

SECTION **PG**

**POWER SUPPLY, GROUND & CIRCUIT ELEMENTS**

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# PRECAUTIONS

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## PRECAUTION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:00000000575335

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 SR 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution for Power Generation Variable Voltage Control System

INFOID:000000005272409

#### **CAUTION:**

For this model, the battery current sensor that is installed to the negative battery cable measures the charging/discharging current of the battery and performs various engine controls. If an electrical component is connected directly to the negative battery terminal, the current flowing through that component will not be measured by the battery current sensor. This condition may cause a malfunction of the engine control system and battery discharge may occur. Do not connect an electrical component or ground wire directly to the battery terminal.

# PREPARATION

< PREPARATION >

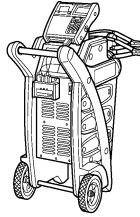
## PREPARATION

### PREPARATION

#### Special Service Tool

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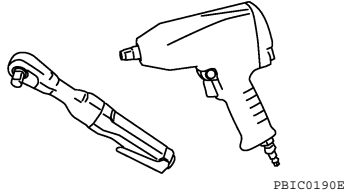
Tool number (Kent-Moore No.) Tool name	Description
— (—) Model GR-8 Multitasking Battery Diagnostic Station	Tests batteries, starting and charging systems. For operating instructions, refer to diagnostic station instruction manual.



#### Commercial Service Tool

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Tool name	Description
Power tool	Loosening bolts and nuts



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# BATTERY

< BASIC INSPECTION >

## BASIC INSPECTION

### BATTERY

#### How to Handle Battery

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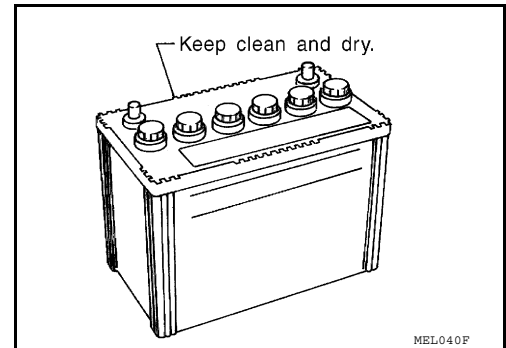
#### CAUTION:

- If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.
- After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.
- Never add distilled water through the hole used to check specific gravity.

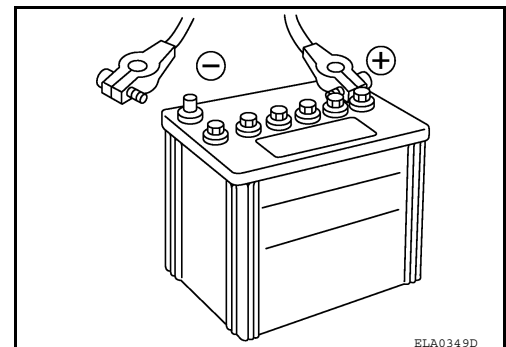
#### METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.

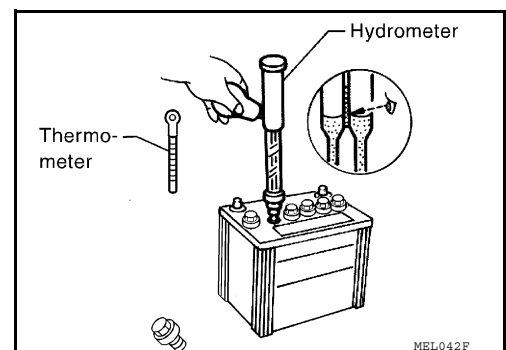
- The battery surface (particularly its top) should always be kept clean and dry.
- The terminal connections should be clean and tight.
- At every routine maintenance, check the electrolyte level. This also applies to batteries designated as "low maintenance" and "maintenance-free".



- When the vehicle is not going to be used over a long period of time, disconnect the battery cable from the negative terminal. (If the vehicle has an extended storage switch, turn it off.)



- Check the charge condition of the battery. Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.



#### CHECKING ELECTROLYTE LEVEL

#### WARNING:

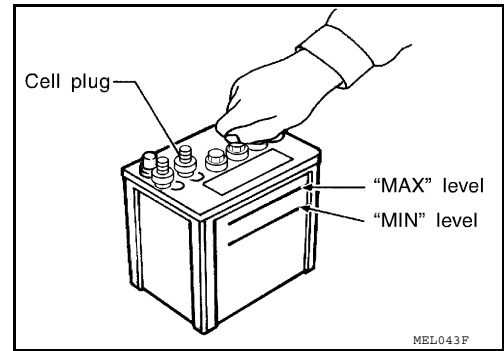
Never allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, never touch or rub your eyes until you have thoroughly washed your hands. If acid contacts eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.



# BATTERY

## < BASIC INSPECTION >

- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.

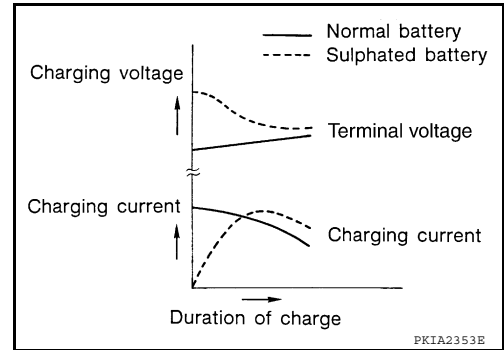


### Sulphation

**A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulphation on the cell plates.**

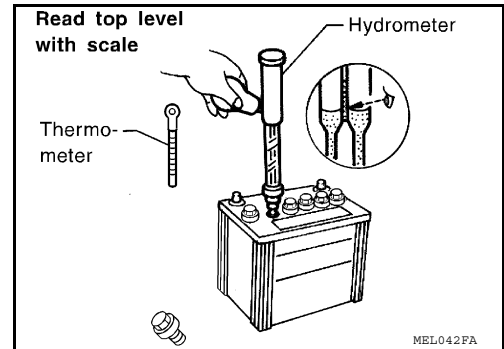
**To determine if a battery has been “sulphated”, note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulphated batteries.**

**A sulphated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.**



### SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.
2. Use the chart below to correct your hydrometer reading according to electrolyte temperature.



### Hydrometer Temperature Correction

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (130)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	-0.004
16 (60)	-0.008
10 (50)	-0.012
4 (40)	-0.016
-1 (30)	-0.020
-7 (20)	-0.024

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# BATTERY

## < BASIC INSPECTION >

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
-12 (10)	-0.028
-18 (0)	-0.032

Corrected specific gravity	Approximate charge condition
1.260 - 1.280	Fully charged
1.230 - 1.250	3/4 charged
1.200 - 1.220	1/2 charged
1.170 - 1.190	1/4 charged
1.140 - 1.160	Almost discharged
1.110 - 1.130	Completely discharged

## CHARGING THE BATTERY

### CAUTION:

- Never “quick charge” a fully discharged battery.
- Keep the battery away from open flame while it is being charged.
- When connecting the charger, connect the leads first, then turn on the charger. Never turn on the charger first, as this may cause a spark.
- If battery electrolyte temperature rises above 55 °C (131 °F), stop charging. Always charge battery at a temperature below 55 °C (131 °F).

### Charging Rates

Amps	Time
50	1 hour
25	2 hours
10	5 hours
5	10 hours

Do not charge at more than 50 ampere rate.

### NOTE:

The ammeter reading on your battery charger will automatically decrease as the battery charges. This indicates that the voltage of the battery is increasing normally as the state of charge improves. The charging amps indicated above refer to initial charge rate.

- If, after charging, the specific gravity of any two cells varies more than 0.050, the battery should be replaced.

## Work Flow

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## TROUBLE DIAGNOSIS WITH MULTITASKING BATTERY DIAGNOSTIC STATION

Refer to diagnostic station instruction manual.

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

## INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:000000005550198

### Required Procedure After Battery Disconnection

System	Item	Reference
Engine Control	Idle Air Volume Learning	Refer to <a href="#">EC-473</a> , "Idle Air Volume Learning" (VQ40DE) or <a href="#">EC-24</a> , "Idle Air Volume Learning" (QR25DE).
Brake Control (with VDC)	Steering Angle Sensor Neutral Position	Refer to <a href="#">BRC-189</a> .
	Calibration of decel G sensor	Refer to <a href="#">BRC-190</a> .
Roof	Sunroof Memory Reset/Initialization	Refer to <a href="#">RF-5</a> .
Audio-Visual System	Audio (Radio Preset)	Refer to Owner's Manual.

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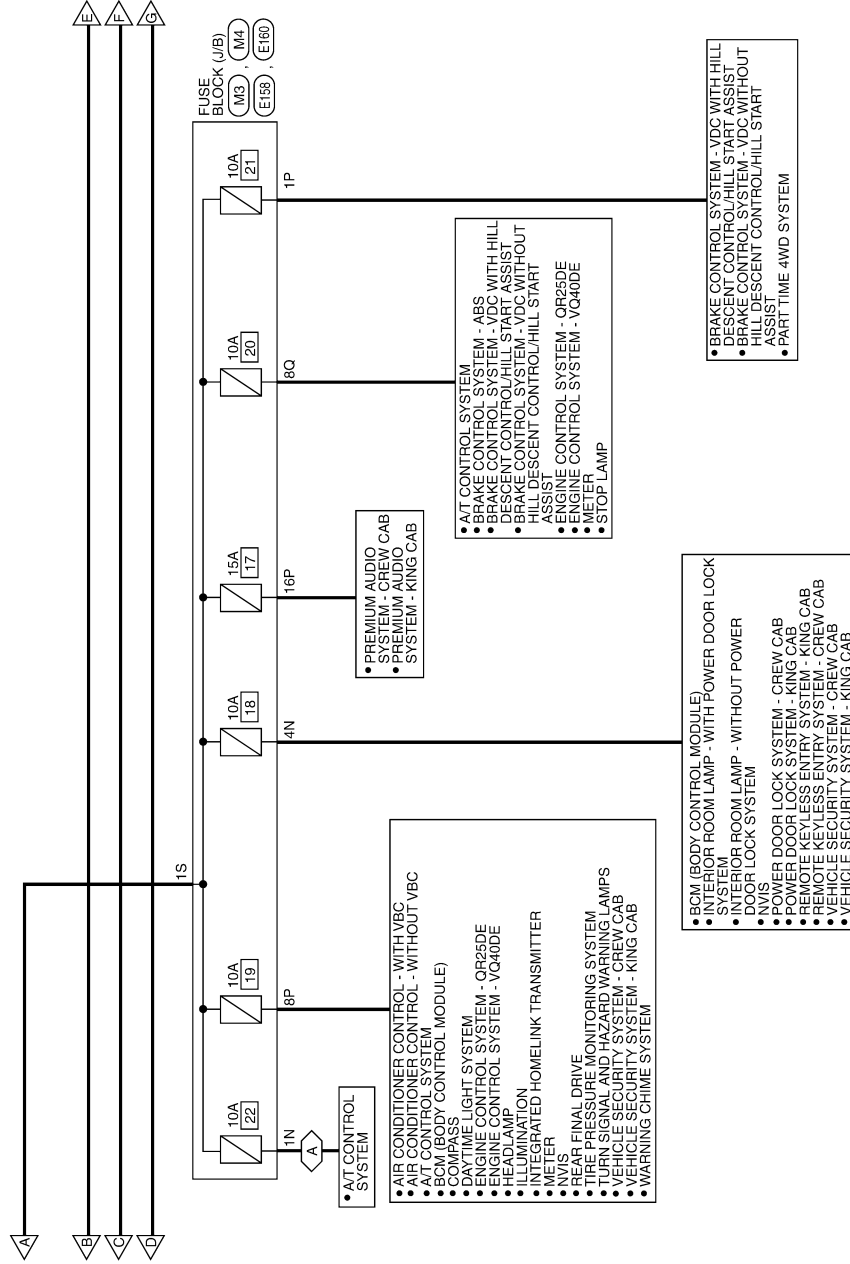
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# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

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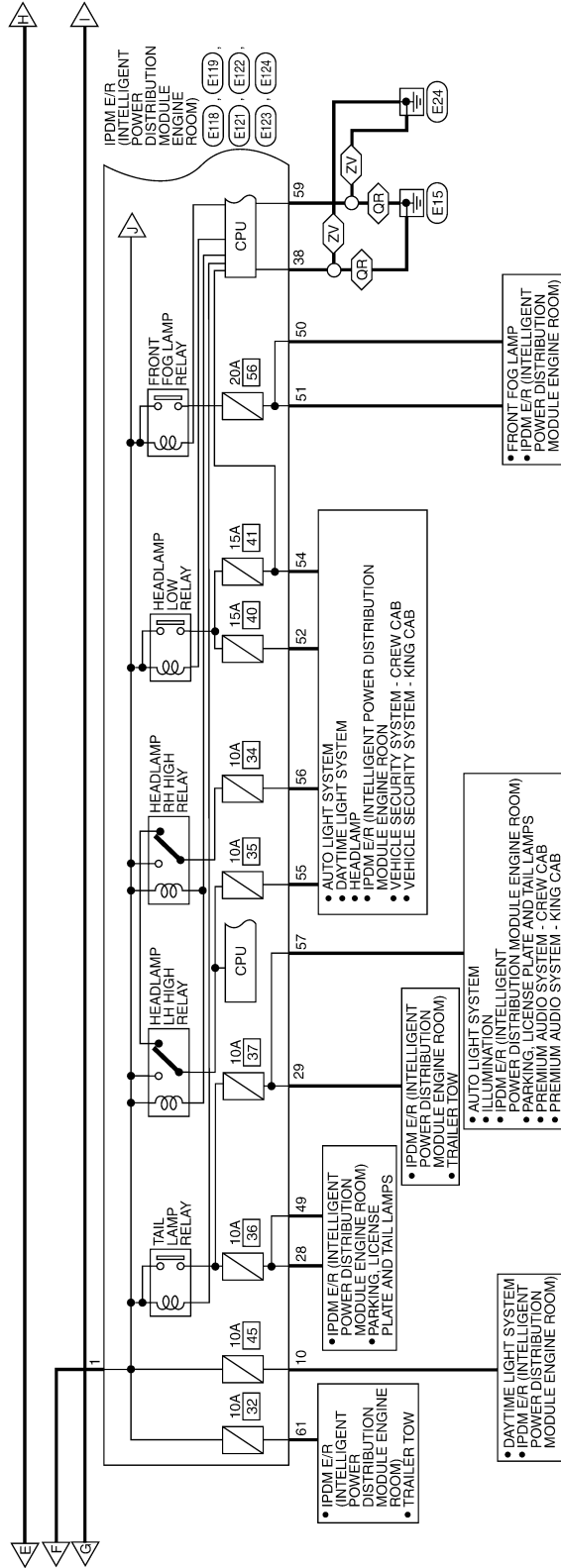
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# POWER SUPPLY ROUTING CIRCUIT

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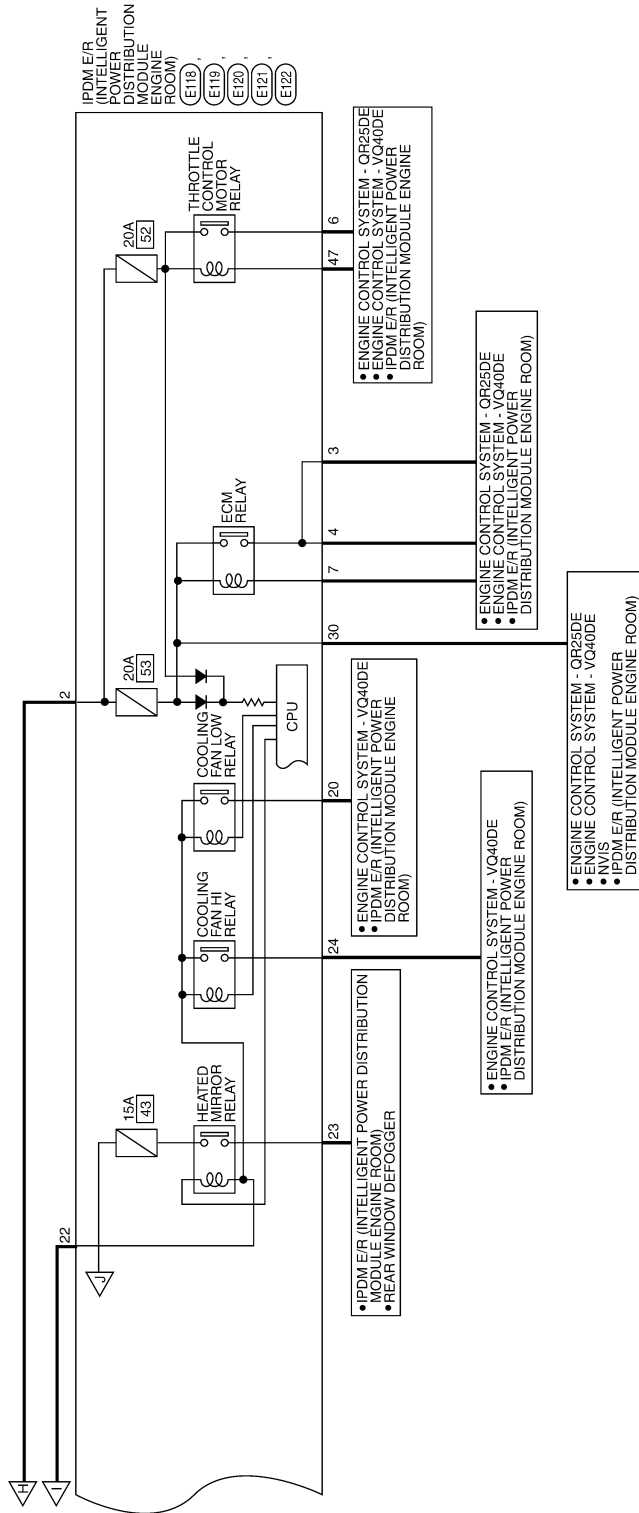
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# POWER SUPPLY ROUTING CIRCUIT

