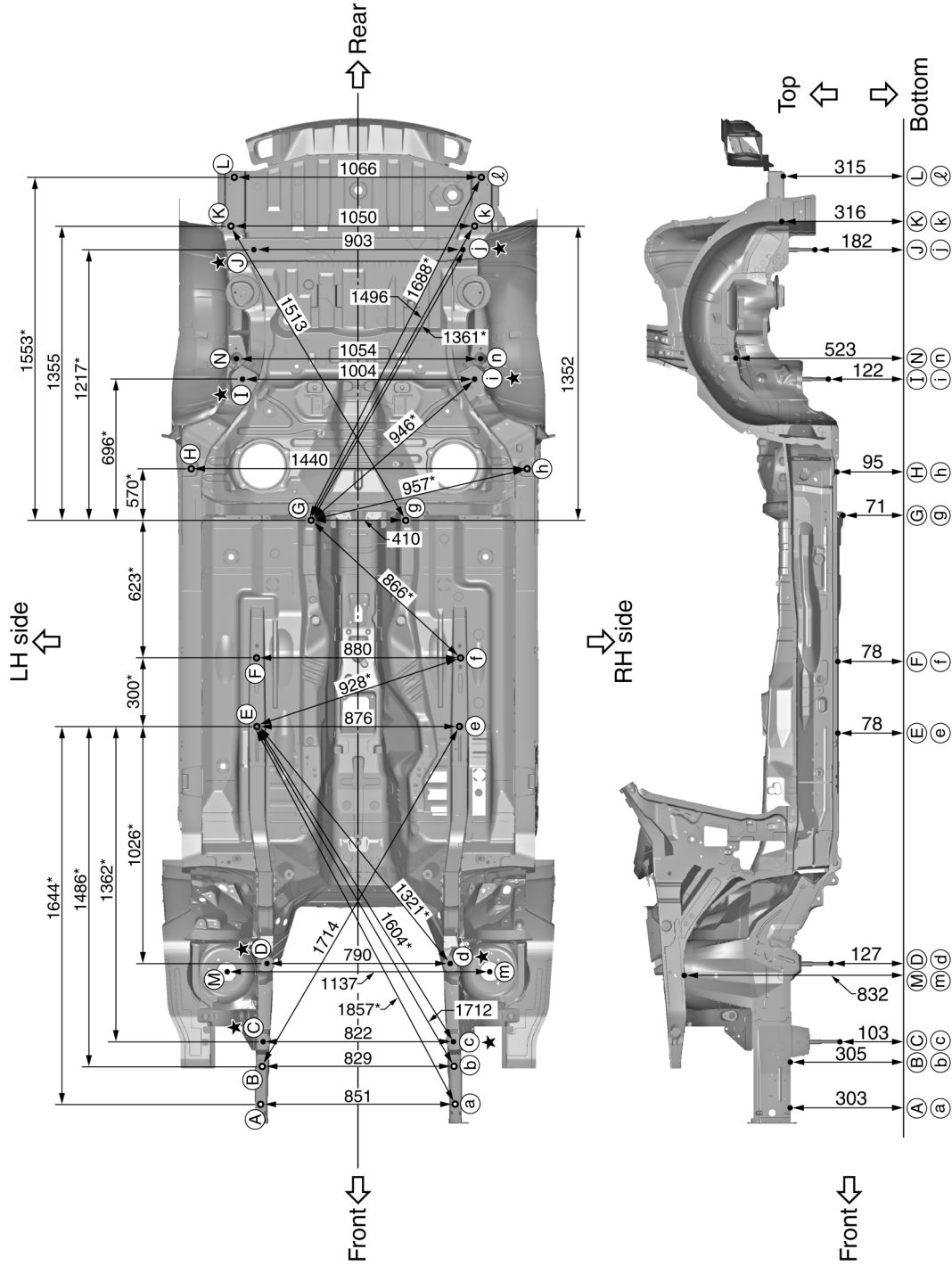
Unit : mm

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

As viewed from underside.

★ : Bolt head

All dimensions indicated in this figure are actual.



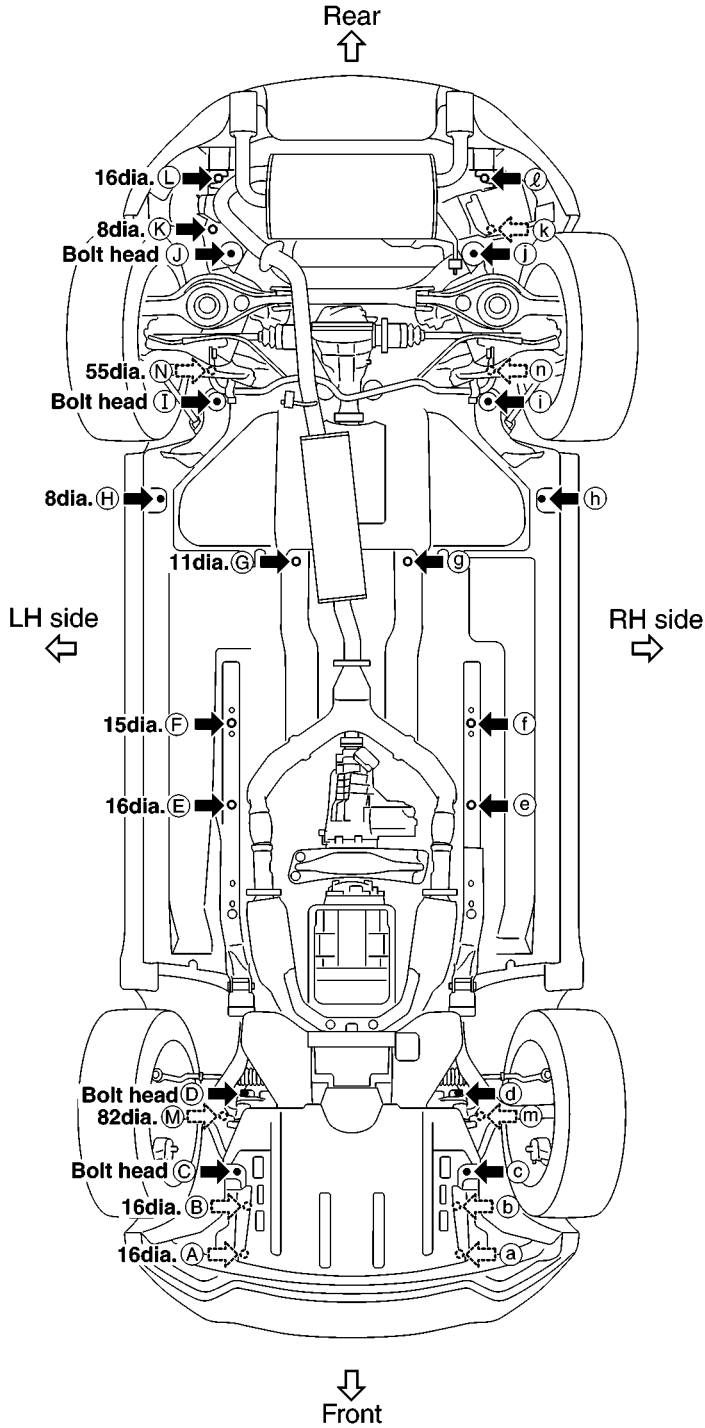
A  
B  
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D  
E  
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G  
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# BODY REPAIR

## Measurement Points

Unit : mm

As viewed from underside.



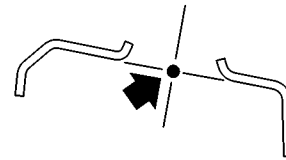
Coordinates:

(A), (a)	(H), (h)
X:426	X:720
Y:-528	Y:2220
Z:303	Z:95
(B)	(I), (i)
X:416	X:502
Y:-368	Y:2604
Z:305	Z:122
(b)	(J), (j)
X:-413	X:452
Y:-368	Y:3164
Z:305	Z:182
(C), (c)	(K)
X:411	X:550
Y:-261	Y:3265
Z:103	Z:316
(D), (d)	(k)
X:395	X:-500
Y:76	Y:3273
Z:127	Z:316
(E), (e)	(L), (l)
X:438	X:533
Y:1100	Y:3475
Z:78	Z:315
(F), (f)	
X:440	
Y:1400	
Z:78	
(G), (g)	
X:205	
Y:1977	
Z:71	

Front and rear strut tower centers

Coordinates:

(M), (m)
X:568
Y:43
Z:832
(N), (n)
X:527
Y:2691
Z:523



Front: (M), (m) 82dia.  
Front: (N), (n) 55dia.

SIIA2263E

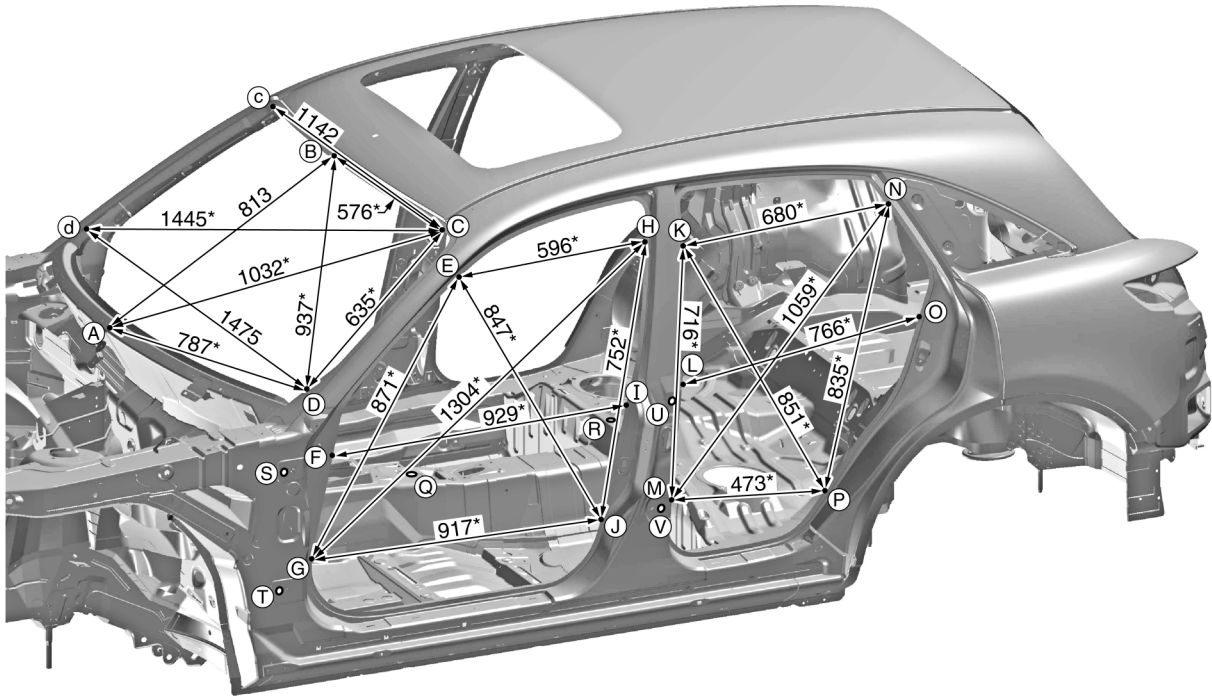
# BODY REPAIR

## PASSENGER COMPARTMENT

### Measurement

Unit : mm

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



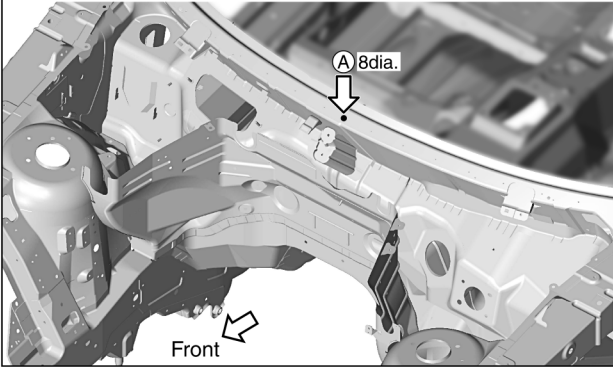
Point	Dimension	Point	Dimension	Point	Dimension
E~e	1,352	K~k	1,524*	Q~I	950*
E~g	1,692*	K~P	1,719*	Q~J	820*
E~h	1,485*	L~l	1,556	R~K	1,035*
E~J	1,680*	M~m	1,556	R~L	885*
F~f	1,556	M~n	1,788*	R~M	805*
G~g	1,556	M~P	1,647*	R~N	1,168*
G~h	1,957*	N~n	1,334	R~O	1,077*
G~J	1,807*	N~P	1,682*	R~P	845*
H~h	1,369	O~o	1,516	S~U	1,218*
H~J	1,642*	P~P	1,599	S~V	1,220*
I~i	1,556	Q~E	1,097*	T~U	1,294*
J~J	1,556	Q~F	1,081*	T~V	1,204*
K~k	1,395	Q~G	1,046*		
K~m	1,638*	Q~H	1,157*		

SIIA2264E

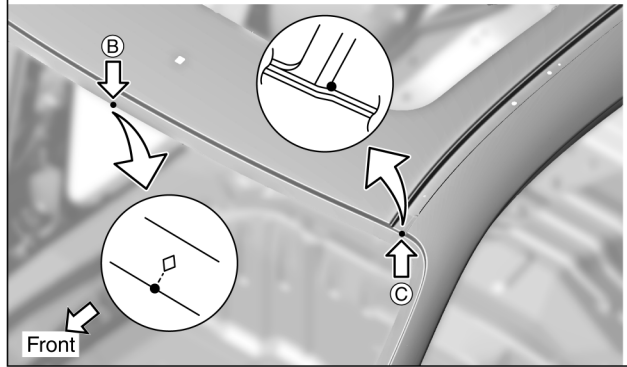
# BODY REPAIR

## Measurement Points

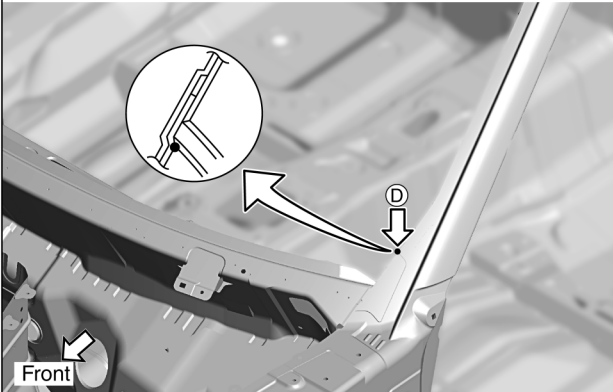
(A) : Upper dash crossmember hole center of center positioning mark (8dia.)