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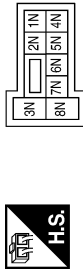
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# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

## BATTERY POWER SUPPLY CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1N	R/B	-
4N	R/Y	-

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



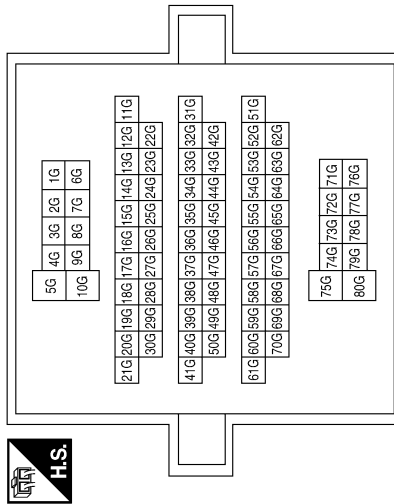
Terminal No.	Color of Wire	Signal Name
1P	R/B	-
8P	R/Y	-
16P	R/B	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



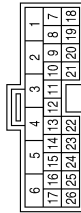
Terminal No.	Color of Wire	Signal Name
2	W/G	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



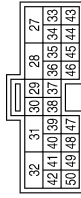
Terminal No.	Color of Wire	Signal Name
21G	V	-

Connector No.	M152
Connector Name	TRANSFER CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
25	W/G	IGN SW

Connector No.	M153
Connector Name	TRANSFER CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
40	V	SSOF



# POWER SUPPLY ROUTING CIRCUIT

## < COMPONENT DIAGNOSIS >

Connector No.	E118
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	W	F/L USM
2	R	F/L MAIN

Connector No.	E30
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	-



Terminal No.	Color of Wire	Signal Name
3	R	-

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	W/G	-

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



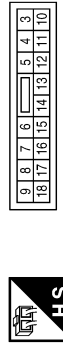
Terminal No.	Color of Wire	Signal Name
28	R	CLEARANCE FRONT LH
29	G	TRAILER RLY CONT
30	R/B	ECM BAT

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
20	BR	MOTOR FAN 1
22	G	F/L MOTOR FAN
23	LG	HEATED MIRROR
24	P	MOTOR FAN 2

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	G	IGN COIL
4	P	ECM
6	V	ETC
7	BR	ECM RLY CONT
10	R/B	DTRL RLY SUPPLY

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# POWER SUPPLY ROUTING CIRCUIT

## < COMPONENT DIAGNOSIS >

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
57	GR	TAIL LAMP
59	B	GND (POWER)
61	R/B	TRAIL RLY SUPPLY

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



51	50	49
56	55	54
53	52	51
52		

Terminal No.	Color of Wire	Signal Name
49	GR	CLEARANCE FRONT RH
50	W	FR FOG LAMP LH
51	V	FR FOG LAMP RH
52	P	H/LAMP LO LH
54	R	H/LAMP LO RH
55	G	H/LAMP HI LH
56	L	H/LAMP HI RH

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
47	O	ETC RLY CONT

Connector No.	E129
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN



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Terminal No.	Color of Wire	Signal Name
1	W	-
2	R	-

Connector No.	E128
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	GRAY



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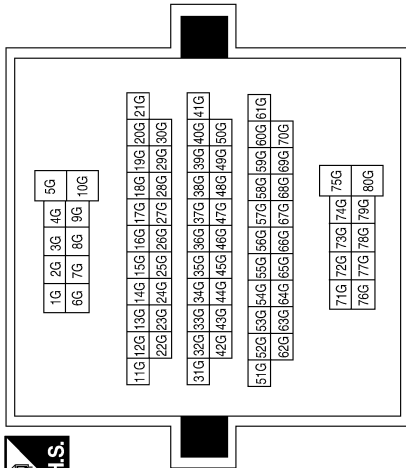
Terminal No.	Color of Wire	Signal Name
4	W	-
7	W	-

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# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	21G	Color of Wire	V	Signal Name	-
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Connector No.	E156
Connector Name	TRANSFER SHUT OFF RELAY 1
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	W/G	-
2	B	-
3	B	-
5	W	-

Connector No.	E157
Connector Name	TRANSFER SHUT OFF RELAY 2
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	V	-
3	B	-
5	W	-

Connector No.	E158
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK



Terminal No.	1S	Color of Wire	W	Signal Name	-
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Connector No.	E160
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	8Q	Color of Wire	F/B	Signal Name	-
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Connector No.	E202
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	-



Terminal No.	5	Color of Wire	B/R	Signal Name	-
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# POWER SUPPLY ROUTING CIRCUIT

## < COMPONENT DIAGNOSIS >

Connector No.	E210
Connector Name	STARTER MOTOR
Connector Color	-



Terminal No.	2	Color of Wire	B/R	Signal Name	-
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Connector No.	E206
Connector Name	GENERATOR
Connector Color	-



Terminal No.	1	Color of Wire	B/R	Signal Name	B
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Connector No.	E204
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	-



Terminal No.	6	Color of Wire	B/R	Signal Name	-
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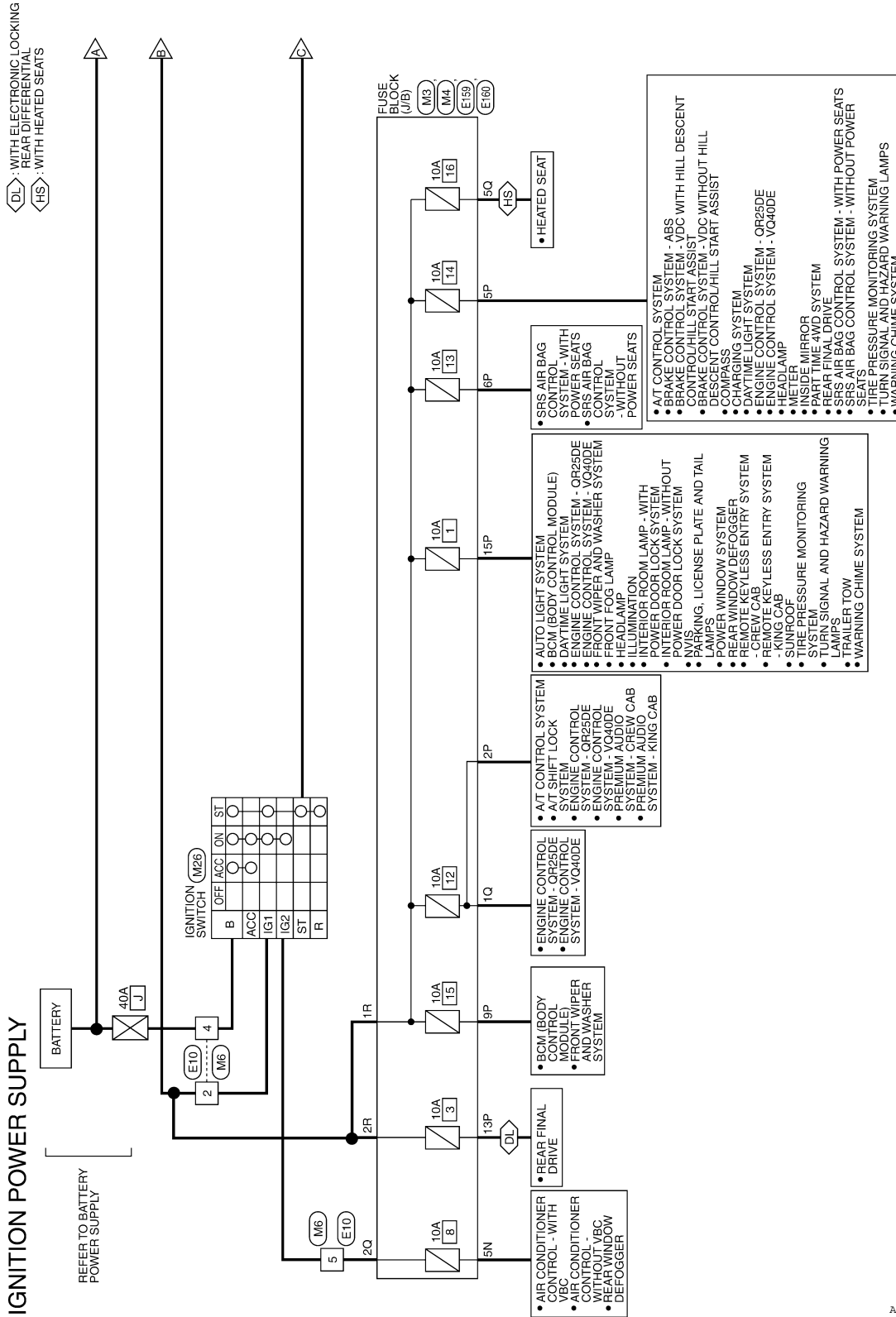
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# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

## Wiring Diagram—Ignition Power Supply

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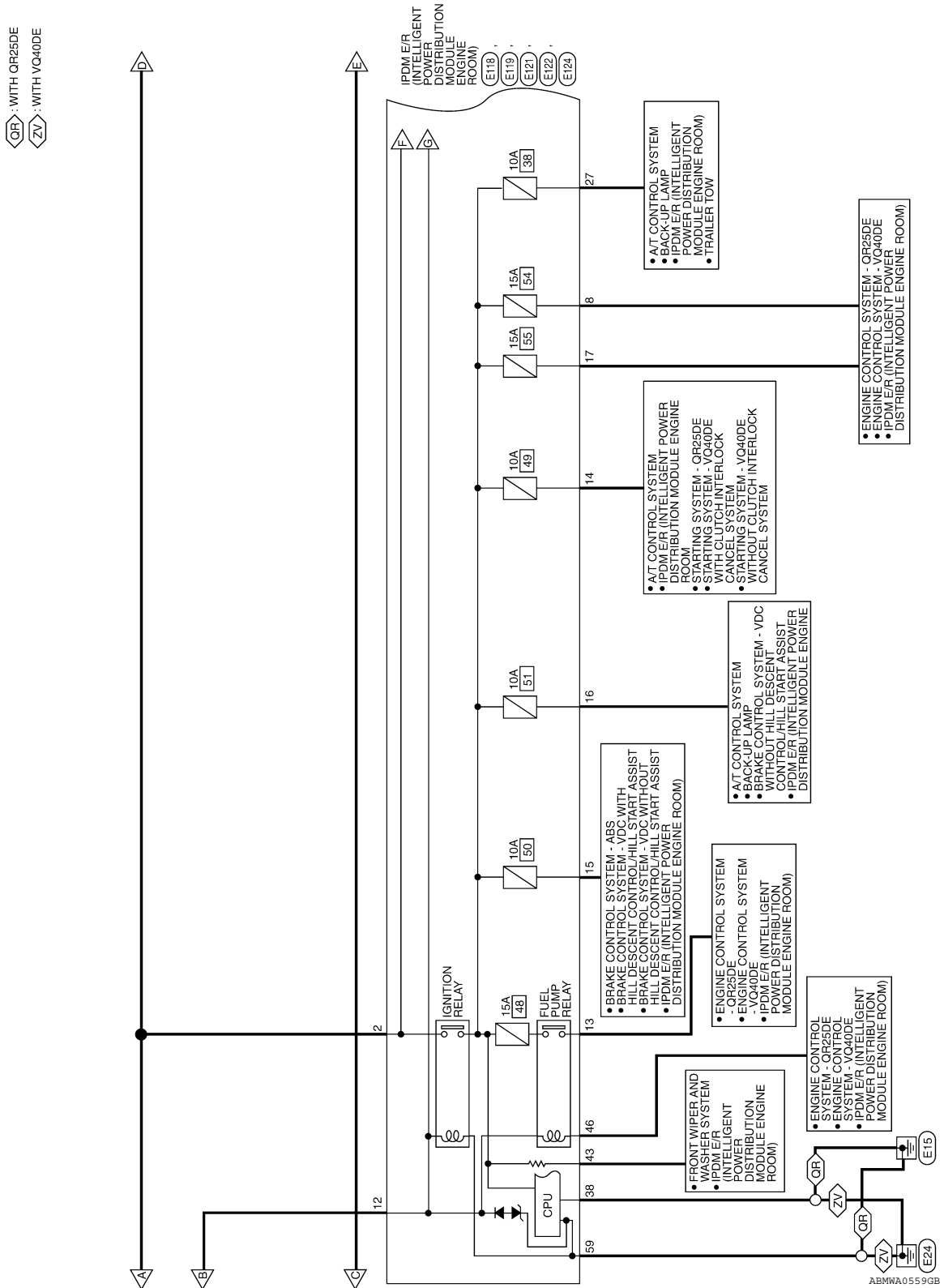


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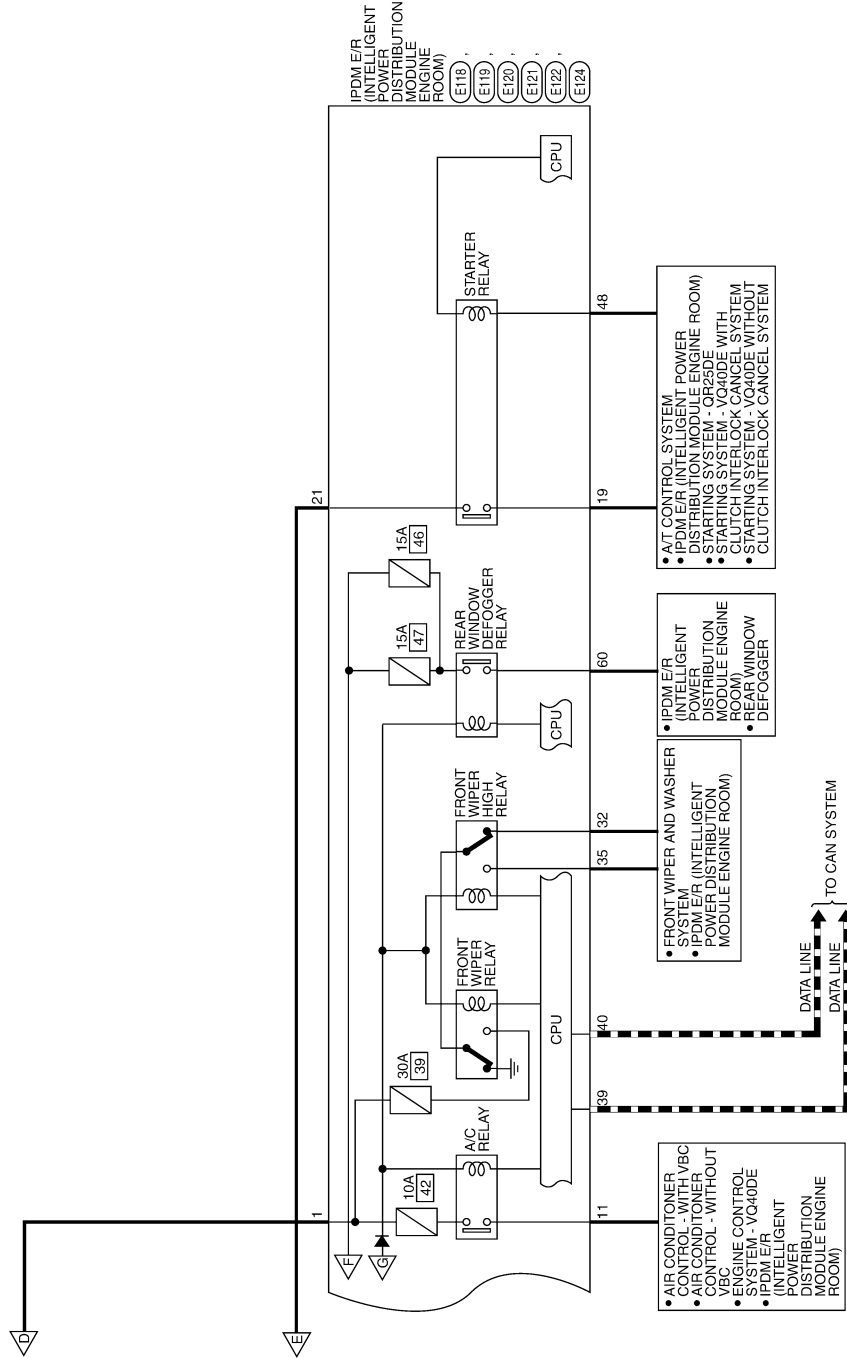
# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >



# POWER SUPPLY ROUTING CIRCUIT

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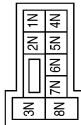
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# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

## IGNITION POWER SUPPLY CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5N	W/G	-

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2P	W/G	-
5P	W/G	-
6P	W/R	-
9P	W/G	-
13P	W/G	-
15P	W/R	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	W/G	-
4	G	-
5	R	-

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
B	G	-
ST	GR	-
IG1	W/G	-
IG2	R	-

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	W/G	-
4	G	-
5	R	-

Connector No.	E118
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	W	F/L USM
2	R	F/L MAIN

ABM1A0382GB



# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

21	20	19
24	23	22



Terminal No.	Color of Wire	Signal Name
19	W	STARTER MTR
21	GR	IGN SW (ST)

Terminal No.	Color of Wire	Signal Name
15	W/R	ABS IGN SUPPLY
16	W/G	REVERSE LAMP
17	W/G	INJECTOR

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

9	8	7	6	5	4	3
18	17	16	15	14	13	12
11	10	9	8	7	6	5



Terminal No.	Color of Wire	Signal Name
8	W/R	O2 SENSOR
11	Y	A/C COMPRESSOR
12	W/G	IGN SW (IG)
13	R	FUEL PUMP
14	W/G	A/T ECU IGN SUPPLY

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

59	58	57
62	61	60



Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)
60	GR	RR DEF

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

42	41	40	39	38	37
48	47	46	45	44	43



Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
43	G	AUTO STOP SW
46	V	FUEL PUMP RLY CONT
48	R	INHIBIT SW

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

29	28	27	26	25
36	35	34	33	32
31	30			



Terminal No.	Color of Wire	Signal Name
27	W/G	T TOW REV LAMP
32	GR	FR WIPER LO
35	L	FR WIPER HI

ABMIA1463GB

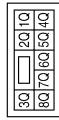
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# POWER SUPPLY ROUTING CIRCUIT

## < COMPONENT DIAGNOSIS >

Connector No.	E160
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1Q	W/G	-
2Q	R	-
5Q	W/R	-

Connector No.	E159
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1R	W/G	-
2R	W/G	-

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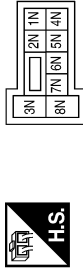


# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

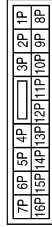
## ACCESSORY POWER SUPPLY CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	7N	Color of Wire	B	Signal Name	-
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Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	4P	Color of Wire	G/B	Signal Name	-
10P	G/Y	-	-		
12P	G/Y	-	-		

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	1	Color of Wire	G/Y	Signal Name	-
4	G	-	-		

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE



Terminal No.	B	Color of Wire	G	Signal Name	-
ACC	G/Y	-	-		

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	1	Color of Wire	G/Y	Signal Name	-
4	G	-	-		

Connector No.	E128
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	GRAY



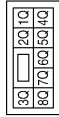
Terminal No.	4	Color of Wire	W	Signal Name	-
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ABM1A0380GB

# POWER SUPPLY ROUTING CIRCUIT

< COMPONENT DIAGNOSIS >

Connector No.	E160
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



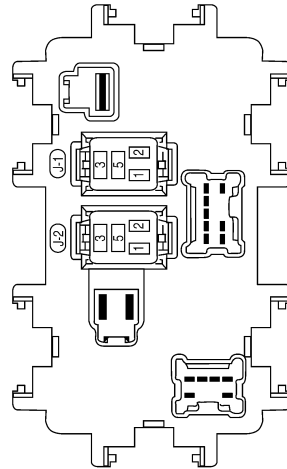
Terminal No.	Color of Wire	Signal Name
6Q	G/Y	-

Connector No.	E158
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1S	W	-

Connector No.	J-2
Connector Name	FUSE BLOCK (J/B) (ACCESSORY RELAY)
Connector Color	-



FUSE BLOCK-JUNCTION BOX (J/B) X61B (J-1 AND J-2)

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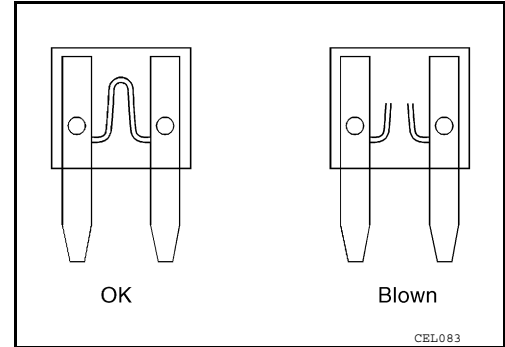
# POWER SUPPLY ROUTING CIRCUIT

## < COMPONENT DIAGNOSIS >

### Fuse

INFOID:000000005272418

- If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not partially install fuse; always insert it into fuse holder properly.
- Remove fuse for "ELECTRICAL PARTS (BAT)" if vehicle is not used for a long period of time.



### Fusible Link

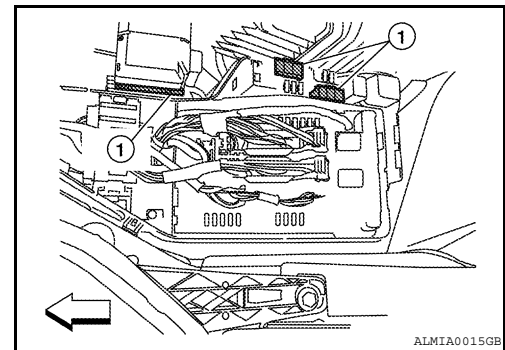
INFOID:000000005272419

A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

1 : Fusible link

#### **CAUTION:**

- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of malfunction.
- Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring harness, vinyl or rubber parts.



# GROUND

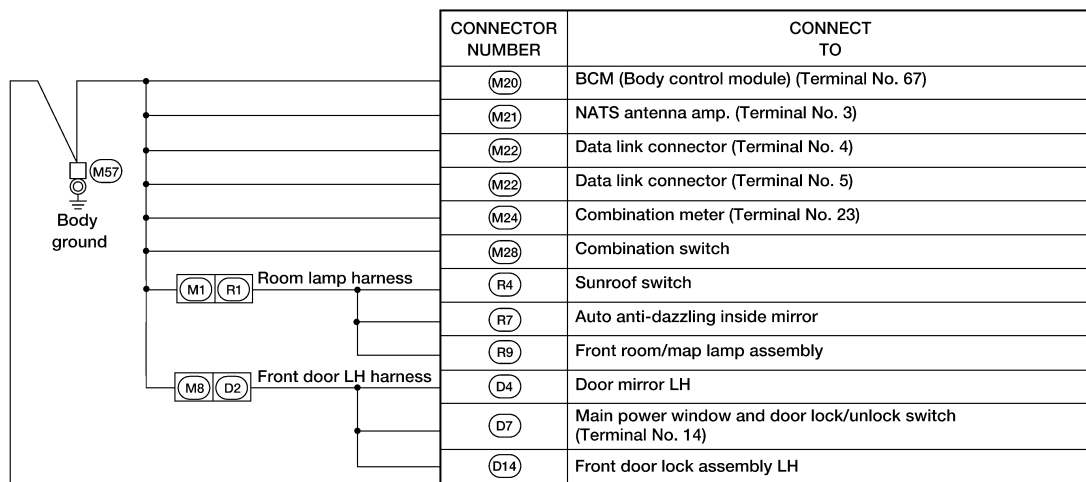
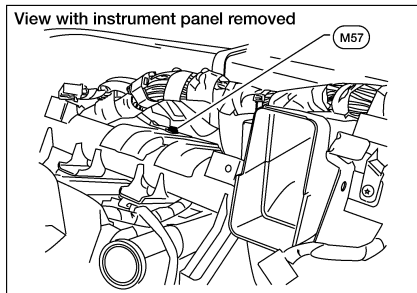
< COMPONENT DIAGNOSIS >

## GROUND

### Ground Distribution

INFOID:000000005272420

### MAIN HARNESS



Next page

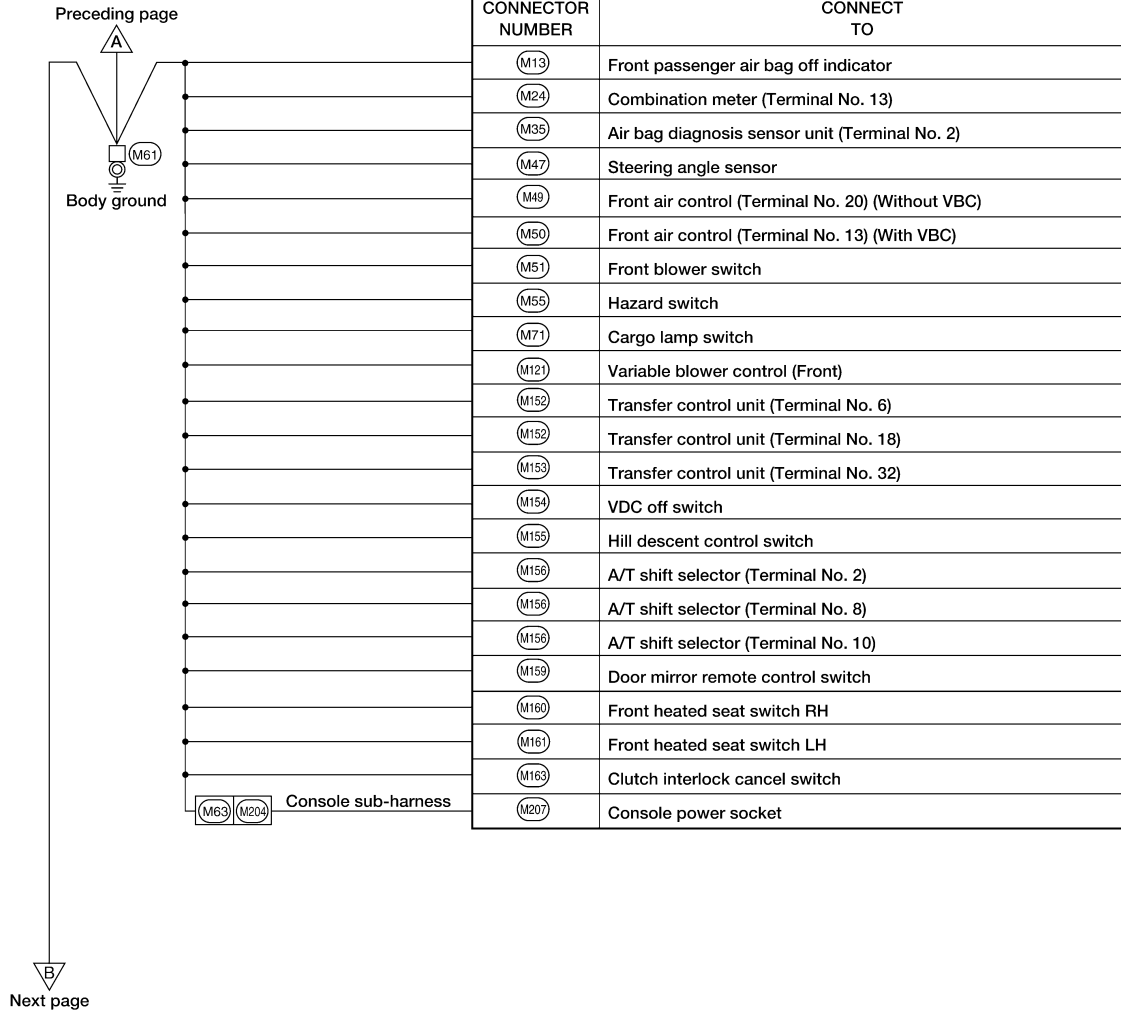
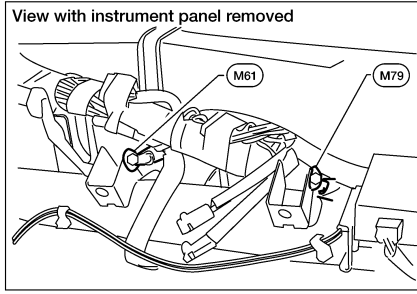
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# GROUND

## < COMPONENT DIAGNOSIS >

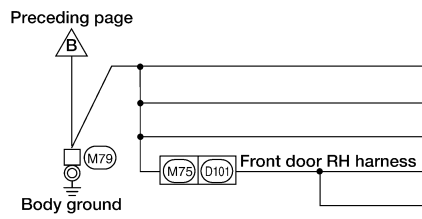
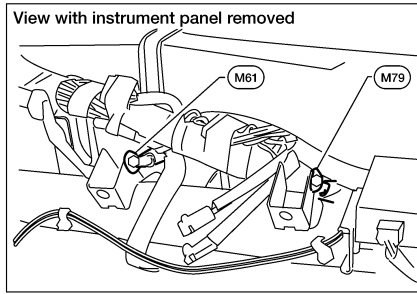


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# GROUND

## < COMPONENT DIAGNOSIS >



CONNECTOR NUMBER	CONNECT TO
M53	Front power socket
M59	Glove box lamp
M76	Electric brake (Pre-wiring)
D105	Power window and door lock/unlock switch RH
D107	Door mirror RH

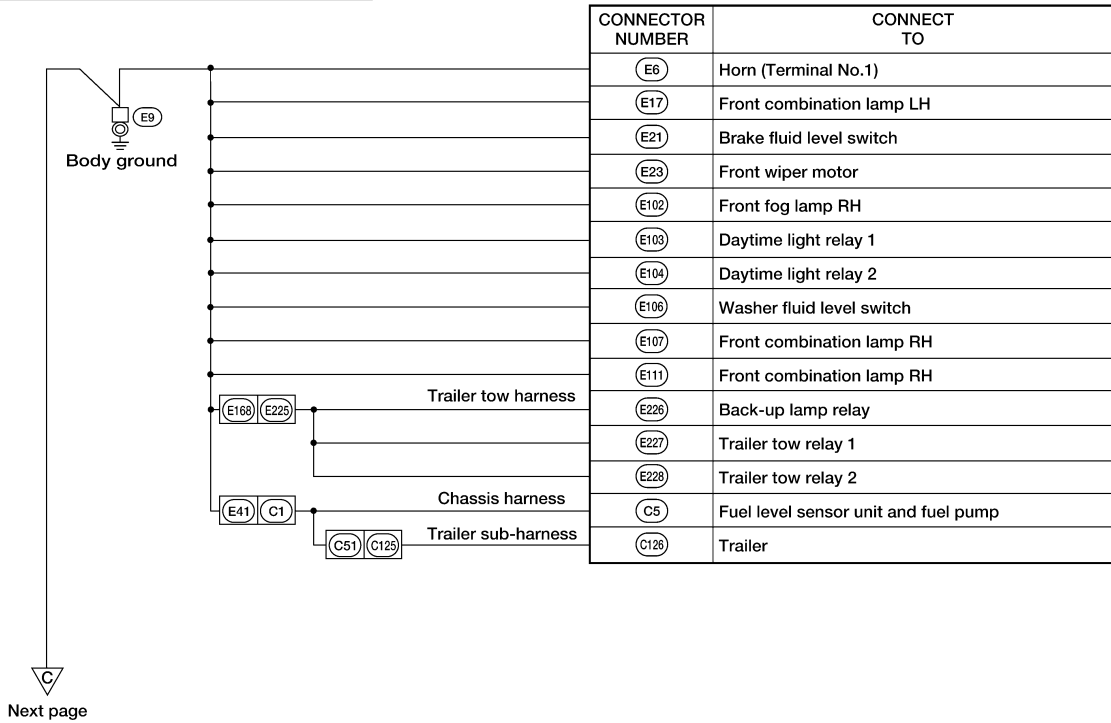
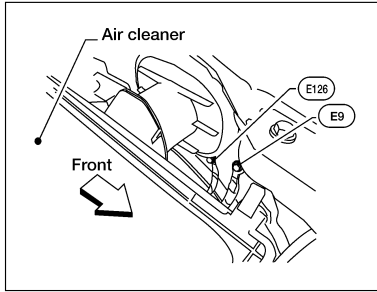
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# GROUND