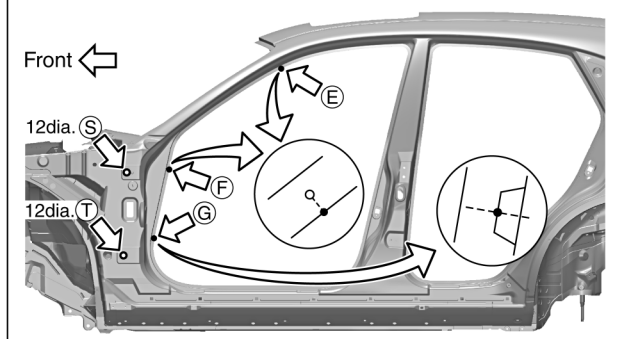
(B) : Front roof flange end of center positioning mark  
(C), (c) : Front pillar joggle



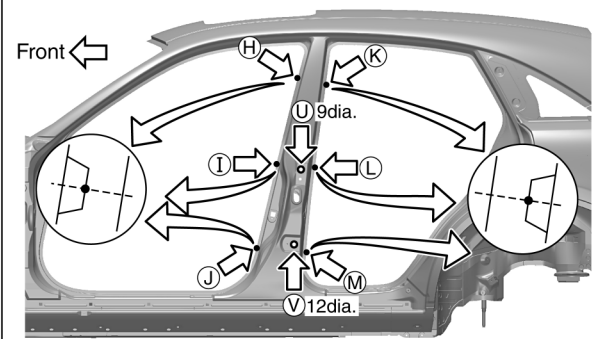
(D), (d) : Front pillar hinge brace joggle



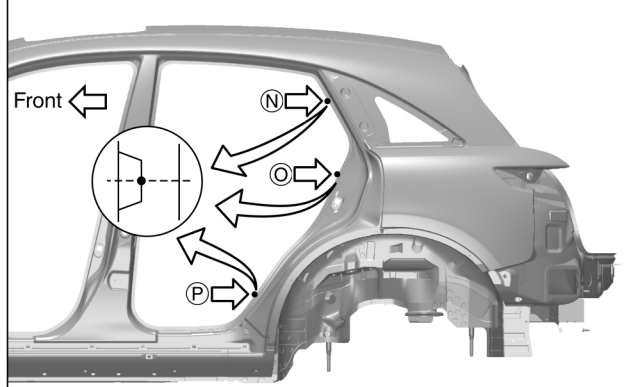
(E), (e), (F), (f) : Front pillar flange end  
(G), (g) : Front pillar indent  
(S), (s), (T), (t) : Door hinge installing nut center (12dia.)



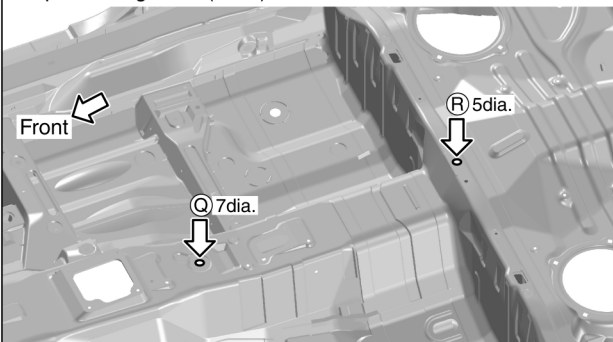
(H), (h), (I), (i), (J), (j), (K), (k), (L), (l), (M), (m) : Center pillar indent  
(U), (u), (V), (v) : Door hinge installing nut center  
(U, u : 9dia. , V, v : 12dia.)



(N), (n), (O), (o), (P), (p) : Rear fender indent



(Q) : Front floor center hole center of center positioning mark (7dia.)  
(R) : Lower rear seat crossmember hole center of center positioning mark (5dia.)



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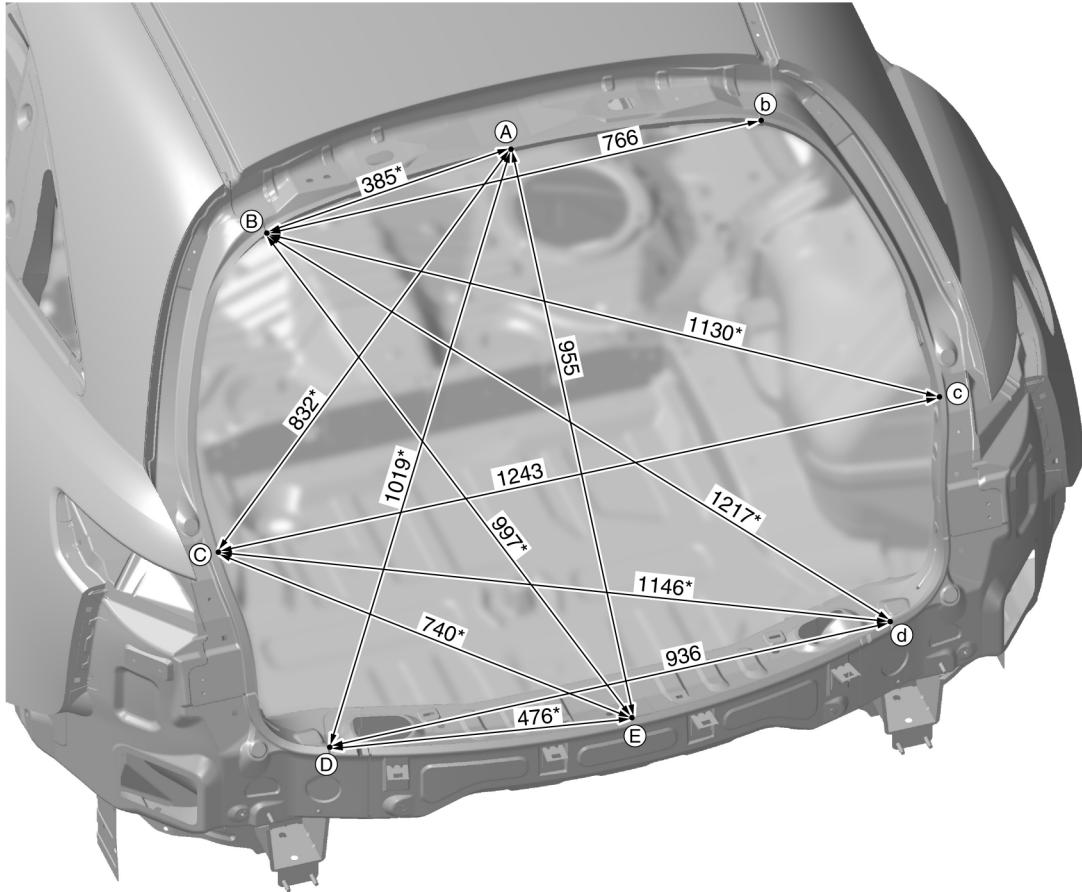


# BODY REPAIR

## REAR BODY Measurement

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

Unit : mm



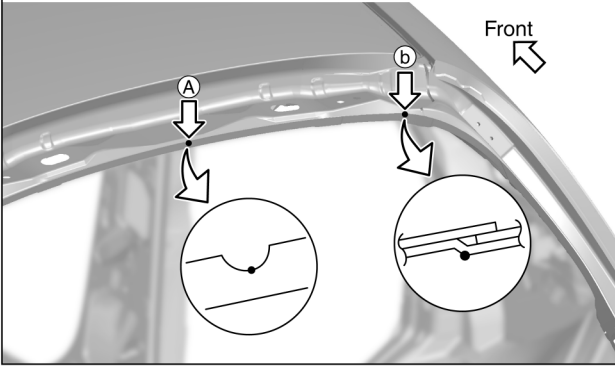
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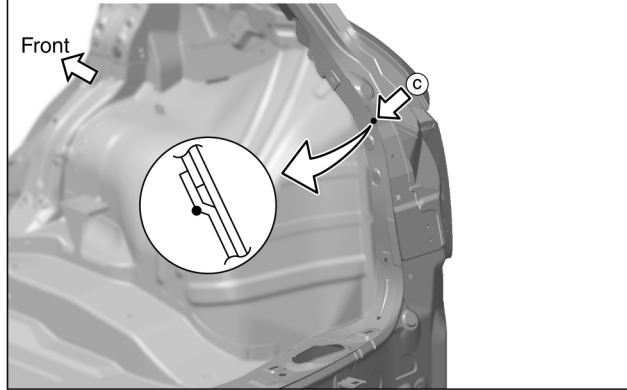
# BODY REPAIR

## Measurement Points

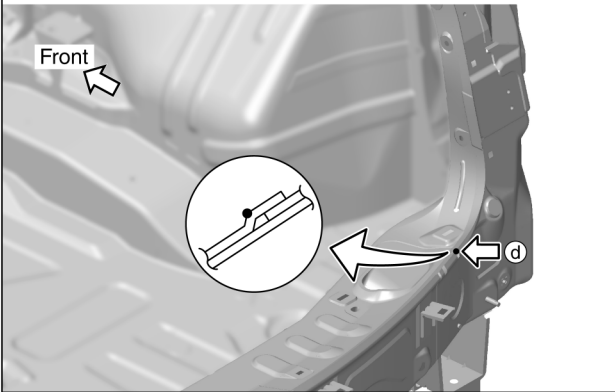
- (A) : Rear roof indent of center positioning mark  
(B) , (b) : Rear roof rail brace joggle



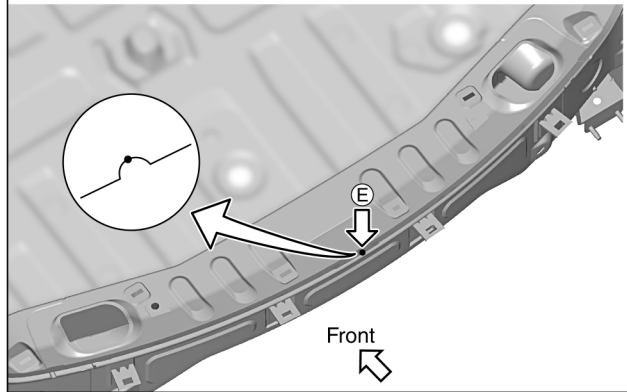
- (C) , (c) : Inner back pillar extension joggle



- (D) , (d) : Rear end crossmember joggle



- (E) : Rear end crossmember indent of center positioning mark



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# BODY REPAIR

## Handling Precautions For Plastics HANDLING PRECAUTIONS FOR PLASTICS

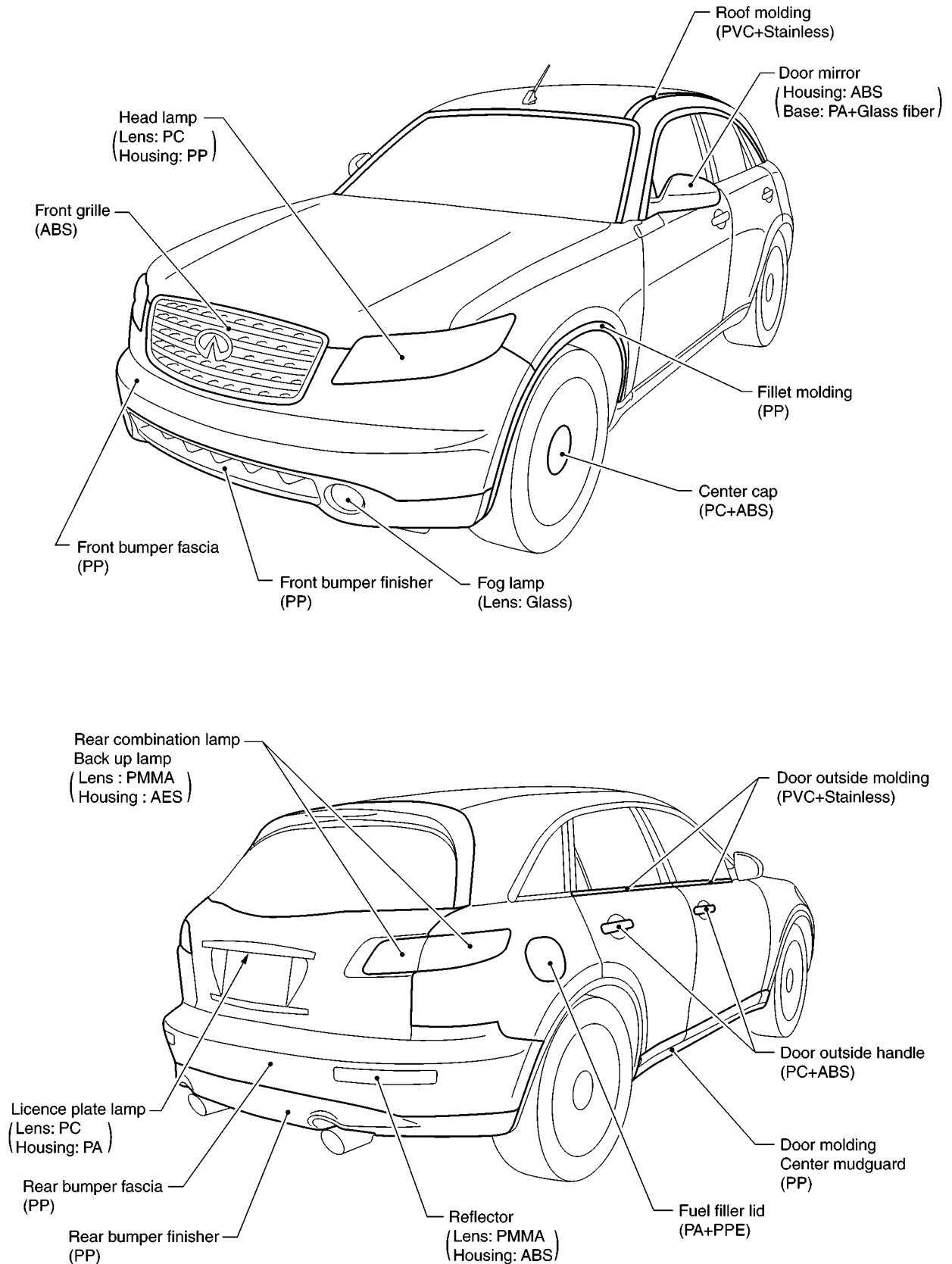
AIS00628

Abbreviation	Material name	Heat resisting temperature °C(°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60(140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Poly Vinyl Chloride	80(176)	Same as above.	Poison gas is emitted when burned.
EPM/EPDM	Ethylene Propylene (Diene) copolymer	80(176)	Same as above.	Flammable
PP	Polypropylene	90(194)	Same as above.	Flammable, avoid battery acid.
UP	Unsaturated Polyester	90(194)	Same as above.	Flammable
PS	Polystyrene	80(176)	Avoid solvents.	Flammable
ABS	Acrylonitrile Butadiene Styrene	80(176)	Avoid gasoline and solvents.	
AES	Acrylonitrile Ethylene Styrene	80(176)	Same as above.	
PMMA	Poly Methyl Methacrylate	85(185)	Same as above.	
EVAC	Ethylene Vinyl Acetate	90(194)	Same as above.	
ASA	Acrylonitrile Styrene Acrylate	100(222)	Same as above.	Flammable
PPE	Poly Phenylene Ether	110(230)	Same as above.	
PC	Polycarbonate	120(248)	Same as above.	
PAR	Polyarylate	180(356)	Same as above.	
PUR	Polyurethane	90(194)	Same as above.	
POM	Poly Oxymethylene	120(248)	Same as above.	Avoid battery acid.
PBT+PC	Poly Butylene Terephthalate + Polycarbonate	120(248)	Same as above.	Flammable
PA	Polyamide	140(284)	Same as above.	Avoid immersing in water.
PBT	Poly Butylene Terephthalate	140(284)	Same as above.	
PET	Polyester	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.

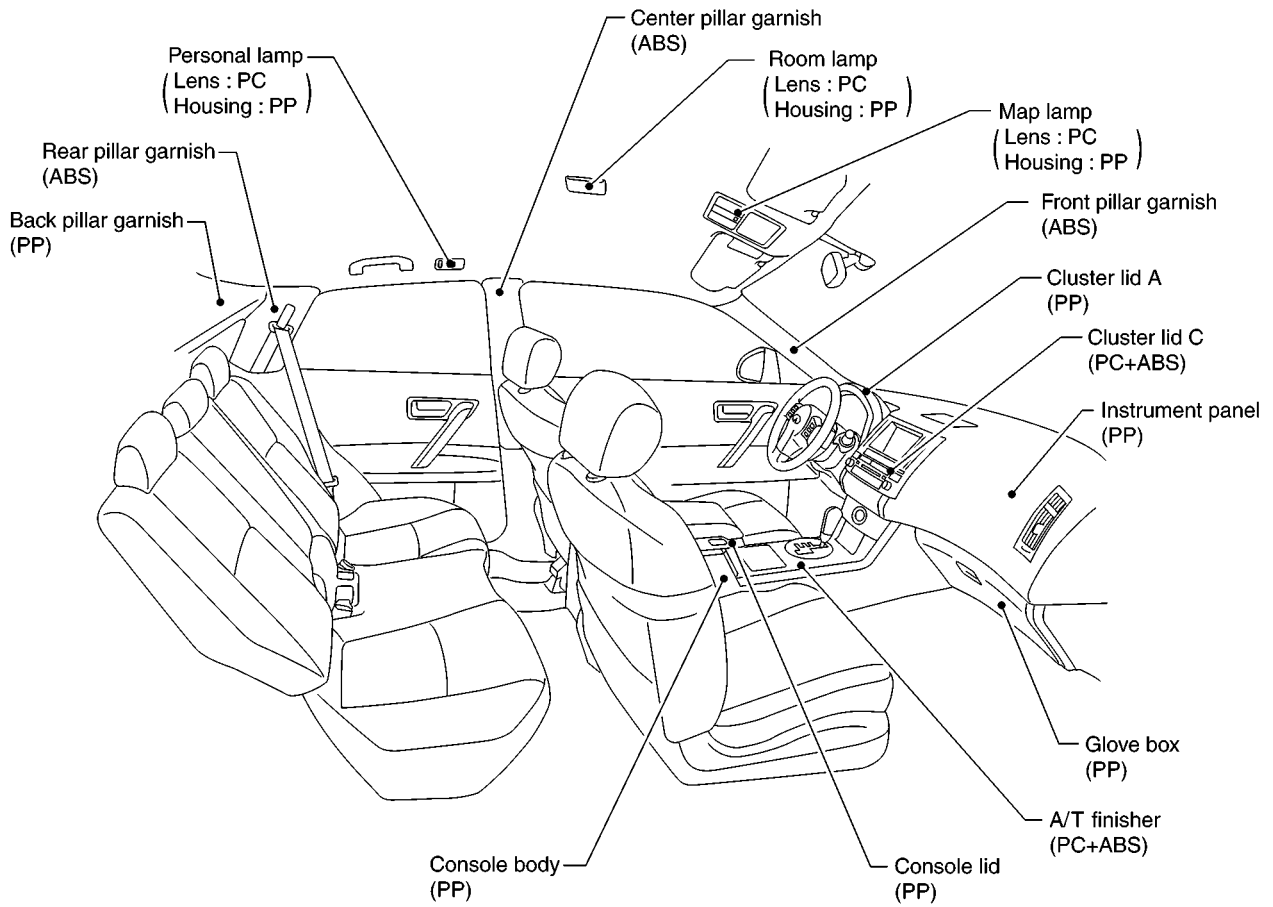
# BODY REPAIR

## LOCATION OF PLASTIC PARTS



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# BODY REPAIR



SIIA2269E

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# BODY REPAIR

## Precautions In Repairing High Strength Steel

AI500629

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 <sup>2</sup> (38kg/mm <sup>2</sup> ,54klb/sq in)	SP130	<ul style="list-style-type: none"><li>● Front &amp; rear side member assembly</li><li>● Hoodledge assembly</li><li>● Lower dash</li><li>● Hood</li><li>● Other reinforcements</li></ul>

SP130 is the most commonly used HSS.

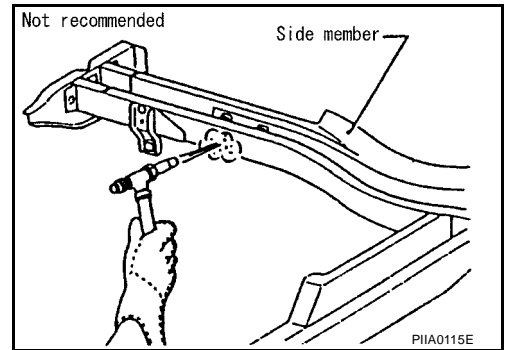
SP150 HSS is used only on parts that require much more strength.

# BODY REPAIR

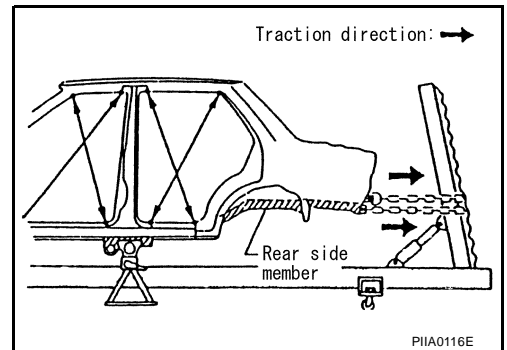
## Read the Following Precautions When Repairing HSS:

### 1. Additional points to consider

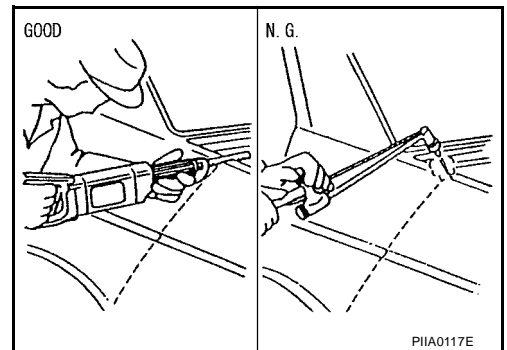
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F). Verify heating temperature with a thermometer. (Crayon-type and other similar type thermometer are appropriate.)



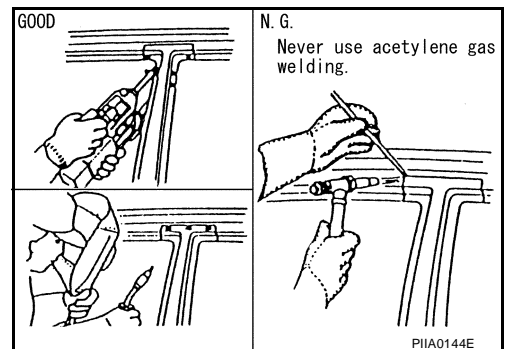
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



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



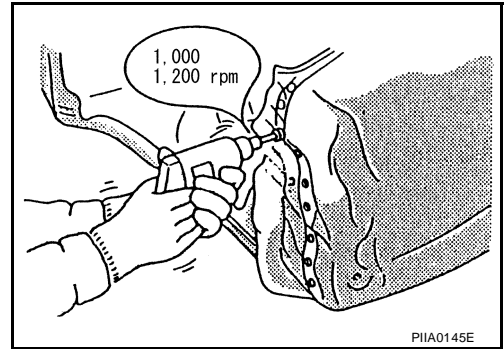
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat. If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



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# BODY REPAIR

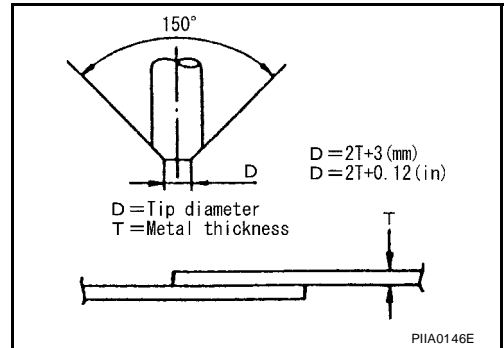
- The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



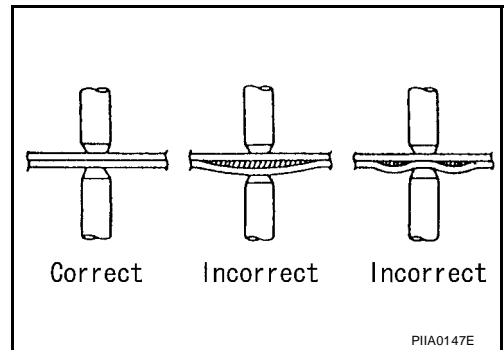
## 2. Precautions in spot welding HSS

This work should be performed under standard working conditions. Always note the following when spot welding HSS:

- The electrode tip diameter must be sized properly according to the metal thickness.