## < COMPONENT DIAGNOSIS >

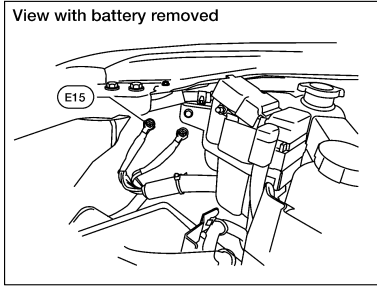
### ENGINE ROOM HARNESS



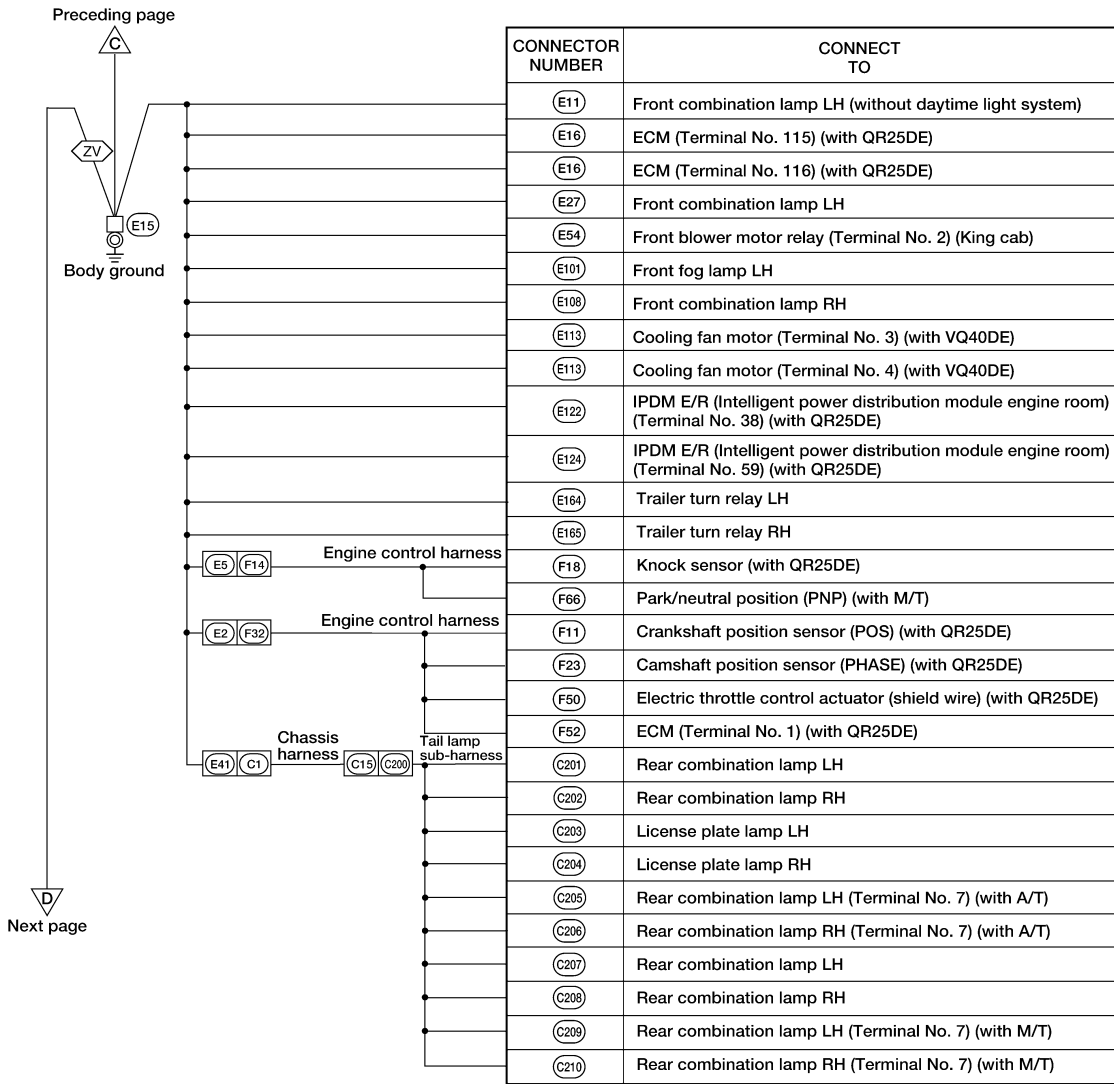
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# GROUND

## < COMPONENT DIAGNOSIS >



: WITH VQ40DE

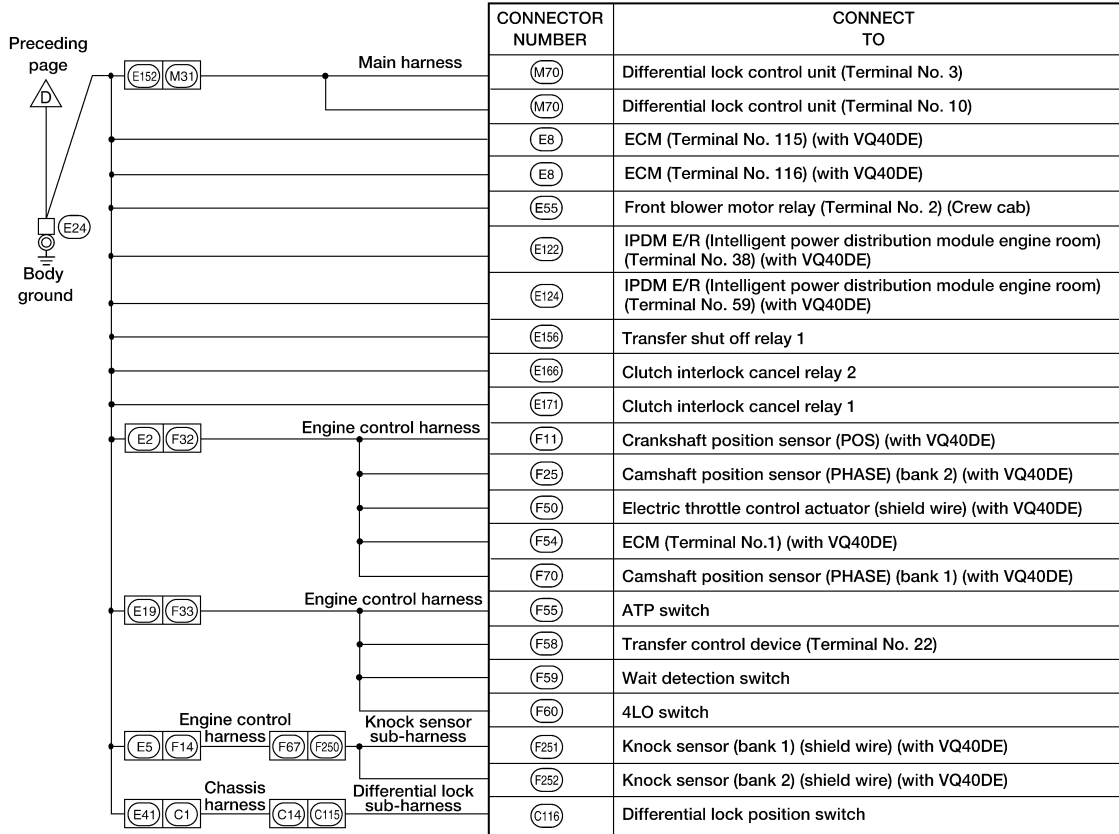
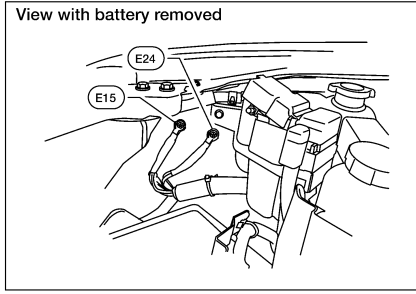


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# GROUND

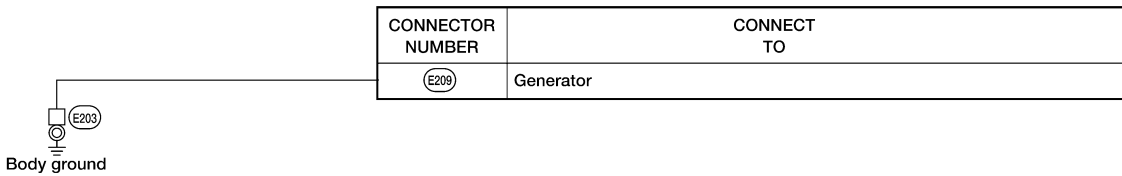
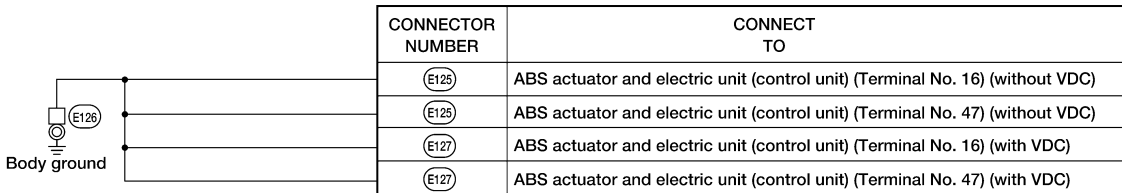
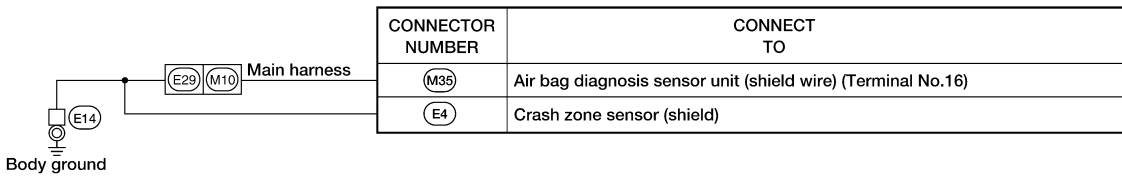
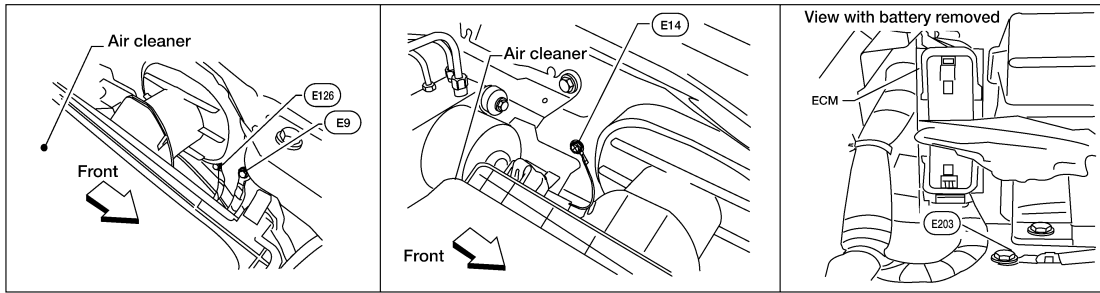
## < COMPONENT DIAGNOSIS >



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# GROUND

## < COMPONENT DIAGNOSIS >



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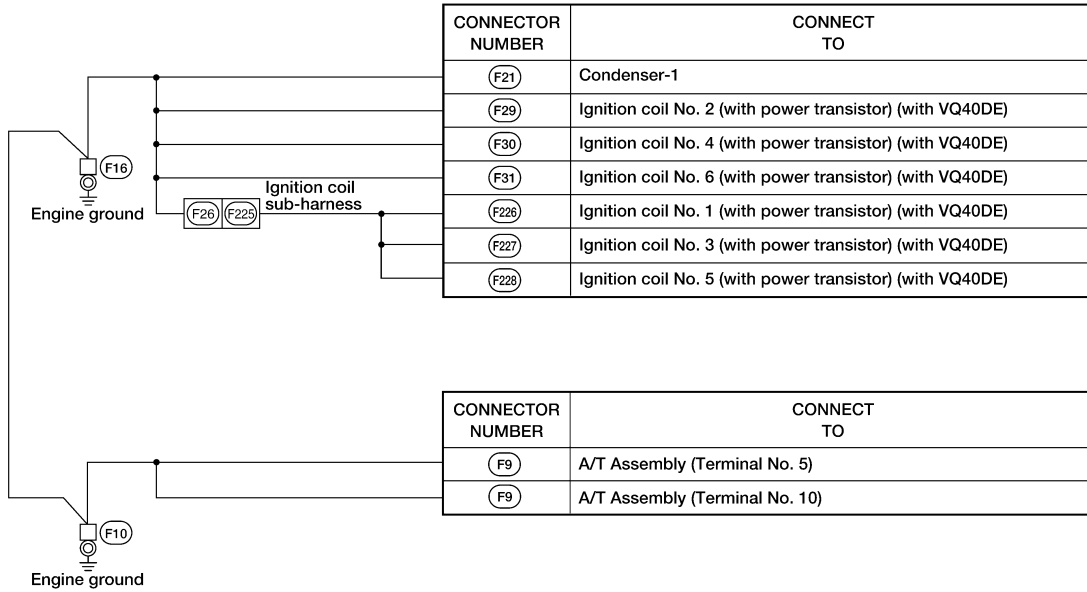
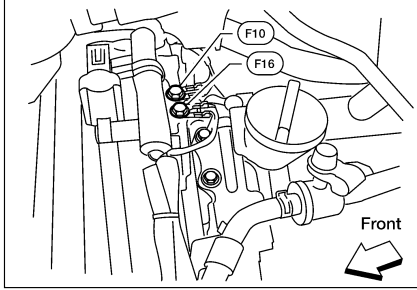
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# GROUND

< COMPONENT DIAGNOSIS >

## ENGINE CONTROL HARNESS (VQ40DE MODELS)

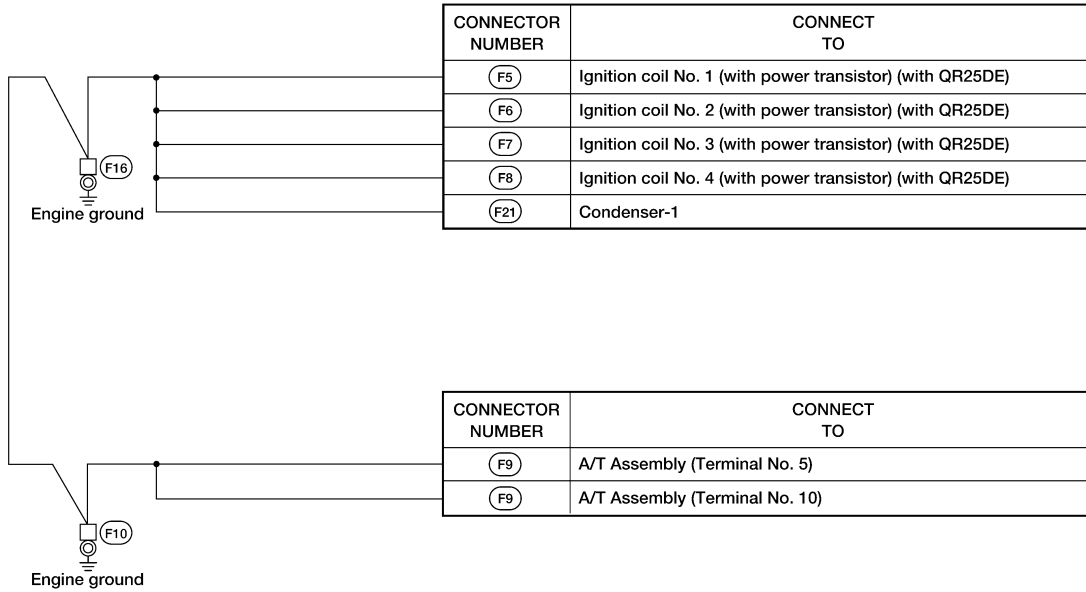
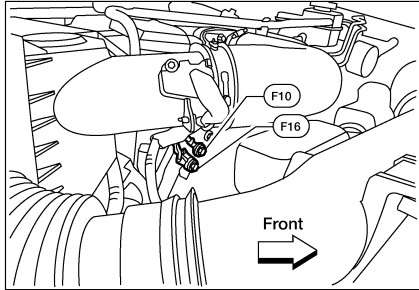