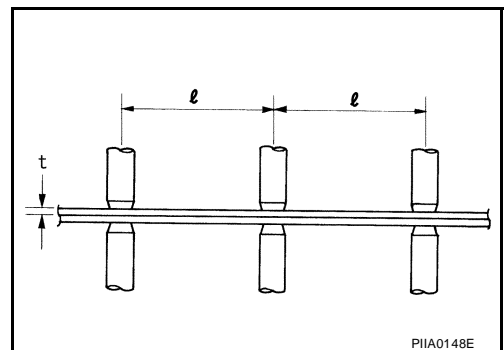
- The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit: mm

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





# BODY REPAIR

## Replacement Operations

AIS0062A

### 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 warning, that are not including in this manual. Technicians should refer to both manuals to ensure proper repairs.

Please note that these information are prepared for worldwide usage, and as such, certain procedures might not apply in some regions or countries.

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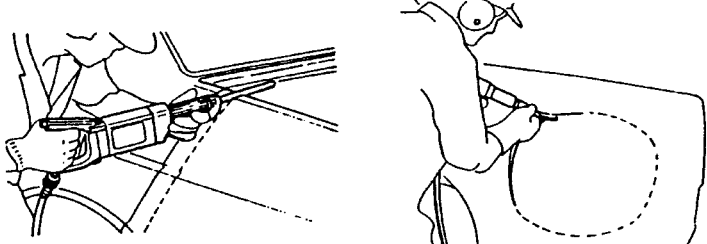
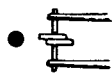
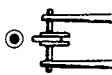

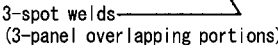
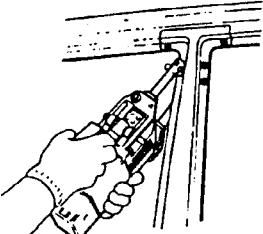

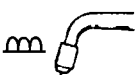
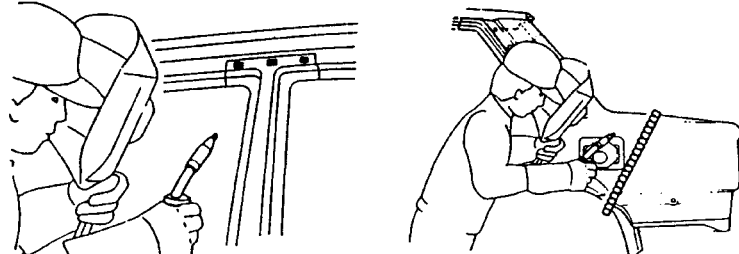
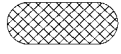

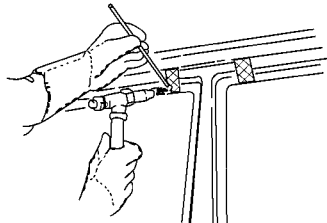


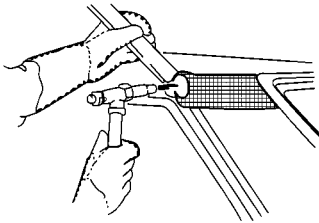
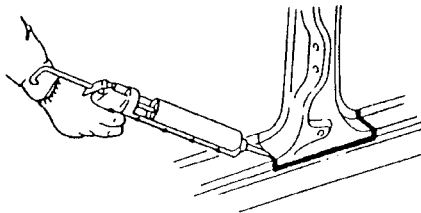
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# BODY REPAIR

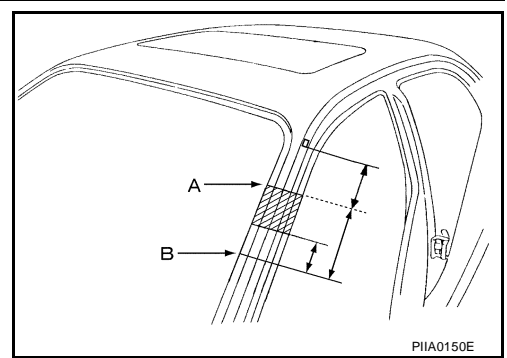
The symbols used in this section for cutting and welding / brazing operations are shown below.

 <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>■ ■ ■ ■ MIG plug weld</p>  <p>~~~~~ MIG seam weld/ Point weld</p> 		
<p>▨ ▨ ▨ ▨ Brazing</p>  		
<p>▨ ▨ ▨ ▨ Soldering</p>  		
<p>————— Sealing</p>		

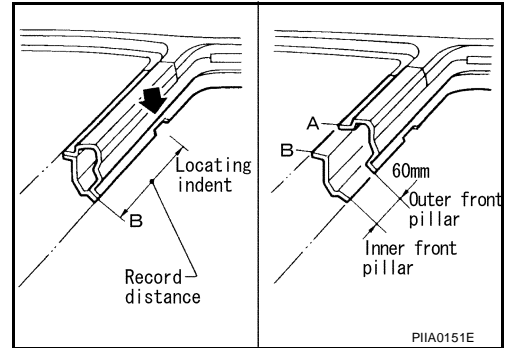
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# BODY REPAIR

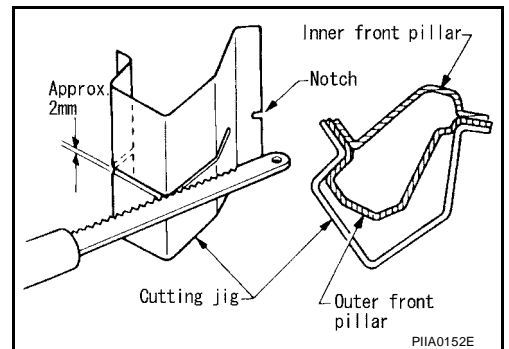
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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.

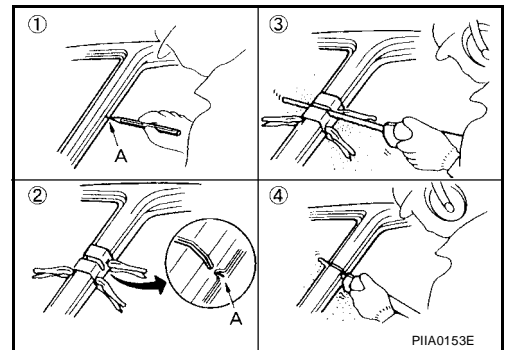


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



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

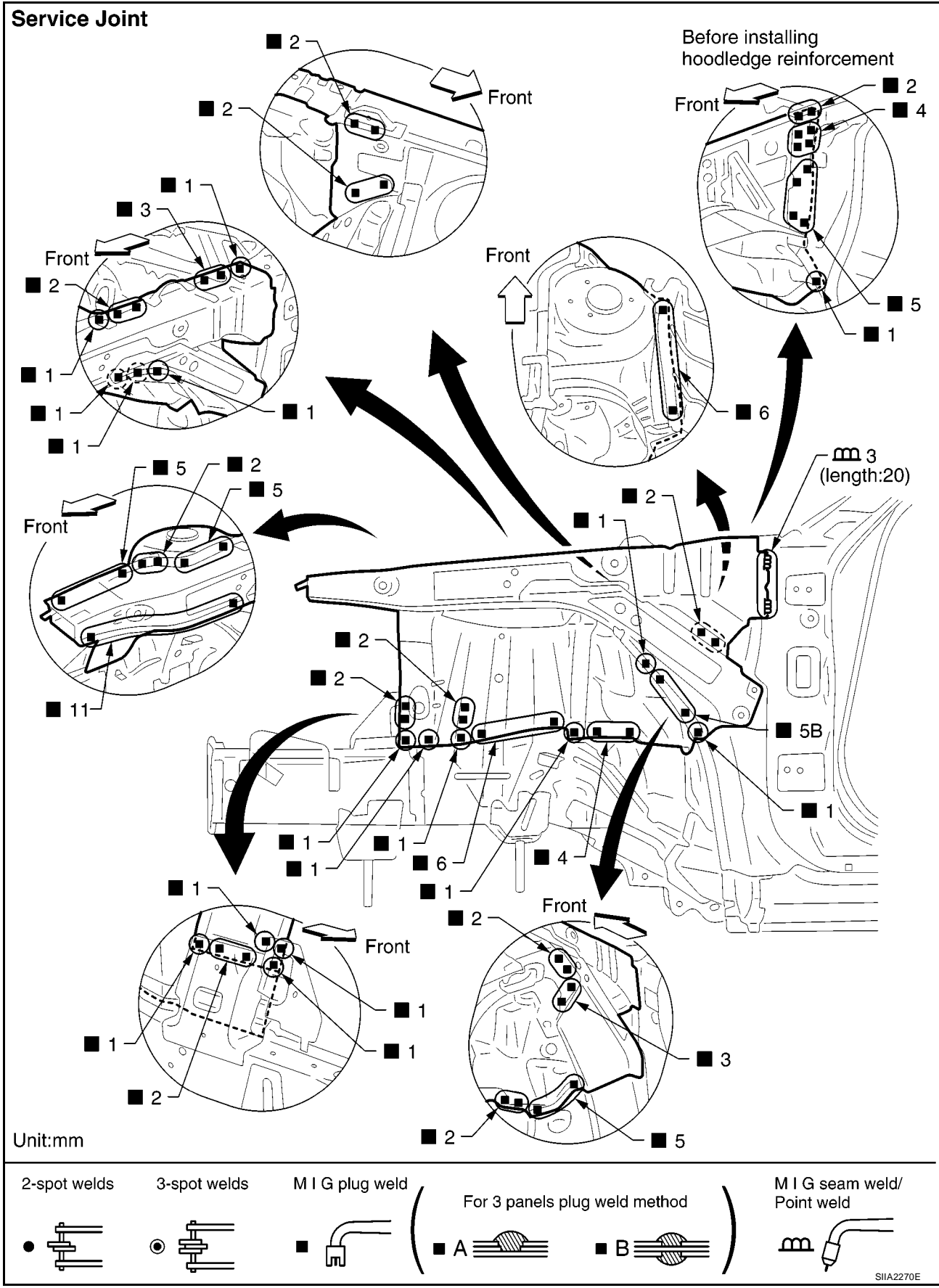
1. Mark cutting lines.  
A: Cut position of outer pillar  
B: Cut position of inner pillar
2. Align cutting line with notch on jig. Clamp jig to pillar.
3. Cut outer pillar along groove of jig. (At position A)
4. Remove jig and cut remaining portions.
5. Cut inner pillar at position B in same manner.