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# GROUND

< COMPONENT DIAGNOSIS >

## ENGINE CONTROL HARNESS (QR25DE MODELS)



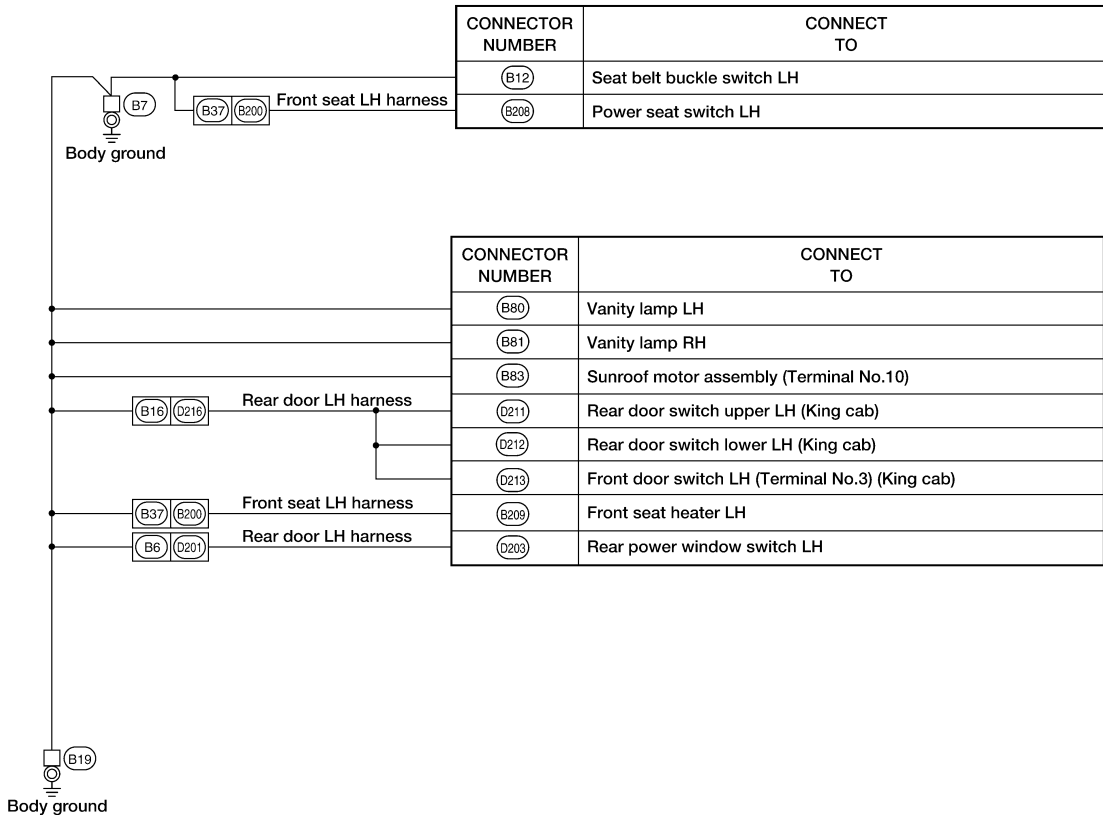
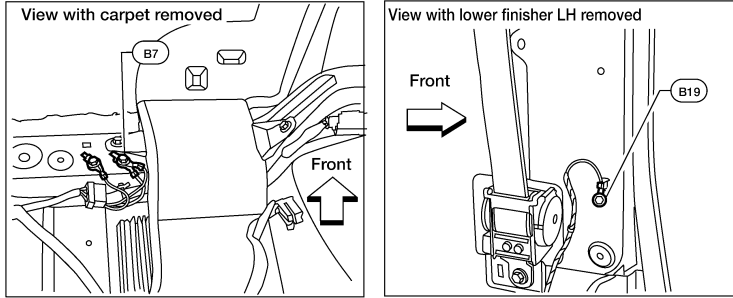
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# GROUND

## < COMPONENT DIAGNOSIS >

### BODY HARNESS



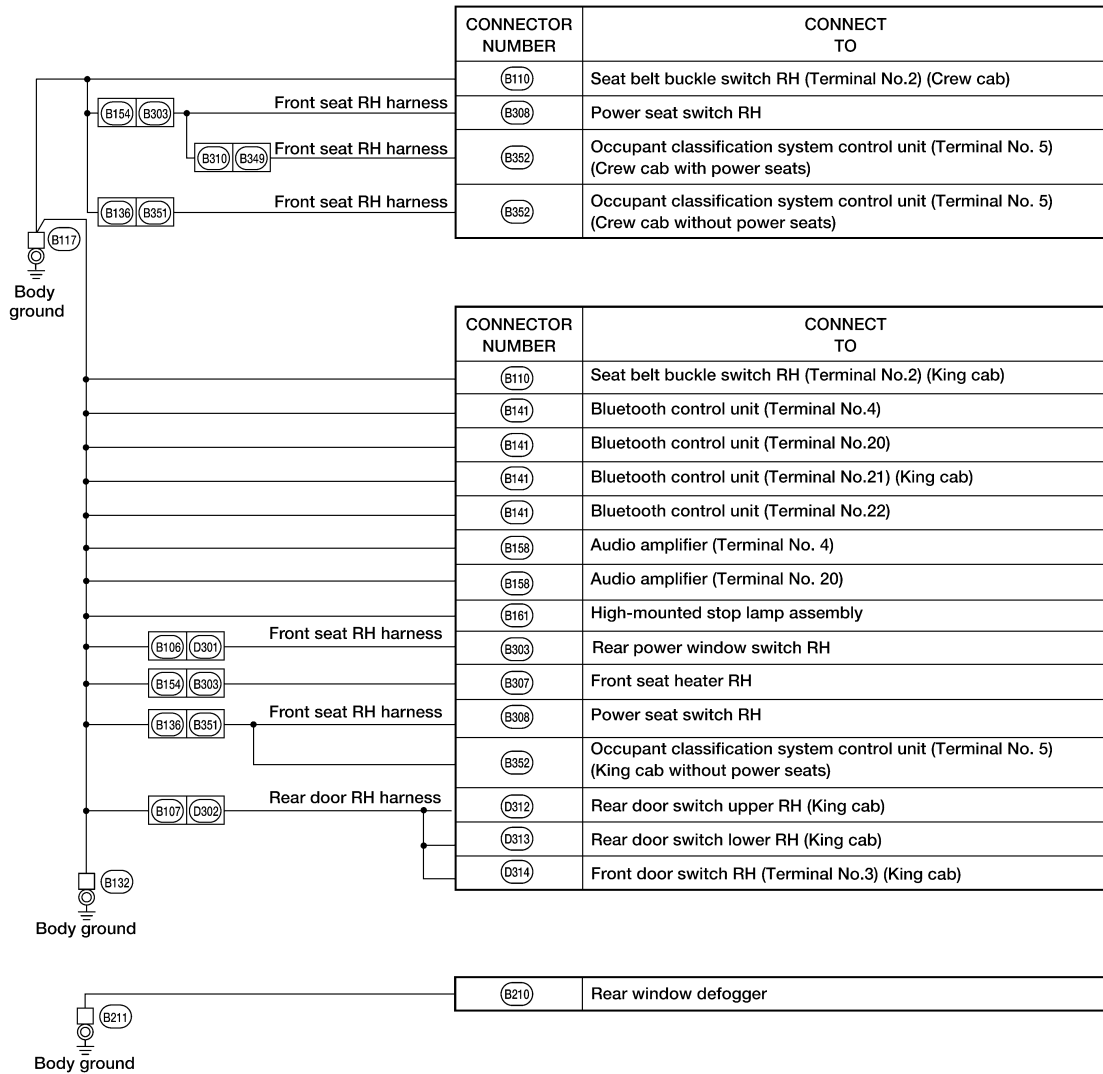
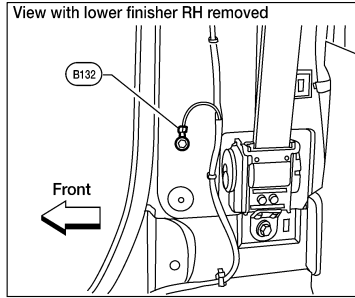
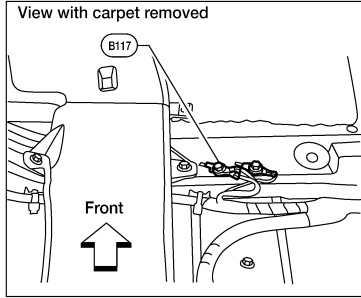
ABMIA1475GB



# GROUND

< COMPONENT DIAGNOSIS >

## BODY NO. 2 HARNESS



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# HARNESS

< COMPONENT DIAGNOSIS >

## HARNESS

### Harness Layout

INFOID:000000005272421

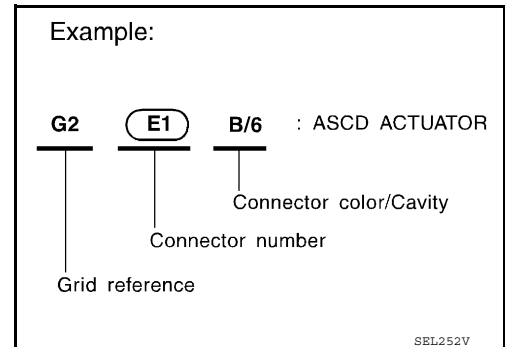
#### HOW TO READ HARNESS LAYOUT

The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Main Harness and Console Sub-harness
- Engine Room Harness (RH View), Generator Sub-harness and Trailer Tow Harness
- Engine Room Harness (Passenger Compartment)
- Engine Room Harness (LH View)
- Engine Control Harness (QR25DE Models) and Injector Sub-harness
- Engine Control Harness (VQ40DE Models), Injector Sub-harness, Ignition Coil Sub-harness and Knock Sensor Sub-harness
- Chassis Harness, Differential Lock Sub-harness, Trailer Sub-harness and Tail Lamp Sub-harness
- Body Harness (King Cab Models) and Front Seat LH Harness
- Body Harness (Crew Cab Models) and Front Seat LH Harness
- Body No. 2 Harness (King Cab Models) and Front Seat RH Harness
- Body No. 2 Harness (Crew Cab Models) and Front Seat RH Harness
- Room Lamp Harness

#### To use the grid reference

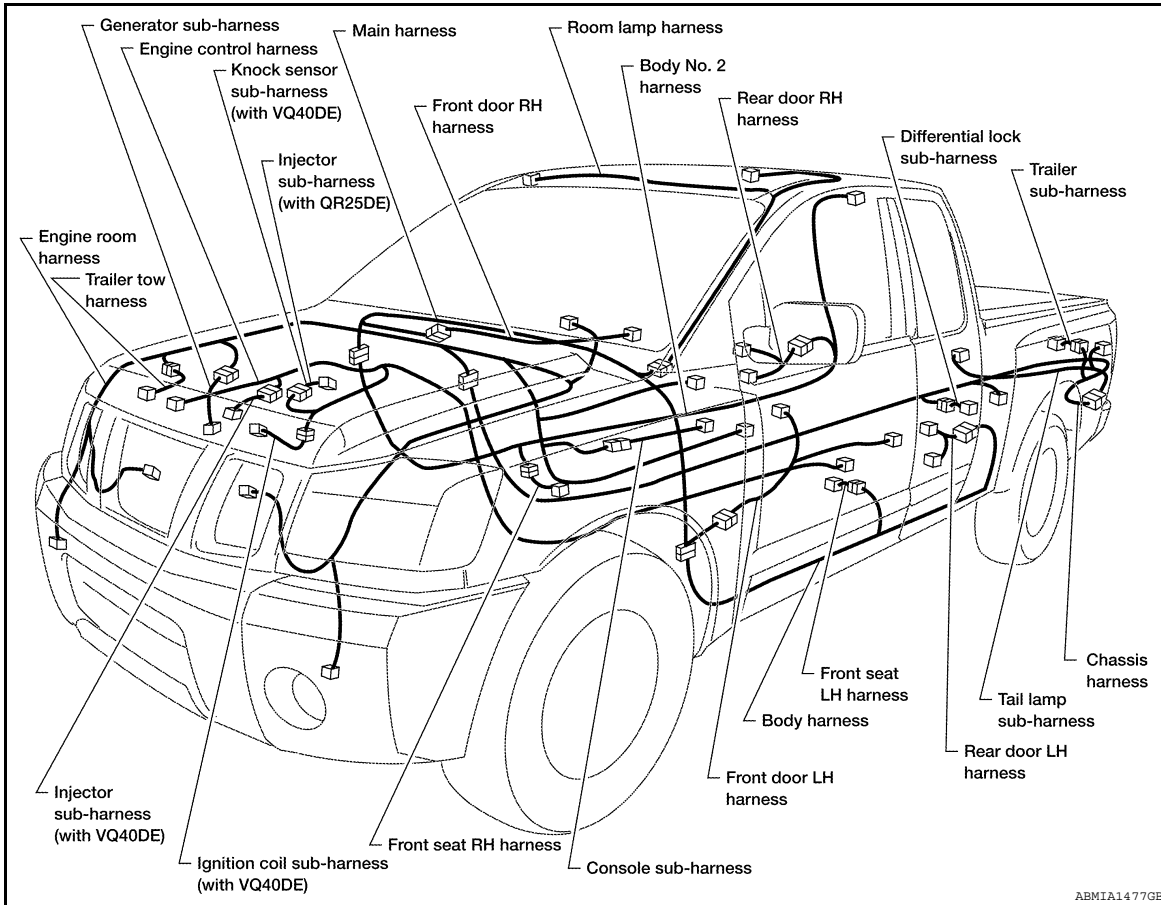
1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line to the connector.



# HARNESS

< COMPONENT DIAGNOSIS >

OUTLINE (KING CAB MODELS)