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# BODY REPAIR

## HOODLEDGE



# BODY REPAIR

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## Change parts

- Hoodledge assembly (LH)
- Hoodledge reinforcement (LH)

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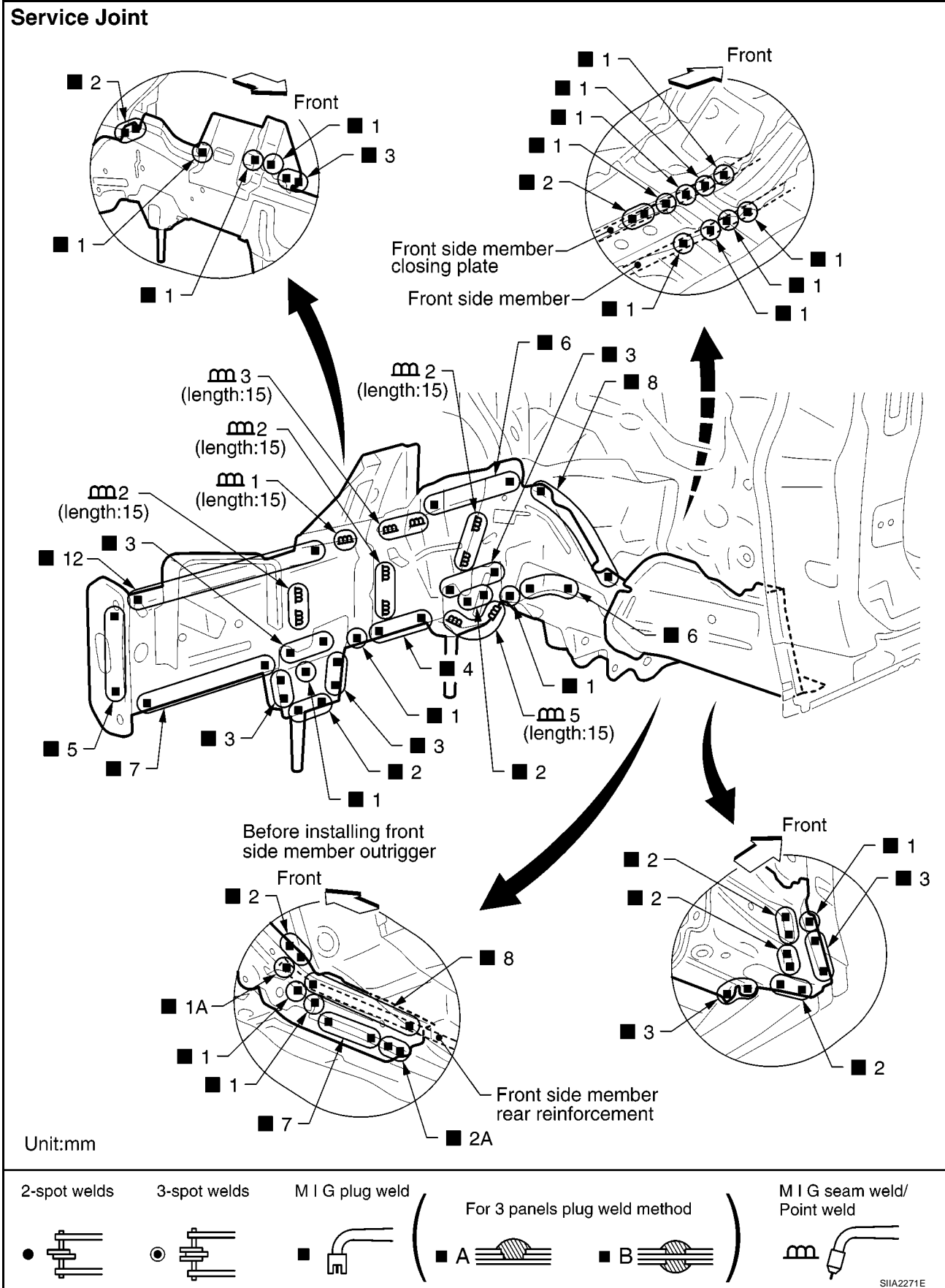
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# BODY REPAIR

## FRONT SIDE MEMBER

- Work after hoodledge has been removed.



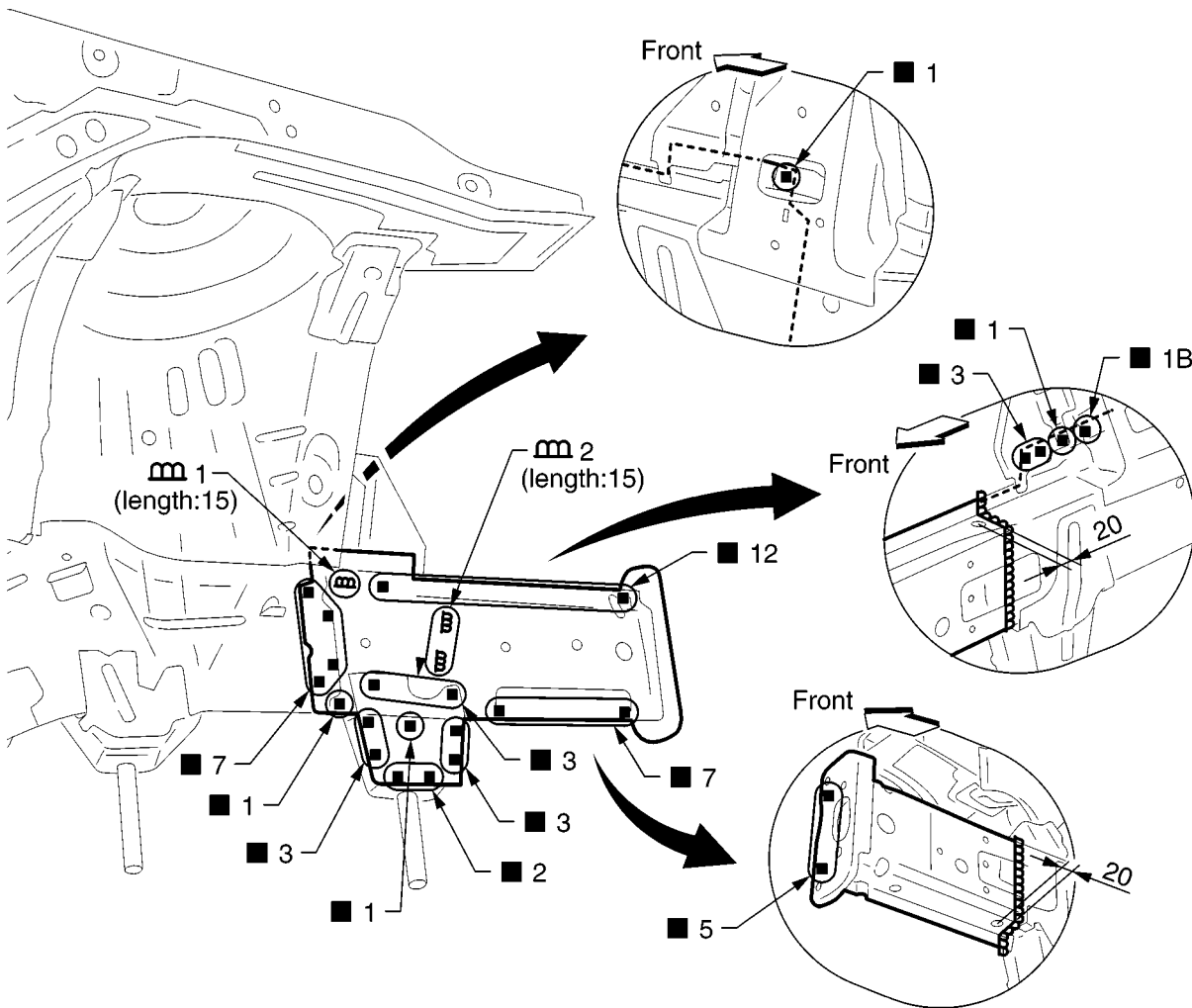


# BODY REPAIR

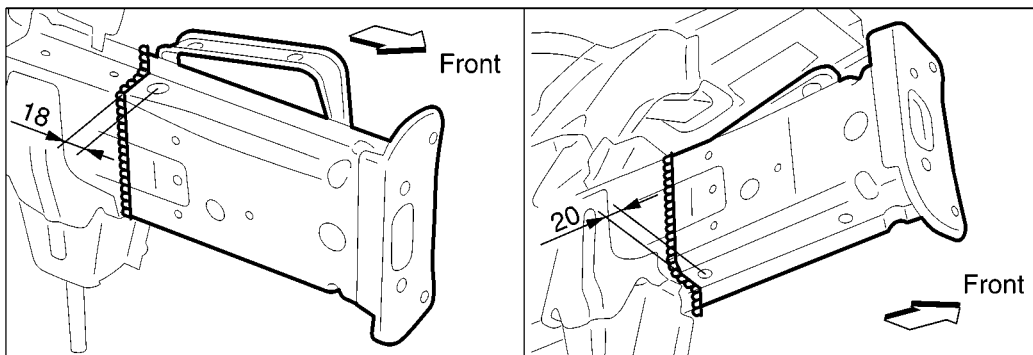
## FRONT SIDE MEMBER (PARTIAL REPLACEMENT)

### Service Joint

(This figure shows right front side member)

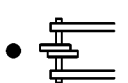


• Left front side member cut portion.



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

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Change parts

- Front side member (LH)
- Front side member closing plate (LH)
- Front side member outrigger assembly (LH)

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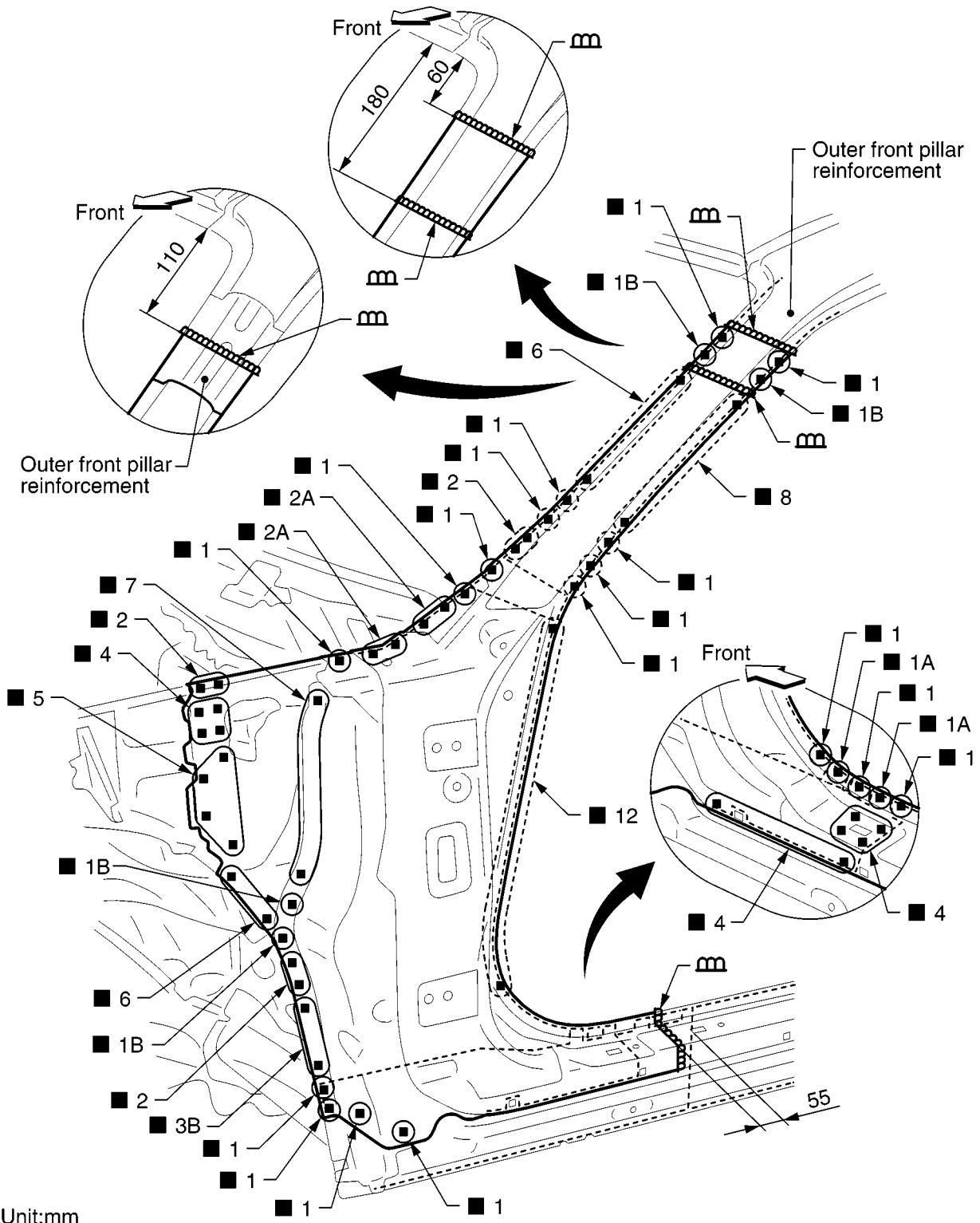
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# BODY REPAIR

## FRONT PILLAR

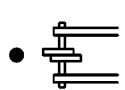
- Work after hoodledge reinforcement has been removed.

### Service Joint

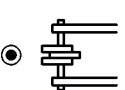


Unit:mm

2-spot welds



3-spot welds



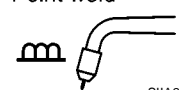
M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld

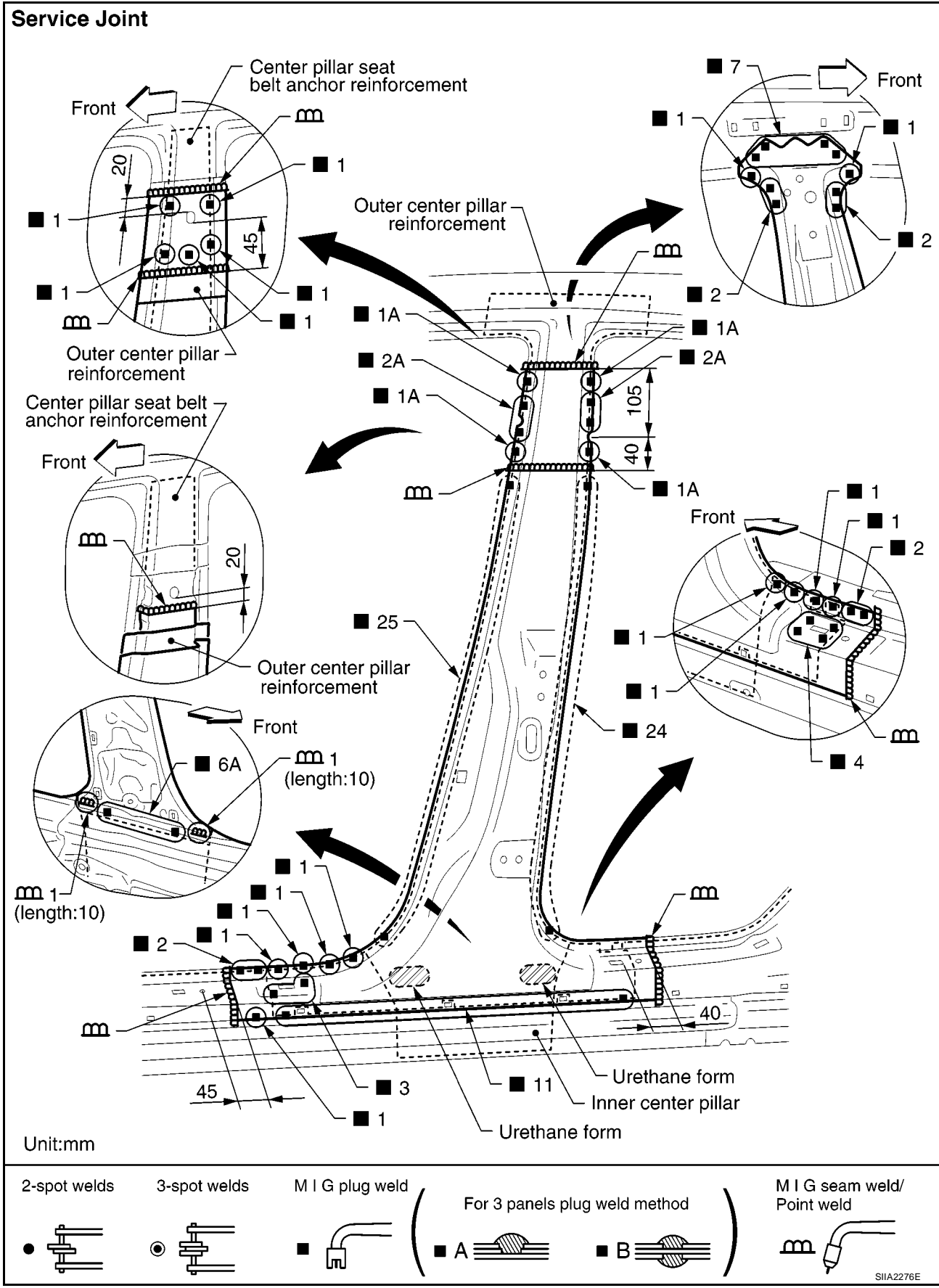


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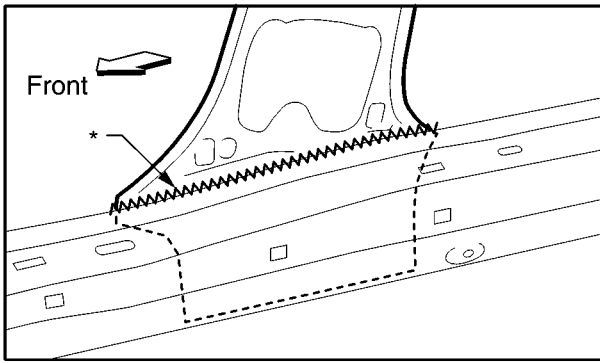
# BODY REPAIR

## CENTER PILLAR



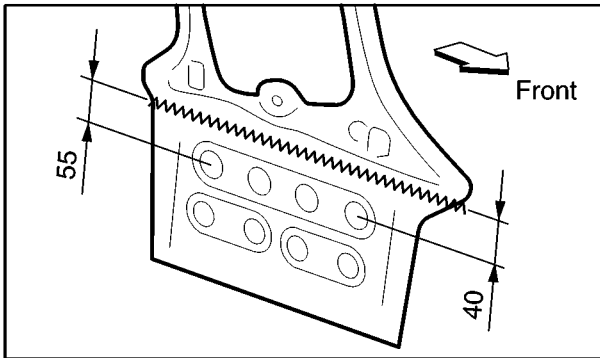
# BODY REPAIR

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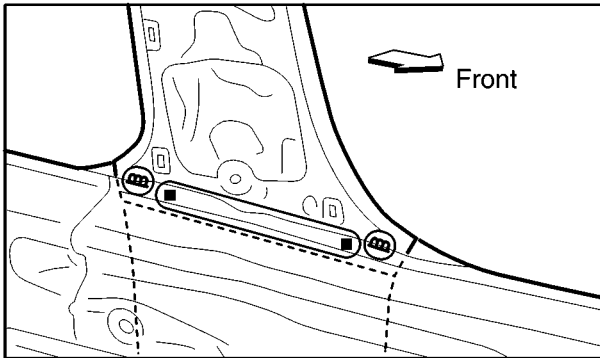
## REMOVAL NOTES

- Cut off inner center pillar along with outer sill reinforcement frange end (Portion "\*" as shown in the left figure.)



## INSTALLATION NOTES

- Cut off inner center pillar service part as shown in the left figure.



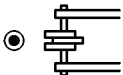
- Position inner center pillar service part as overlapped old part, then M.I.G seam and plug weld.

Unit:mm

2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIA2277E

Change parts

- Side body assembly (LH)

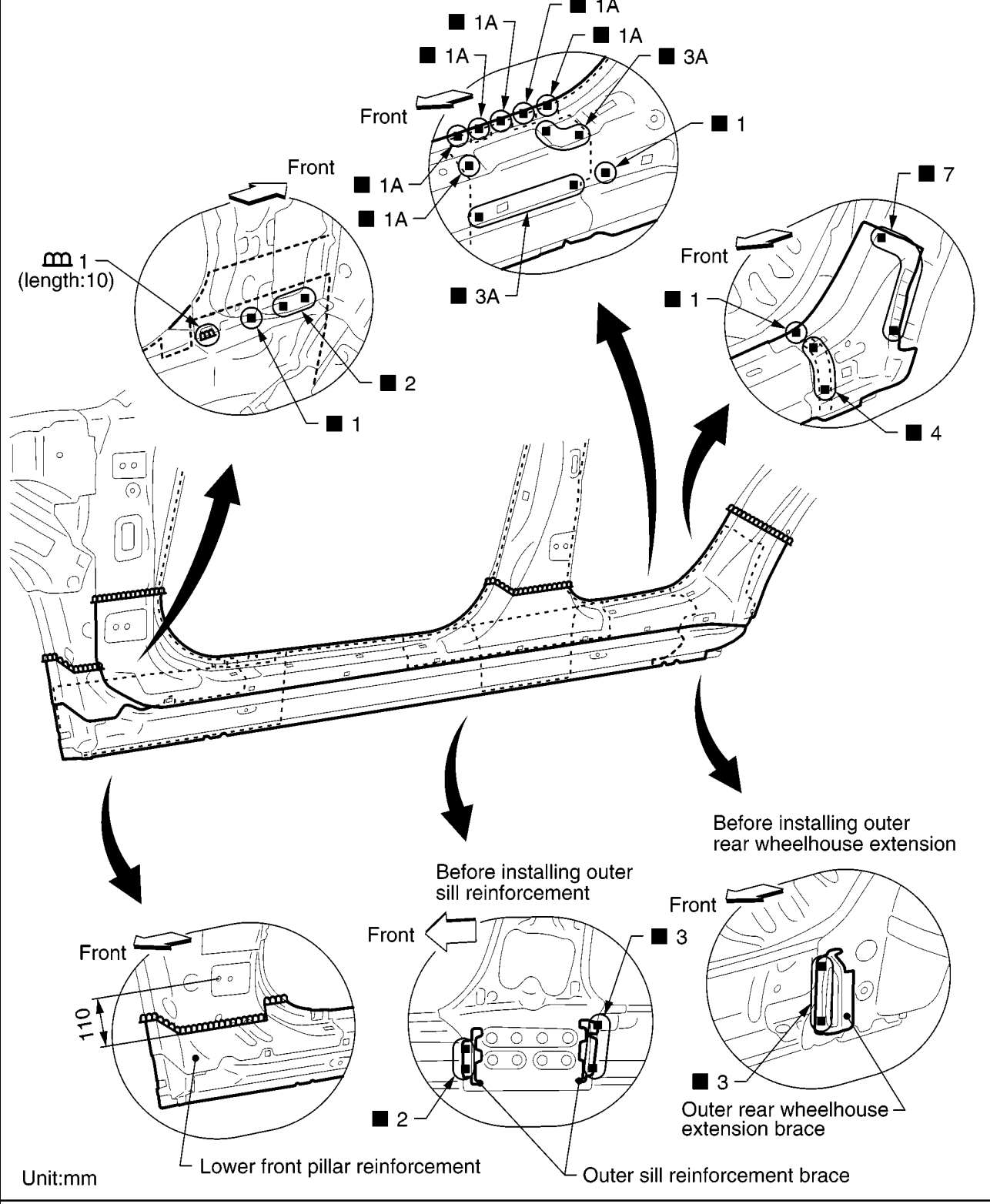
- Inner center pillar (LH)



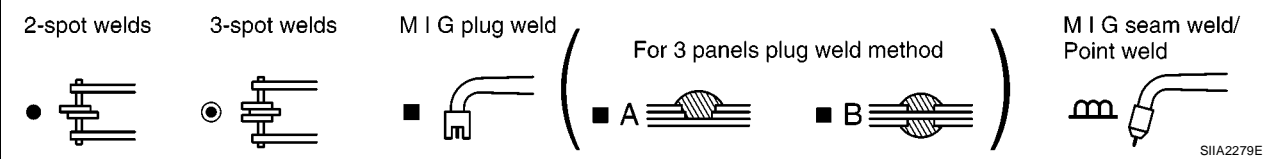
# BODY REPAIR

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## Service Joint



Unit:mm



- Change parts
- Outer sill (LH)
  - Outer sill reinforcement assembly (LH)
  - Outer front pillar reinforcement (LH)
  - Outer center pillar reinforcement (LH)
  - Outer rear wheelhouse extension (LH)