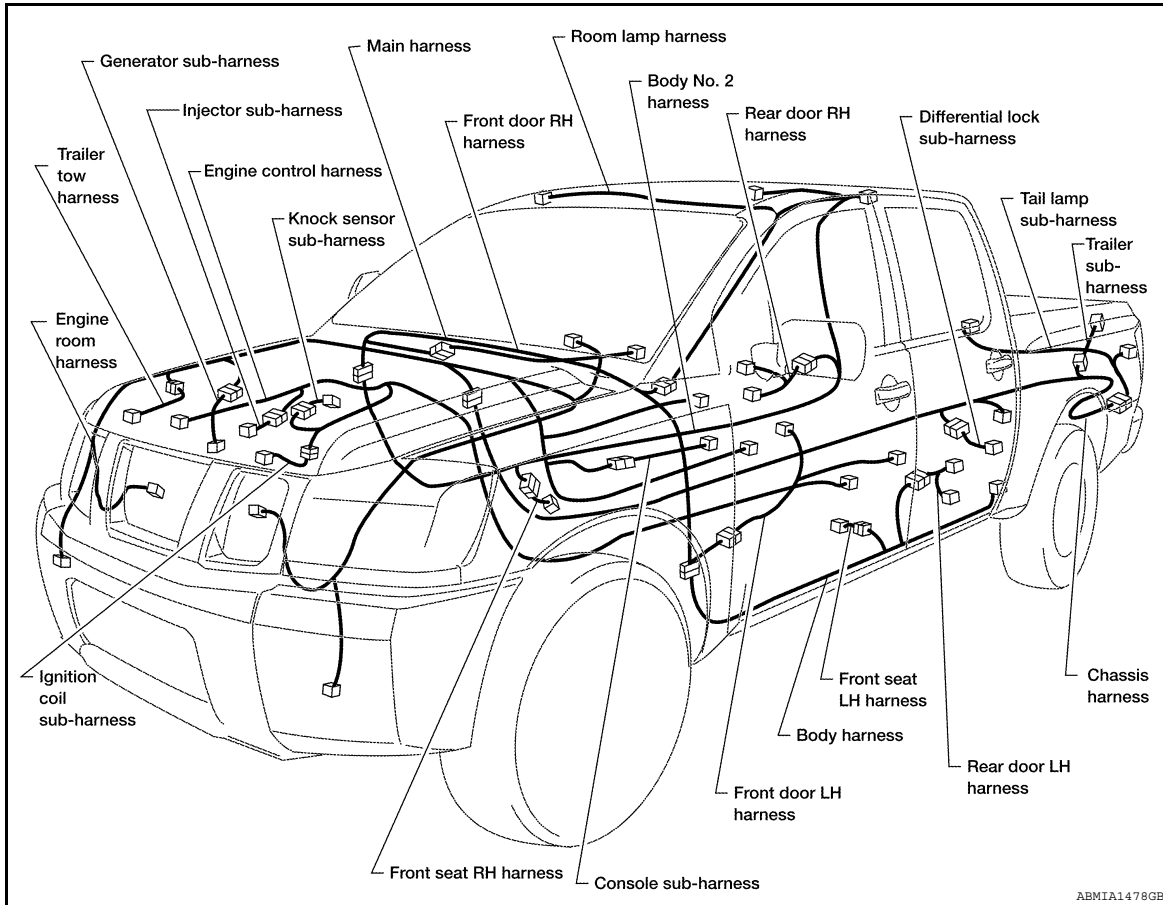


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# HARNESS

< COMPONENT DIAGNOSIS >

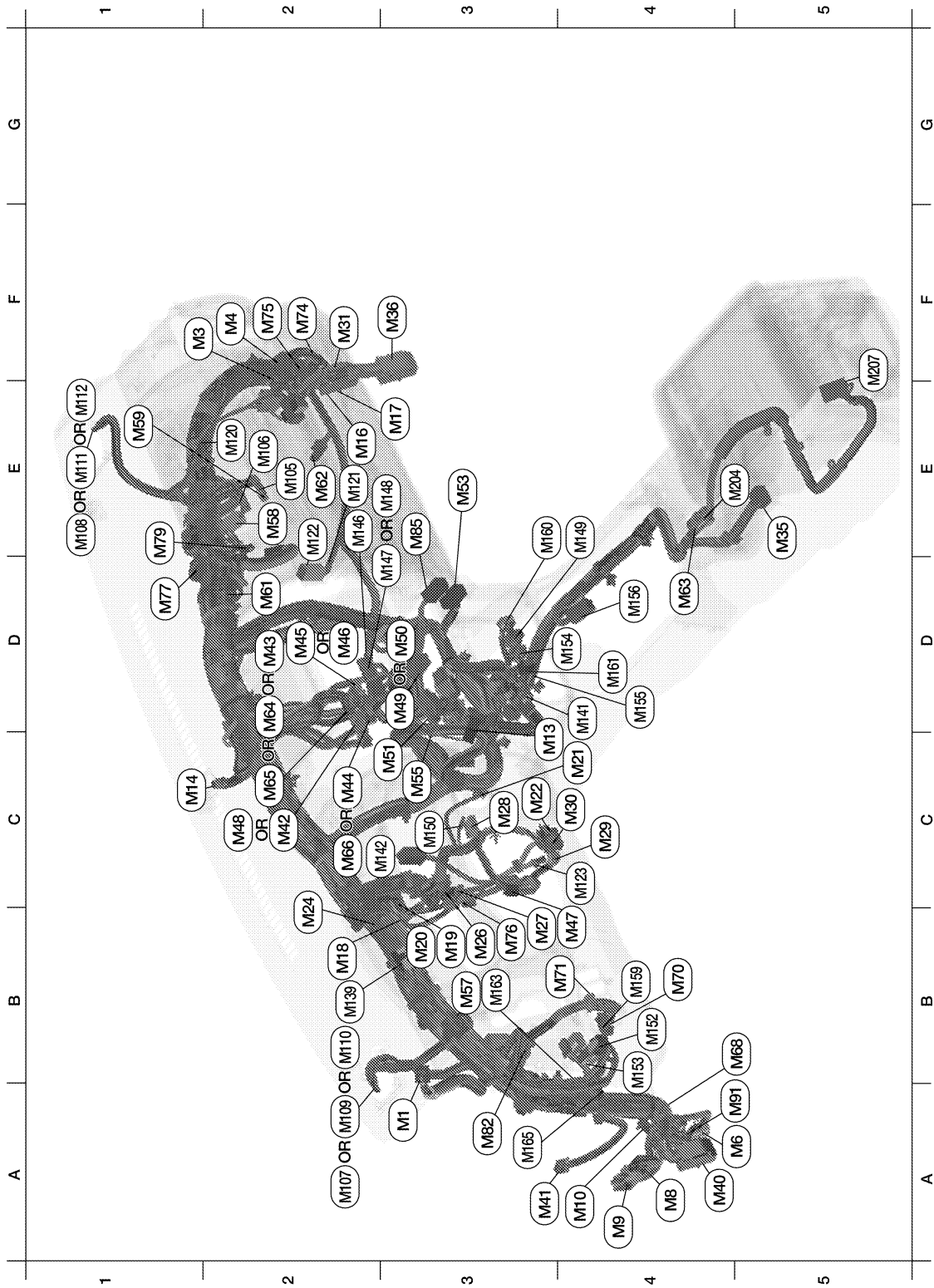
OUTLINE (CREW CAB MODELS)



# HARNESS

< COMPONENT DIAGNOSIS >

## MAIN HARNESS



ABM1A1485GB

A3	M1	W/24	: To R1	C2	M66	W/6	: Audio unit (crew cab with premium audio) system
F1	M3	W/8	: Fuse block (J/B)	B5	M68	V/1	: To M250
F2	M4	W/16	: Fuse block (J/B)	B4	M70	W/26	: Differential lock control unit
A5	M6	W/6	: To E10	B4	M71	W/6	: Cargo lamp switch
A4	M8	BR/12	: To D2	F2	M74	W/16	: To D102

# HARNESS

## < COMPONENT DIAGNOSIS >

A4	M9	W/16	: To D1	F2	M75	W/12	: To D101
A4	M10	Y/4	: To E29	B3	M76	W/6	: Electric brake (pre-wiring)
C3	M13	BR/3	: Front passenger air bag OFF indicator	D1	M77	Y/4	: Front passenger air bag module (service replacement)
C1	M14	B/4	: Optical sensor	E1	M79	—	: Body ground
E2	M16	W/12	: To B162	A3	M82	W/2	: Circuit breaker-2
E3	M17	W/16	: To B163	E3	M85	W/4	: Aux in jack
B2	M18	W/40	: BCM (body control module)	A4	M91	W/16	: To E26
B3	M19	W/15	: BCM (body control module)	E2	M105	Y/2	: Front passenger air bag module
B3	M20	B/15	: BCM (body control module)	E2	M106	O/2	: Front passenger air bag module
C4	M21	W/4	: NATS antenna amp.	E2	M107	BR/2	: Front tweeter LH (crew cab with premium audio system)
C3	M22	W/16	: Data link connector	E1	M108	BR/2	: Front tweeter RH (crew cab with premium audio system)
B2	M24	W/40	: Combination meter	A2	M109	BR/2	: Front tweeter LH (crew cab with base audio system)
B3	M26	W/6	: Ignition switch	B2	M110	BR/2	: Front tweeter LH (king cab with premium audio system)
B3	M27	W/2	: Key switch	E1	M111	BR/2	: Front tweeter RH (crew cab with base audio system)
C3	M28	W/16	: Combination switch	E1	M112	BR/2	: Front tweeter RH (king cab with premium audio system)
C4	M29	Y/6	: Combination switch	E2	M120	W/4	: Remote keyless entry receiver
C4	M30	GR/8	: Combination switch	E2	M121	W/4	: Variable blower control (front)
F2	M31	SMJ	: To E152	E2	M122	W/4	: Front blower motor resistor
E5	M35	Y/28	: Air bag diagnosis sensor unit	C4	M123	W/2	: Tire pressure warning check connector
F3	M36	SMJ	: To B149	A3	M129	V/1	: Satellite radio tuner or pre-wire for satellite radio tuner
A4	M40	SMJ	: To B69	B2	M139	B/2	: Doide-6
A3	M41	W/16	: Satellite radio tuner or Pre-wiring for satellite radio tuner	D4	M141	GR/8	: 4WD shift switch
C2	M42	W/12	: Audio unit (king cab with premium audio system)	C3	M142	B/6	: Mode door motor
C2	M43	W/20	: Audio unit (with base audio system)	E2	M146	GR/2	: Intake sensor
C2	M44	W/6	: Audio unit (king cab with premium audio system)	D2	M147	B/6	: Air mix door motor (without VBC)
D2	M45	W/16	: Audio unit (king cab with premium audio system)	D2	M148	B/6	: Air mix door motor (with VBC)
D2	M46	W/16	: Audio unit (king cab with premium audio system)	E4	M149	W/6	: Differential lock mode switch
B4	M47	W/8	: Steering angle sensor	C3	M150	W/2	: Ignition keyhole illumination
C3	M48	W/12	: Audio unit (crew cab with premium audio system)	B4	M152	W/26	: Transfer control unit
D3	M49	B/26	: Front air control (without VBC)	B4	M153	W/24	: Transfer control unit
D3	M50	B/26	: Front air control (with VBC)	D4	M154	GR/6	: VDC off switch
C3	M51	W/8	: Front air control (without VBC)	D4	M155	W/8	: Hill descent control switch
E3	M53	B/3	: Front power socket	D4	M156	W/10	: A/T shift selector
C3	M55	W/4	: Hazard switch	B4	M159	W/16	: Door mirror remote control switch
B3	M57	—	: Body ground	E3	M160	BR/6	: Front heated seat switch RH
E2	M58	B/6	: Intake door motor	D4	M161	W/6	: Front heated seat switch LH

# HARNESS

## < COMPONENT DIAGNOSIS >

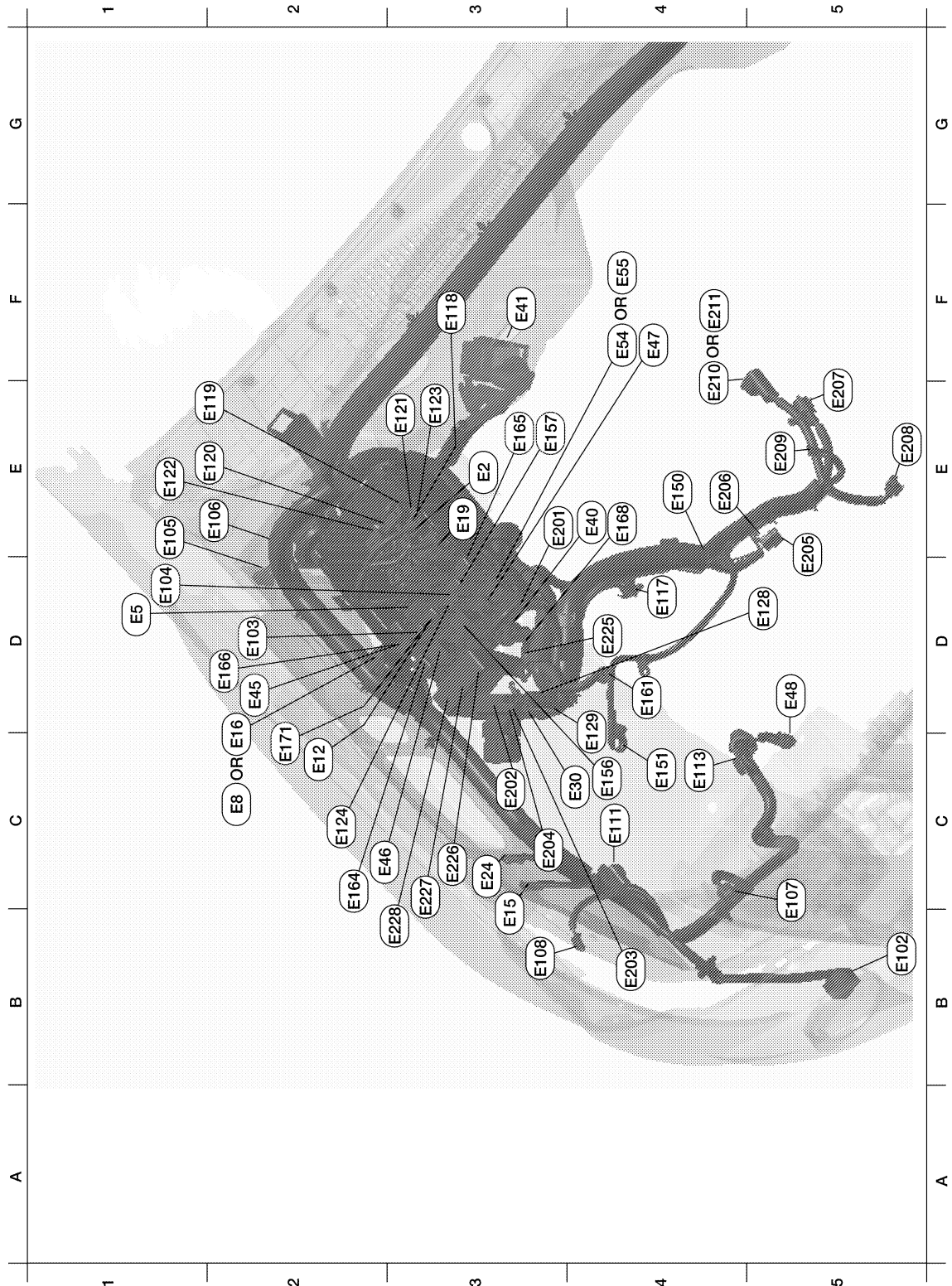
E1	M59	BR/2	: Glove box lamp	B3	M163	W/8	: Clutch interlock cancel switch
D2	M61	—	: Body ground	A3	M165	L/4	: Cargo lamp relay
E2	M62	B/2	: Front blower motor	Console sub-harness			
D4	M63	W/6	: To M204	E5	M204	W/6	: To M63
D2	M64	W/10	: Audio unit (king cabwith premium audio system)	F2	M207	B/3	: Console power socket
C2	M65	W/10	: Audio unit (crew cab with premium audio system)				

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# HARNESS

< COMPONENT DIAGNOSIS >

## ENGINE ROOM HARNESS (RH VIEW)



Refer to "ENGINE ROOM HARNESS (LH VIEW)" for continuation of engine room harness.

E3	E2	W/16	: To F32	E3	E123	BR/8	: IPDM E/R (intelligent power distribution module engine room)
D1	E5	W/24	: To F14	C2	E124	B/6	: IPDM E/R (intelligent power distribution module engine room)
C2	E8	B/40	: ECM (with VQ405DE)	D5	E128	GR/2	: Fusible link box (battery)