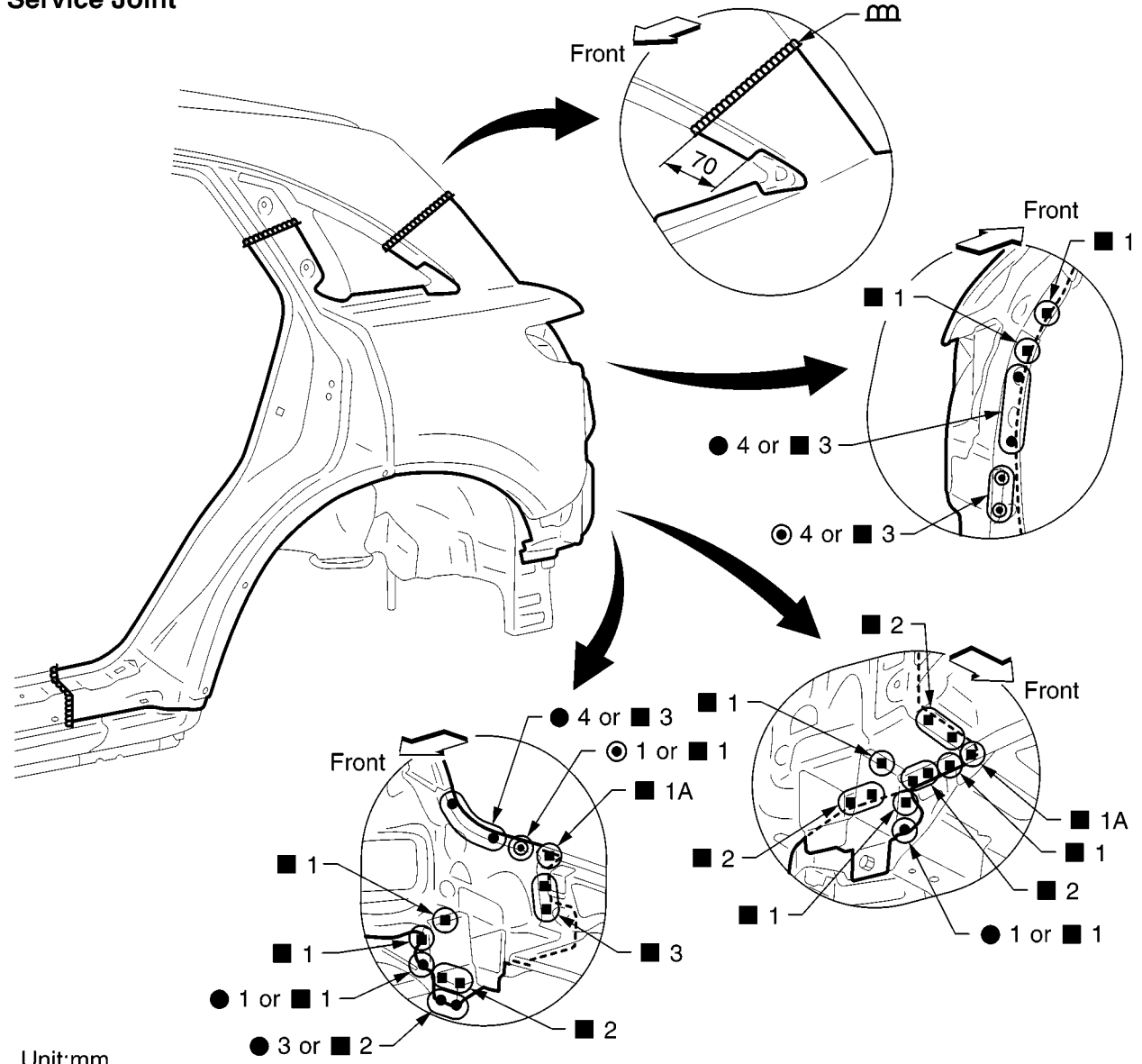




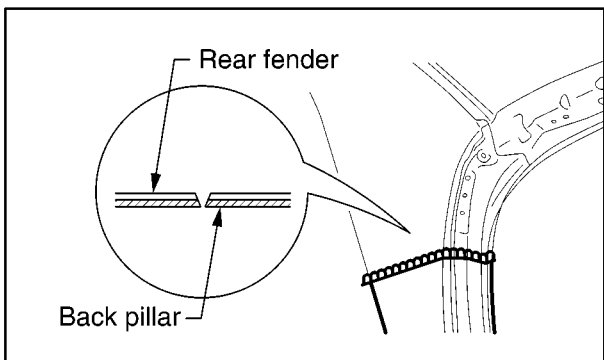
# BODY REPAIR

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## Service Joint



Unit:mm



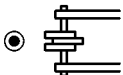
### INSTALLATION NOTES

- As shown in the left figure, make "V" shape with rear fender and back pillar by using an air grinder or air belt sander.
- Weld surface on rear fender assembly service parts in M.I.G seam welding.

2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2281E

Change parts

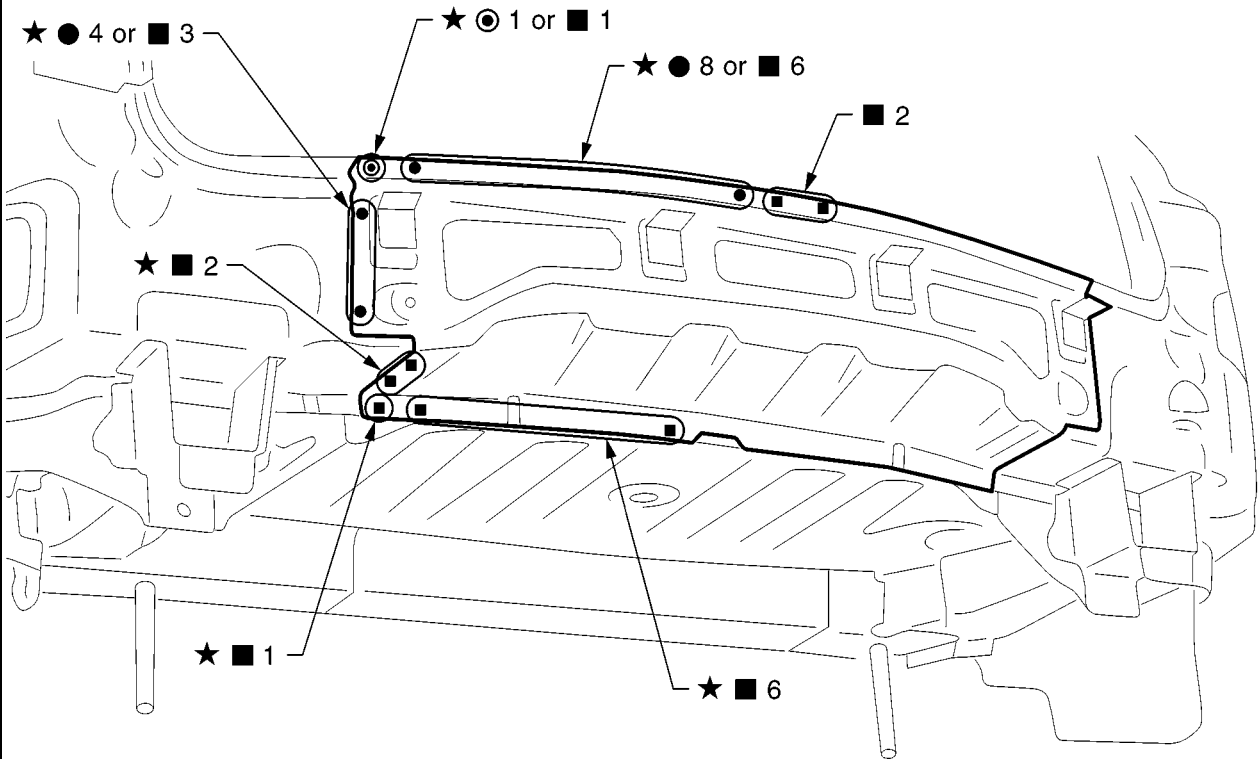
- Rear fender assembly (LH)

# BODY REPAIR

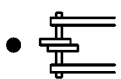
## REAR PANEL

### Service Joint

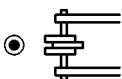
★ Indicates that there is an equivalent welding portion with the same dimensions on the opposite side.



2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2282E

# BODY REPAIR

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Change parts

- Rear panel assembly

A

B

C

D

E

F

G

H

**BL**

J

K

L

M

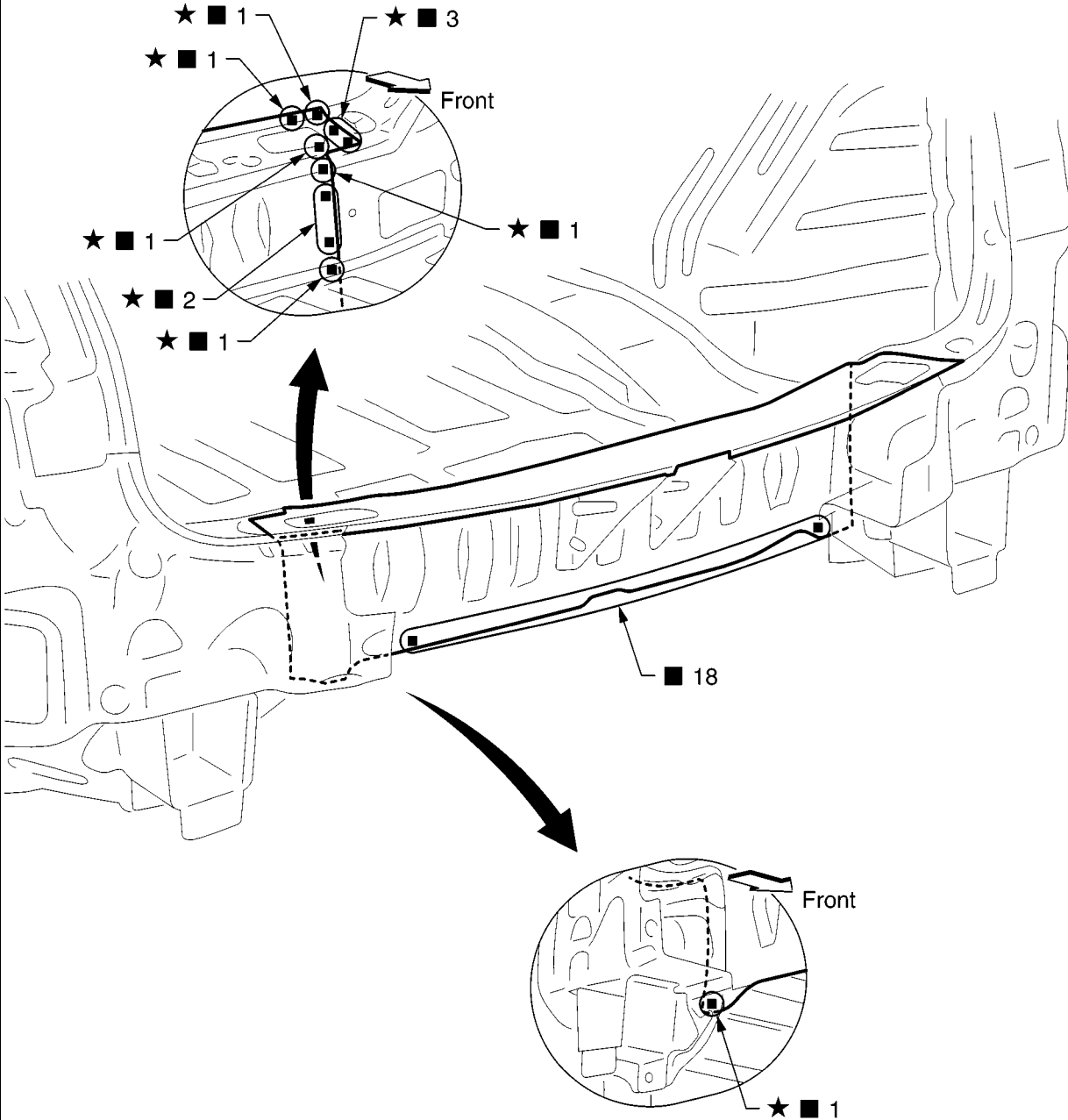
# BODY REPAIR

## REAR END CROSSMEMBER

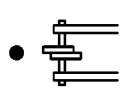
- Work after rear panel assembly has been removed.

### Service Joint

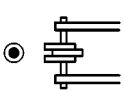
★ Indicates that there is an equivalent welding portion with the same dimensions on the opposite side.



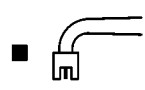
2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2283E

# BODY REPAIR

---

Change parts

- Rear end crossmember assembly

A

B

C

D

E

F

G

H

**BL**

J

K

L

M

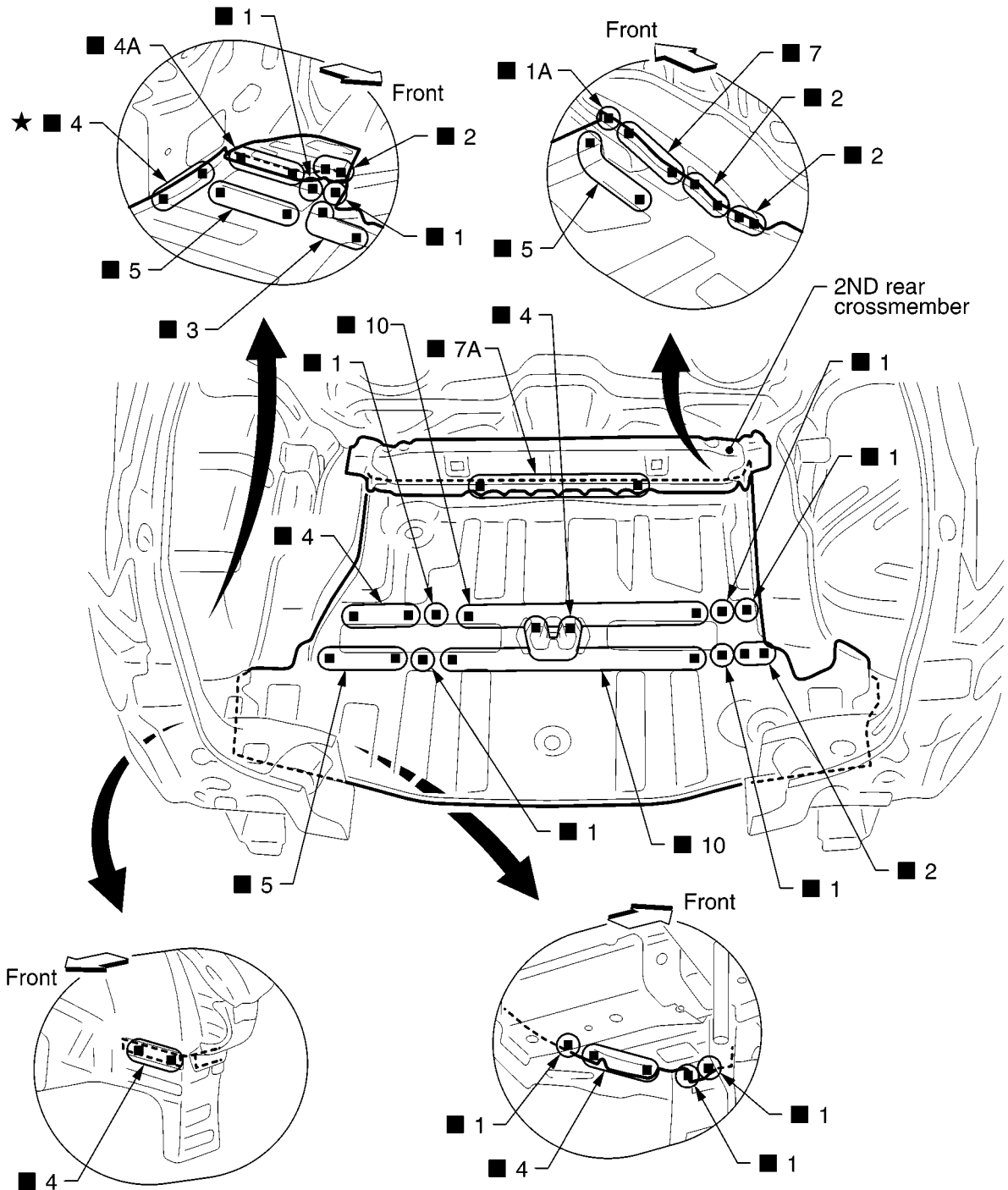
# BODY REPAIR

## REAR FLOOR REAR

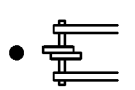
- Work after rear panel assembly and rear end crossmember assembly have been removed.