# HARNESS

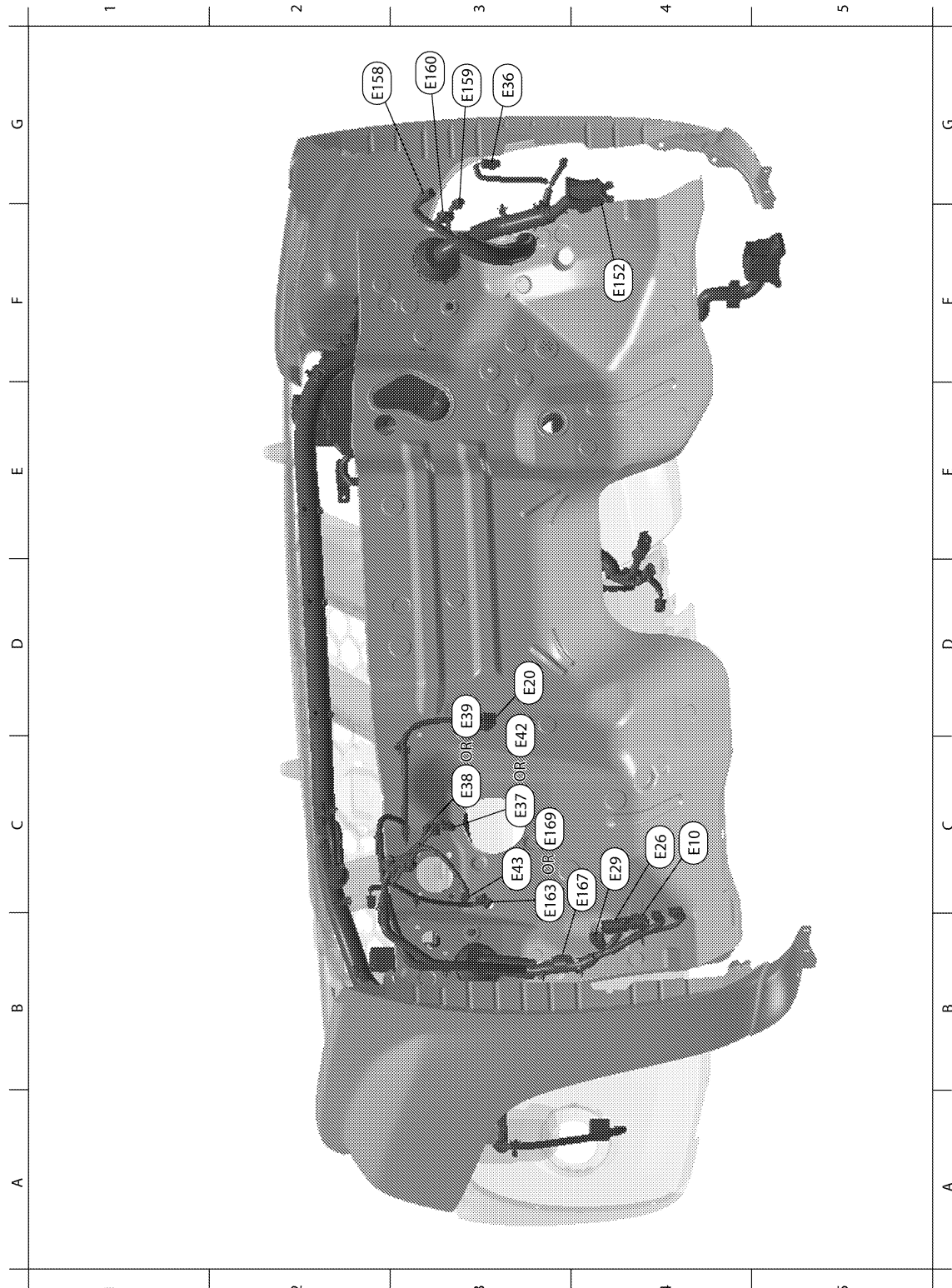
## < COMPONENT DIAGNOSIS >

C2	E12	L/4	: Stop lamp relay	D4	E129	BR/2	: Fusible link box (battery)	A
B3	E15	—	: Body ground	E4	E150	—	: Battery ground	B
D2	E16	B/40	: ECM (with QR25DE)	C4	E151	—	: Negative battery cable	C
E3	E19	W/16	: To F33	C4	E156	L/4	: Transfer shut off relay 1	D
C3	E24	—	: Body ground	E3	E157	L/4	: Transfer shut off relay 2	E
C3	E30	—	: Fusible link box (battery)	D4	E161	B/3	: Battery current sensor	F
E4	E40	GR/9	: To E201	C2	E164	L/4	: Trailer turn relay LH	G
F3	E41	SMJ	: To C1	E3	E165	L/4	: Trailer turn relay RH	H
D2	E45	BR/6	: Back-up lamp relay (with A/T)	D2	E166	BR/6	: Clutch interlock cancel relay 2	I
C3	E46	B/5	: Transfer shift high relay	E4	E168	W/12	: To E225	J
F4	E47	B/5	: Transfer shift low relay	C2	E171	B/5	: Clutch interlock cancel relay 1	K
D5	E48	B/3	: Refrigerant pressure sensor	Generator sub-harness				L
F4	E54	BR/6	: Front blower motor relay (king cab)	E3	E201	GR/9	: To E40	
F4	E55	BR/6	: Front blower motor relay (crew cab)	C3	E202	—	: Fusible link box (battery)	
B5	E102	B/2	: Front fog lamp RH	B4	E203	—	: Body ground	
D2	E103	B/5	: Daytime light relay 1	C3	E204	—	: Fusible link box (battery)	
D1	E104	L/4	: Daytime light relay 2	E5	E205	B/3	: Generator	
E1	E105	B/2	: Front washer motor	E4	E206	—	: Generator	
E2	E106	BR/2	: Washer fluid level switch	F5	E207	GR/1	: Starter motor (with VQ40DE)	
C5	E107	B/3	: Front combination lamp RH	E5	E208	GR/1	: Oil pressure switch (with VQ40DE)	
B3	E108	GR/2	: Front combination lamp RH	E5	E209	—	: Generator	
C4	E111	GR/3	: Front combination lamp RH	E4	E210	B/1	: Starter motor	
C4	E113	GR/4	: Cooling fan motor	F4	E211	GR/1	: Starter motor (with QR25DE)	
D4	E117	GR/2	: Front wheel sensor RH	Trailer tow harness				
F3	E118	B/2	: IPDM E/R (intelligent power distribution module engine room)	D4	E225	W/12	: To E168	
E1	E119	W/16	: IPDM E/R (intelligent power distribution module engine room)	C3	E226	L/4	: Back-up lamp relay (with M/T)	
E1	E120	W/6	: IPDM E/R (intelligent power distribution module engine room)	C3	E227	L/4	: Trailer tow relay 1	
E3	E121	BR/12	: IPDM E/R (intelligent power distribution module engine room)	B3	E228	BR/6	: Trailer tow relay 2	
E1	E122	W/12	: IPDM E/R (intelligent power distribution module engine room)					PG

# HARNESS

< COMPONENT DIAGNOSIS >

## ENGINE ROOM HARNESS (PASSENGER COMPARTMENT)



ABMIA0398GB

Refer to "ENGINE ROOM HARNESS (LH VIEW)" for continuation of engine room harness.

C4	E10	W/6	: To M6	C3	E43	L/2	: ASCD clutch switch
D3	E20	B/6	: Accelerator pedal position (APP) sensor	F4	E152	SMJ	: To M31
C4	E26	W/16	: To M91	G2	E158	B/1	: Fuse block (J/B)
C4	E29	Y/4	: To M10	G3	E159	B/2	: Fuse block (J/B)

# HARNESS

## < COMPONENT DIAGNOSIS >

G3	E36	W/2	: To B102	G3	E160	W/8	: Fuse block (J/B)
C3	E37	BR/2	: ASCD brake switch (with M/T)	C3	E163	L/2	: Clutch interlock switch (with clutch interlock cancel system)
C3	E38	B/2	: Stop lamp switch (with M/T)	C4	E167	B/2	: Diode-3
D3	E39	W/4	: Stop lamp switch (with A/T)	C4	E169	L/2	: Clutch interlock switch (without clutch interlock cancel system)
C3	E42	BR/2	: ASCD brake switch (with A/T)				

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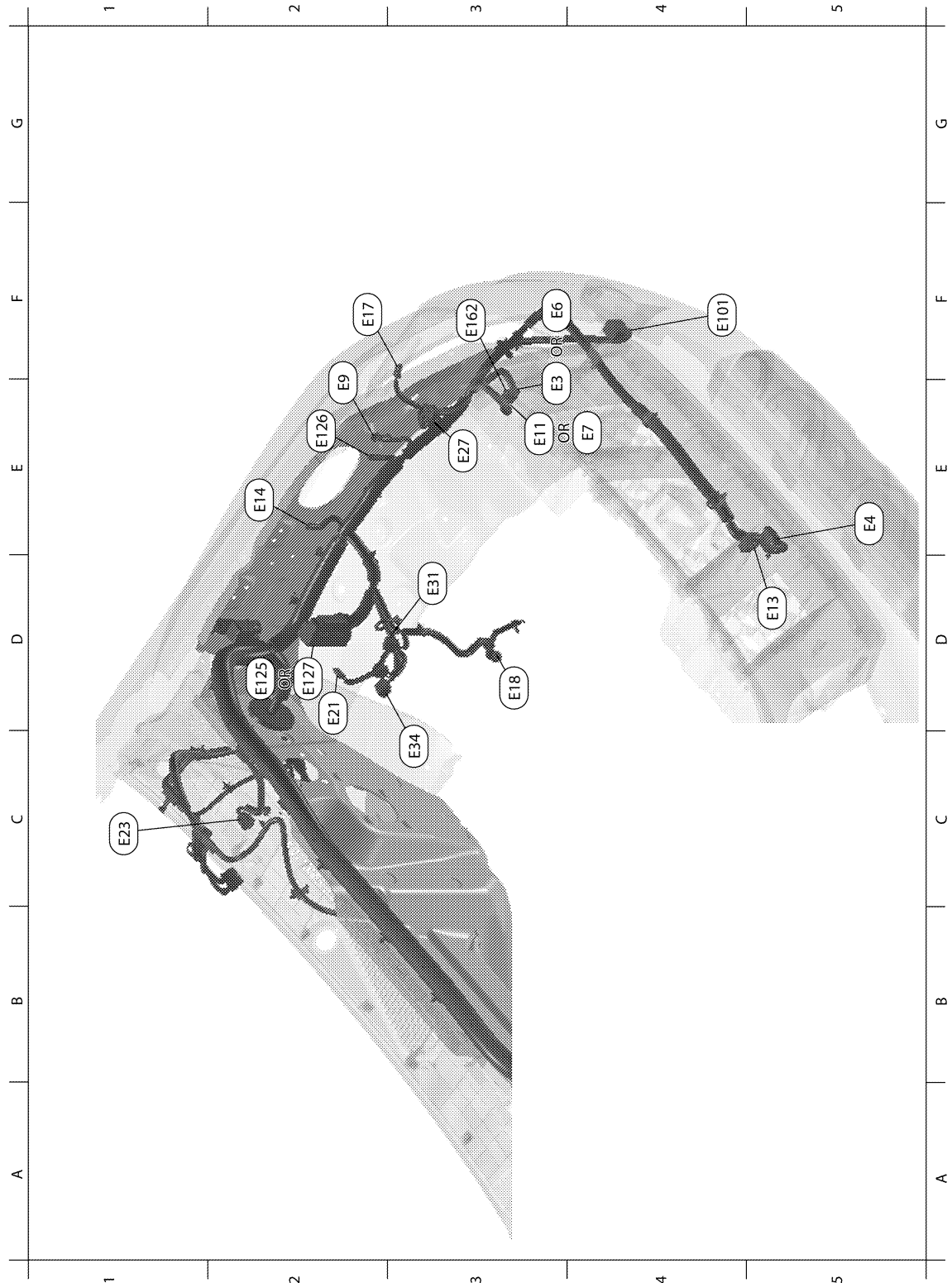
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# HARNESS

< COMPONENT DIAGNOSIS >

## ENGINE ROOM HARNESS (LH VIEW)



Refer to "ENGINE ROOM HARNESS (RH VIEW)" for continuation of engine room harness.

E3	E3	B/1	: Horn (with single note horn)	D2	E21	GR/2	: Brake fluid level switch
E5	E4	Y/2	: Crash zone sensor	C1	E23	GR/5	: Front wiper motor
F3	E6	B/2	: Horn (with dual note horn)	E3	E27	GR/3	: Front combination lamp LH
E4	E7	B/3	: Front combination lamp LH (headlamp) (with daytime light system)	D3	E31	B/3	: Front pressure sensor

# HARNESS

## < COMPONENT DIAGNOSIS >

F2	E9	—	: Body ground	C3	E34	W/8	: To B40
E3	E11	B/3	: Front combination lamp LH (headlamp) (without daytime light system)	F4	E101	B/2	: Front fog lamp LH
D5	E13	B/2	: Ambient sensor 2	D2	E125	B/47	: ABS actuator and electric unit (control unit)(without VDC)
E2	E14	—	: Body ground	E2	E126	—	: Body ground
F2	E17	GR/2	: Front combination lamp LH (side marker)	D2	E127	B/47	: ABS actuator and electric unit (control unit)(with VDC)
D3	E18	GR/2	: Front wheel sensor LH	F3	E162	B/1	: Horn (with singal note horn)

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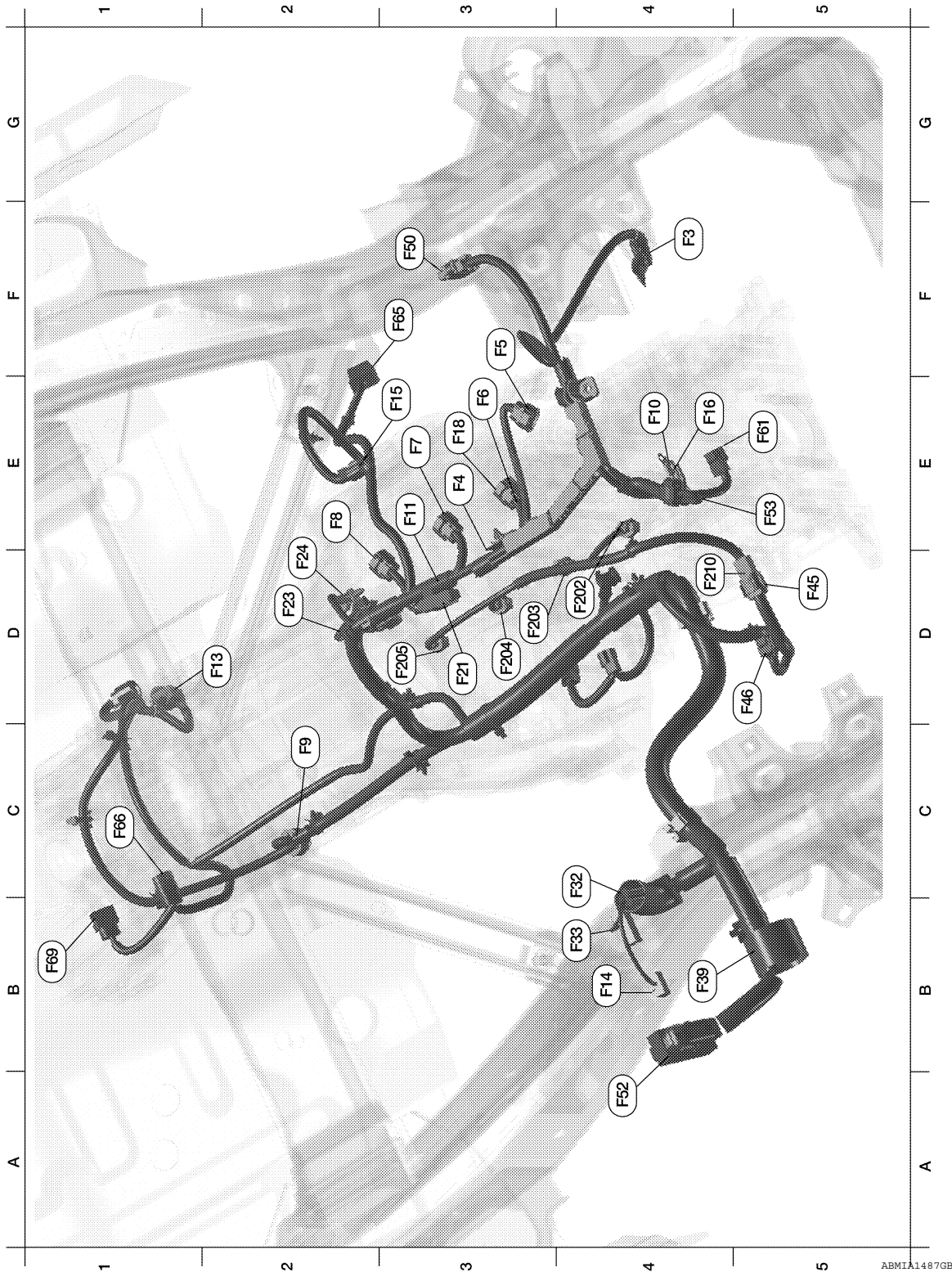
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# HARNESS

< COMPONENT DIAGNOSIS >

## ENGINE CONTROL HARNESS (QR25DE MODELS)



ABM1A1487GB

F4	F3	B/1	: A/C Compressor	B4	F33	W/6	: To E19
E3	F4	GR/1	: Oil pressure switch	B4	F39	—	: Fusible link box (battery)
E3	F5	GR/3	: Ignition coil No. 1 (with power transistor)	D5	F44	B/6	: To F101
E3	F6	GR/3	: Ignition coil No. 2 (with power transistor)	D5	F45	B/6	: To F210

# HARNESS

## < COMPONENT DIAGNOSIS >

E3	F7	GR/3	: Ignition coil No. 3 (with power transistor)	C5	F46	B/3	: Power steering pressure sensor	A
E3	F8	GR/3	: Ignition coil No. 4 (with power transistor)	F3	F50	B/6	: Electric throttle control actuator	B
C2	F9	G/10	: A/T assembly	A4	F52	B/81	: ECM	C
E4	F10	—	: Engine ground	E5	F53	B/6	: Mass air flow sensor	D
E3	F11	B/3	: Crankshaft position sensor (POS)	E5	F61	GR/2	: Intake valve timing control solenoid valve	E
D2	F13	G/4	: Heated oxygen sensor 2	F3	F65	GR/6	: Air fuel ratio (A/F) sensor 1	F
B4	F14	W/24	: To E5	C1	F66	B/2	: Park/neutral position (PNP) switch	G
E3	F15	L/2	: EVAP canister purge volume control solenoid valve	B1	F69	W/2	: Back-up lamp switch	H
E4	F16	—	: Engine ground	Injector sub-harness				I
E3	F18	L/2	: Knock sensor	D4	F202	GR/2	: Fuel injector No. 1	J
D3	F21	W/2	: Condenser-1	D3	F203	GR/2	: Fuel injector No. 2	K
D2	F23	B/3	: Camshaft position sensor (PHASE)	D3	F204	GR/2	: Fuel injector No. 3	L
D2	F24	GR/2	: Engine coolant temperature sensor	D3	F205	GR/2	: Fuel injector No. 4	
B4	F32	W/16	: To E2	D4	F210	B/6	: To F45	