### Service Joint

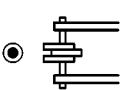
★ Indicates that there is an equivalent welding portion with the same dimensions on the opposite side.



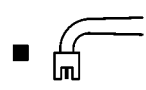
2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld

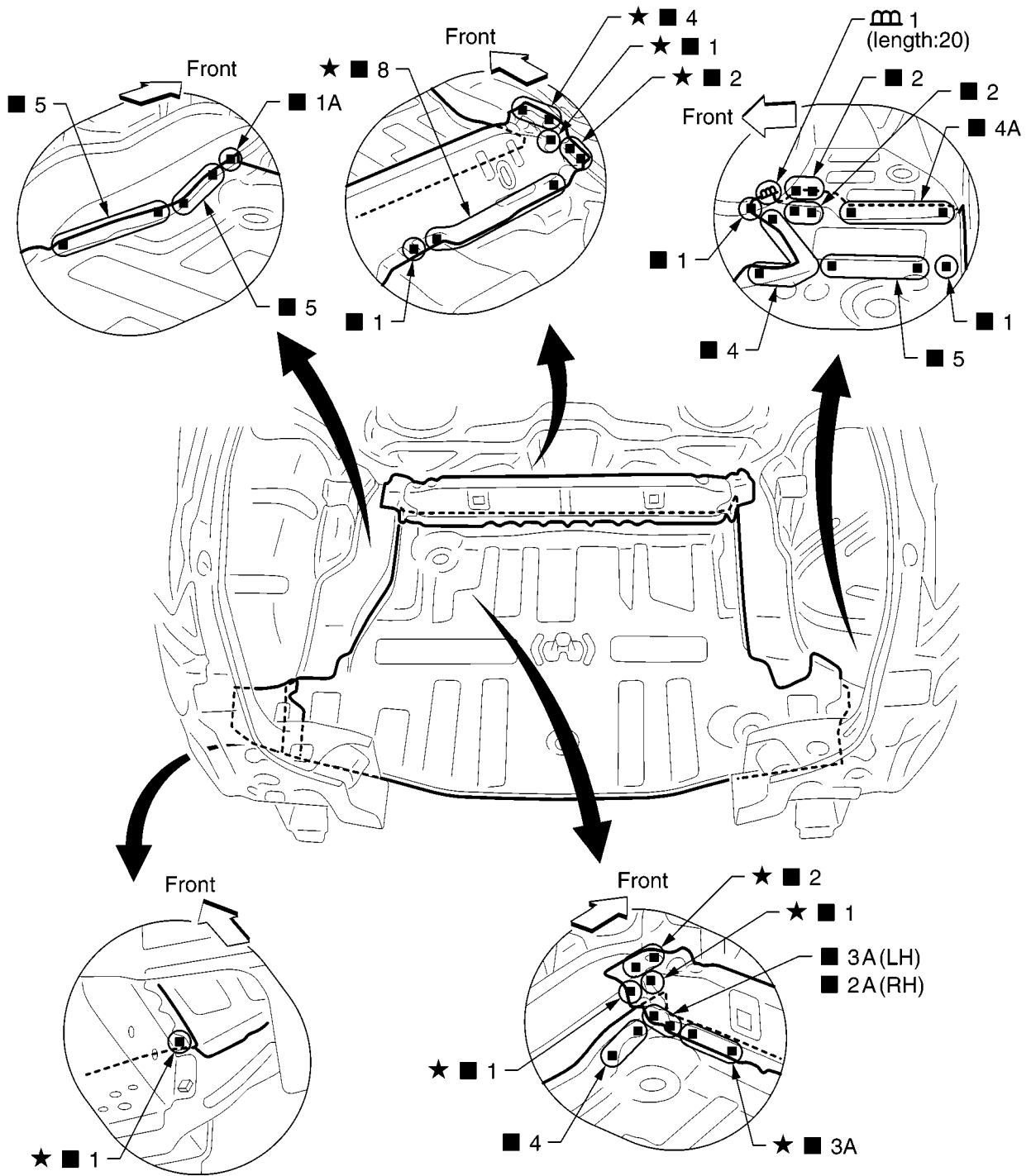


SIIA2284E

# BODY REPAIR

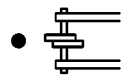
## Service Joint

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

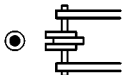


Unit:mm

2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



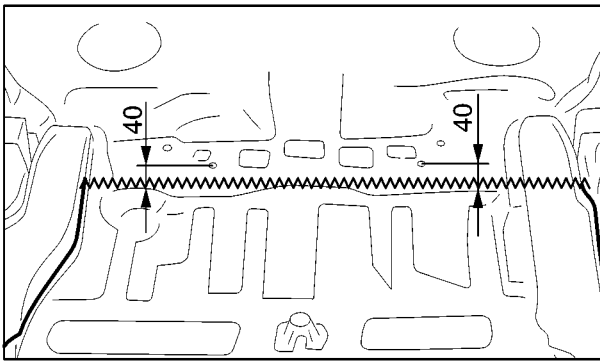
M I G seam weld/  
Point weld



SIIA2285E

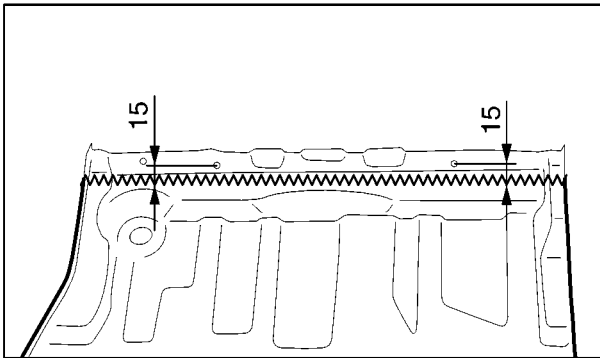
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# BODY REPAIR



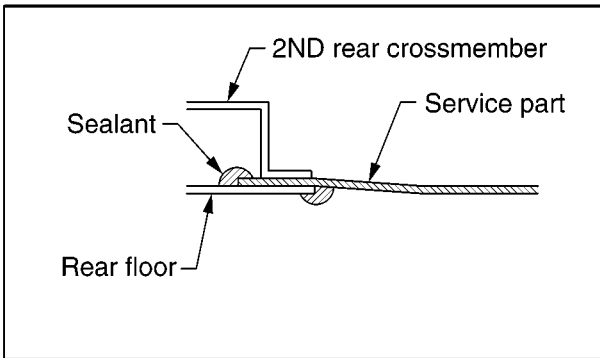
## REMOVAL NOTES

- Remove 2ND rear crossmember for easier installation.
- Cut off rear floor at the portion as shown in the left figure.



## INSTALLATION NOTES

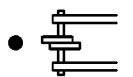
- Cut off rear floor rear (service part) at the portion as shown in the left figure.



- Position rear floor rear service part as overlapped old part, then weld them.
- Apply sealant as shown in the left figure.
- Then, re-weld 2ND rear crossmember.

Unit:mm

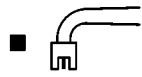
2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2286E

Change parts

- Rear floor rear

- Spare tire clamp bracket

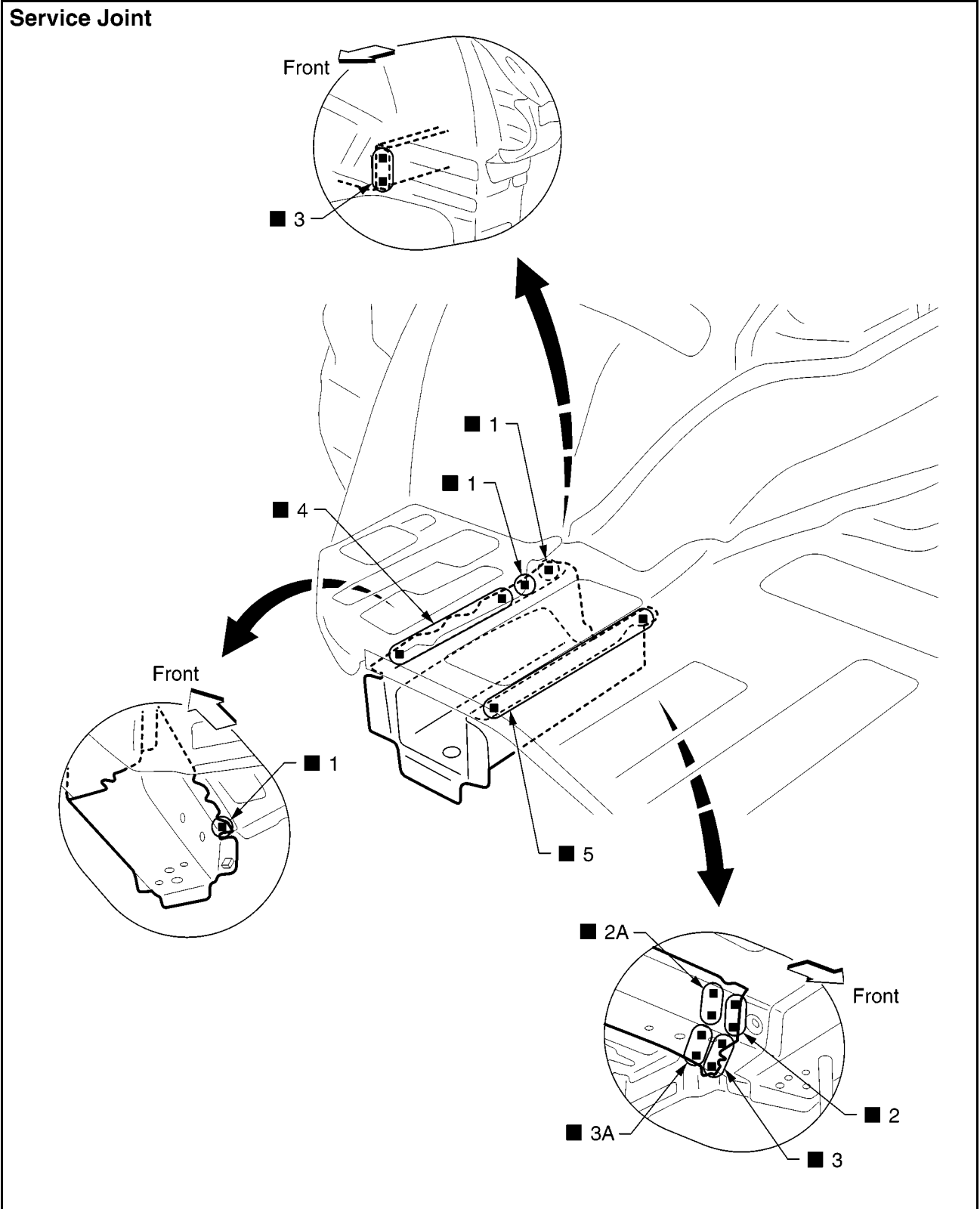


# BODY REPAIR

## REAR SIDE MEMBER EXTENSION

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

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



2-spot welds	3-spot welds	MIG plug weld	For 3 panels plug weld method		MIG seam weld/ Point weld

SIIA2287E

# BODY REPAIR

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Change parts

- Rear side member extension (LH)