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# HARNESSES

## < COMPONENT DIAGNOSIS >

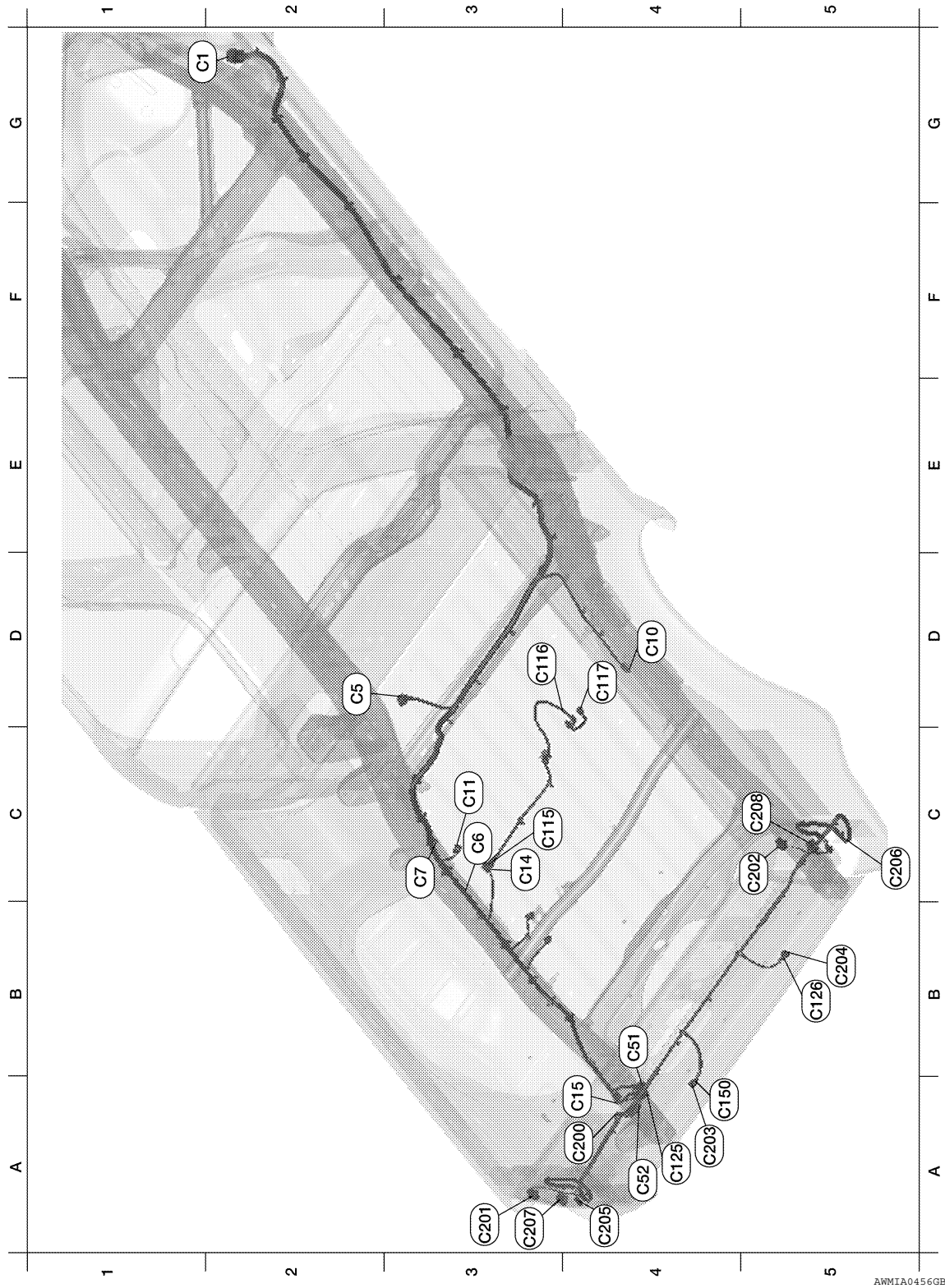
B2	F14	W/24	: To E5	F2	F60	GR/2	: 4LO switch	A
D5	F16	—	: Engine ground	D2	F66	B/2	: Park/neutral position (PNP) switch	B
C5	F17	L/2	: EVAP canister purge volume control solenoid valve	C2	F67	L/4	: To F250	C
C4	F19	B/2	: VIAS control solenoid valve	C2	F68	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 1)	D
D4	F20	GR/2	: Fuel injector No. 4	E2	F69	W/2	: Back-up lamp switch	E
D3	F21	W/2	: Condenser-1	C2	F70	G/3	: Camshaft position sensor (PHASE)(bank 1)	F
D4	F22	GR/2	: Fuel injector No. 6	Injector sub-harness				G
D3	F24	GR/2	: Engine coolant temperature sensor	D3	F201	G/4	: To F44	H
E3	F25	B/3	: Camshaft position sensor (PHASE) (bank 2)	C4	F206	GR/2	: Fuel injector No. 1	I
C3	F26	G/8	: To F225	C3	F207	GR/2	: Fuel injector No. 3	J
E2	F27	L/4	: Heated oxygen sensor 2 (bank 1)	C3	F208	GR/2	: Fuel injector No. 5	K
C4	F28	GR/2	: Fuel injector No. 2	Ignition coil sub-harness				L
D5	F29	GR/3	: Ignition coil No. 2 (with power transistor)	B3	F225	G/8	: To F26	M
D4	F30	GR/3	: Ignition coil No. 4 (with power transistor)	B3	F226	GR/3	: Ignition coil No. 1 (with power transistor)	N
E4	F31	GR/3	: Ignition coil No. 6 (with power transistor)	B3	F227	GR/3	: Ignition coil No. 3 (with power transistor)	O
B2	F32	W/16	: To E2	C3	F228	GR/3	: Ignition coil No. 5 (with power transistor)	P
A2	F33	W/16	: To E19	B4	F229	G/2	: Intake valve timing control solenoid valve (bank 1)	Q
D3	F44	G/4	: To F201	Knock sensor sub-harness				R
B4	F46	B/3	: Power steering pressure sensor	D4	F250	L/4	: To F67	S
B4	F50	B/6	: Electric throttle control actuator	C5	F251	B/2	: Knock sensor (bank 1)	T
D5	F51	G/2	: Intake valve timing control solenoid valve (bank 2)	D4	F252	B/2	: Knock sensor (bank 2)	U

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# HARNESS

< COMPONENT DIAGNOSIS >

## CHASSIS HARNESS



AWMIA0456GB

G2	C1	SMJ	: To E41	Trailer sub-harness			
D2	C5	GR/5	: Fuel level sensor unit and fuel pump	A4	C125	GR/8	: To C51
C3	C6	B/2	: EVAP canister vent control valve	B5	C126	B/7	: Trailer
C3	C7	GR/3	: EVAP control system pressure sensor	A4	C150	B/2	: To C52
D4	C10	GR/2	: Rear wheel sensor RH	Tail lamp sub-harness			

# HARNESS

## < COMPONENT DIAGNOSIS >

C3	C11	BR/2	: Rear wheel sensor LH	A4	C200	GR/8	: To C15
C3	C14	GR/4	: To C115	A3	C201	BR/3	: Rear combination lamp LH
B4	C15	GR/8	: To C200	C5	C202	BR/3	: Rear combination lamp RH
B4	C51	GR/6	: To C125	A4	C203	GR/2	: License plate lamp LH
A4	C52	B/2	: To C150	B5	C204	GR/2	: License plate lamp RH
Differential lock sub-harness				A4	C205	GR/2	: Rear combination lamp LH
C3	C115	GR/4	: To C14	C5	C206	GR/2	: Rear combination lamp RH
D3	C116	GR/2	: Differential lock position switch	A3	C207	GR/2	: Rear combination lamp LH
D4	C117	B/2	: Differential lock solenoid	C5	C208	GR/2	: Rear combination lamp RH

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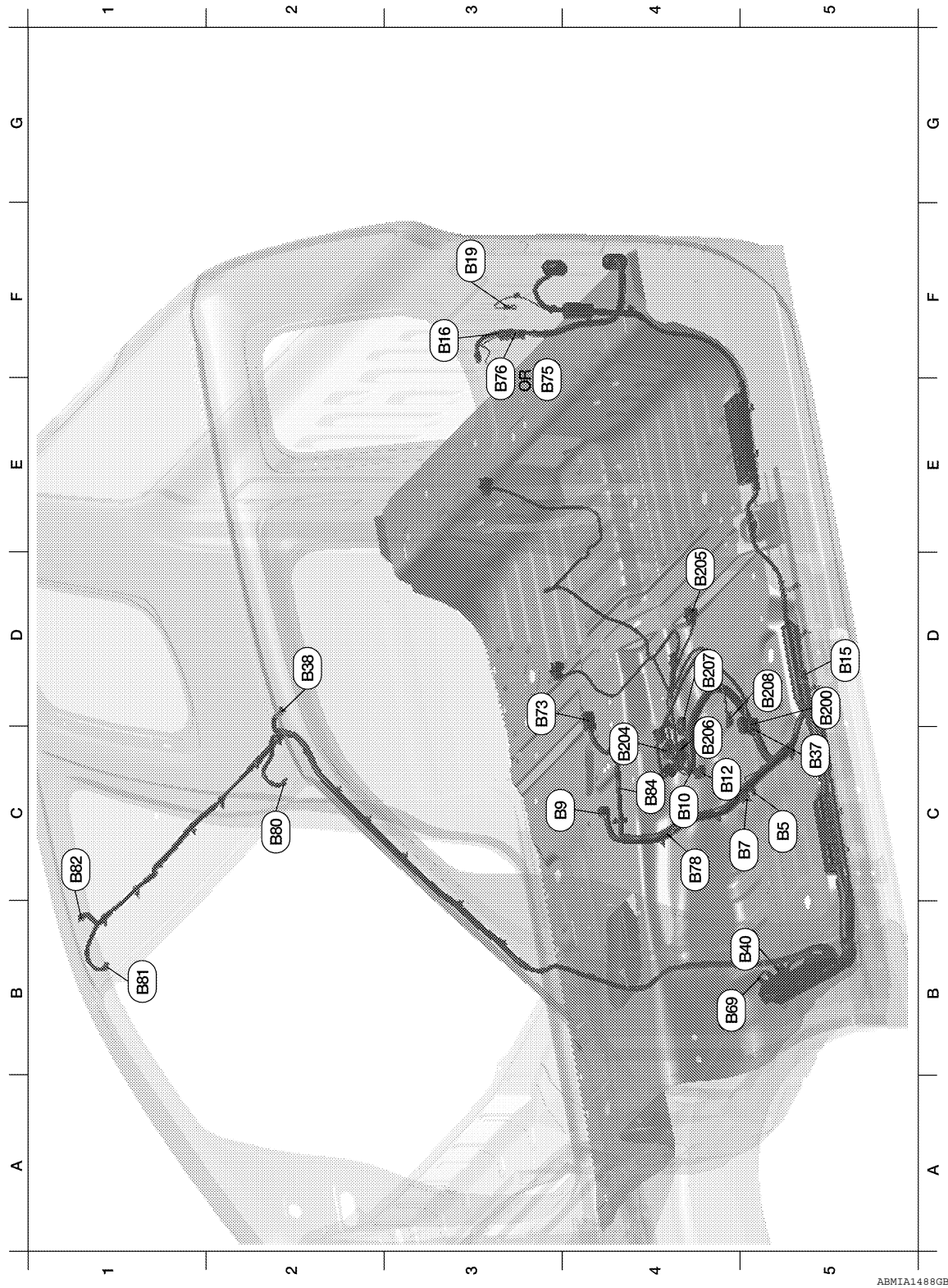
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# HARNESS

< COMPONENT DIAGNOSIS >

## BODY HARNESS (KING CAB MODELS)



C5	B7	—	: Body ground	F3	B76	W/2	: Rear door speaker LH (with base audio system)
C4	B9	Y/12	: Air bag diagnosis sensor unit	C4	B78	Y/2	: To B157
C4	B10	Y/2	: Front LH side air bag module	C2	B80	W/2	: Vanity lamp LH
D4	B12	W/3	: Seat belt buckle switch LH	B1	B81	W/2	: Vanity lamp RH
D5	B15	Y/2	: LH side air bag (satellite) sensor	C1	B82	Y/2	: RH side curtain air bag module

# HARNESS

## < COMPONENT DIAGNOSIS >

F3	B16	W/8	: To D216	C4	B84	B/1	: Parking brake switch
F3	B19	—	: Body ground	Front seat LH harness			
C5	B37	W/8	: To B200	D5	B200	W/16	: To B37
D2	B38	Y/2	: LH side curtain air bag module	C4	B204	GR/2	: Sliding motor LH
B5	B40	W/8	: To E34	D4	B205	W/2	: Reclining motor LH
B4	B69	SMJ	: To M40	C4	B206	GR/2	: Lifting motor (front)
D3	B73	B/6	: Yaw rate/side/decel G sensor	D4	B207	GR/2	: Lifting motor (rear)
F3	B75	W/2	: Rear door speaker LH (with premium audio system)	D5	B208	W/10	: Power seat switch LH

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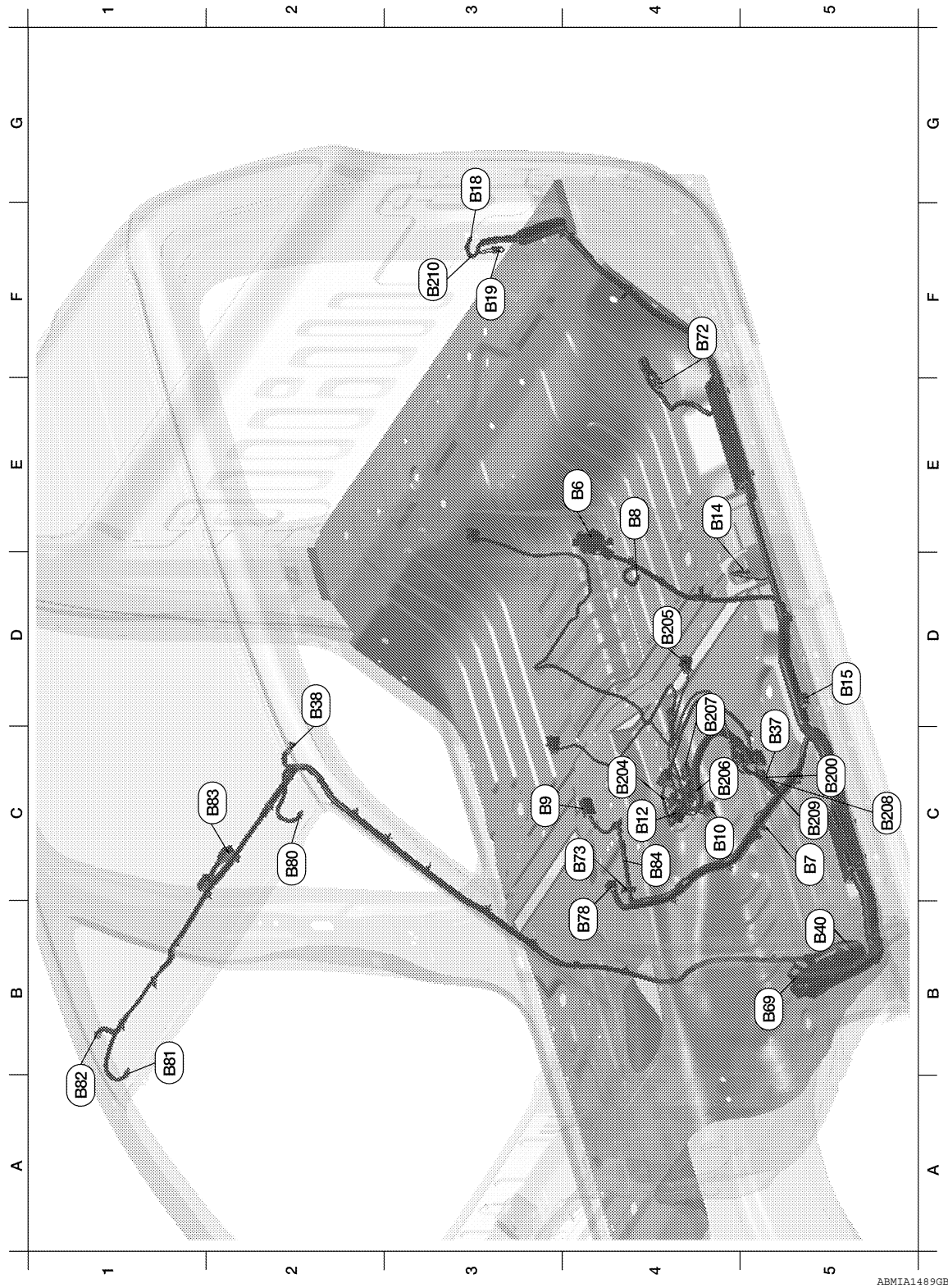
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# HARNESS

< COMPONENT DIAGNOSIS >

## BODY HARNESS (CREW CAB MODELS)



E4	B6	W/12	: To D201	B4	B78	Y/2	: To B157
C5	B7	—	: Body ground	C2	B80	W/2	: Vanity lamp LH
E4	B8	W/3	: Front door switch LH	B1	B81	W/2	: Vanity lamp RH
C3	B9	Y/12	: Air bag diagnosis sensor unit	A1	B82	Y/2	: RH side curtain air bag module
C4	B10	Y/2	: Front LH side air bag module	C2	B83	B/10	: Sunroof motor assembly

# HARNESS

## < COMPONENT DIAGNOSIS >

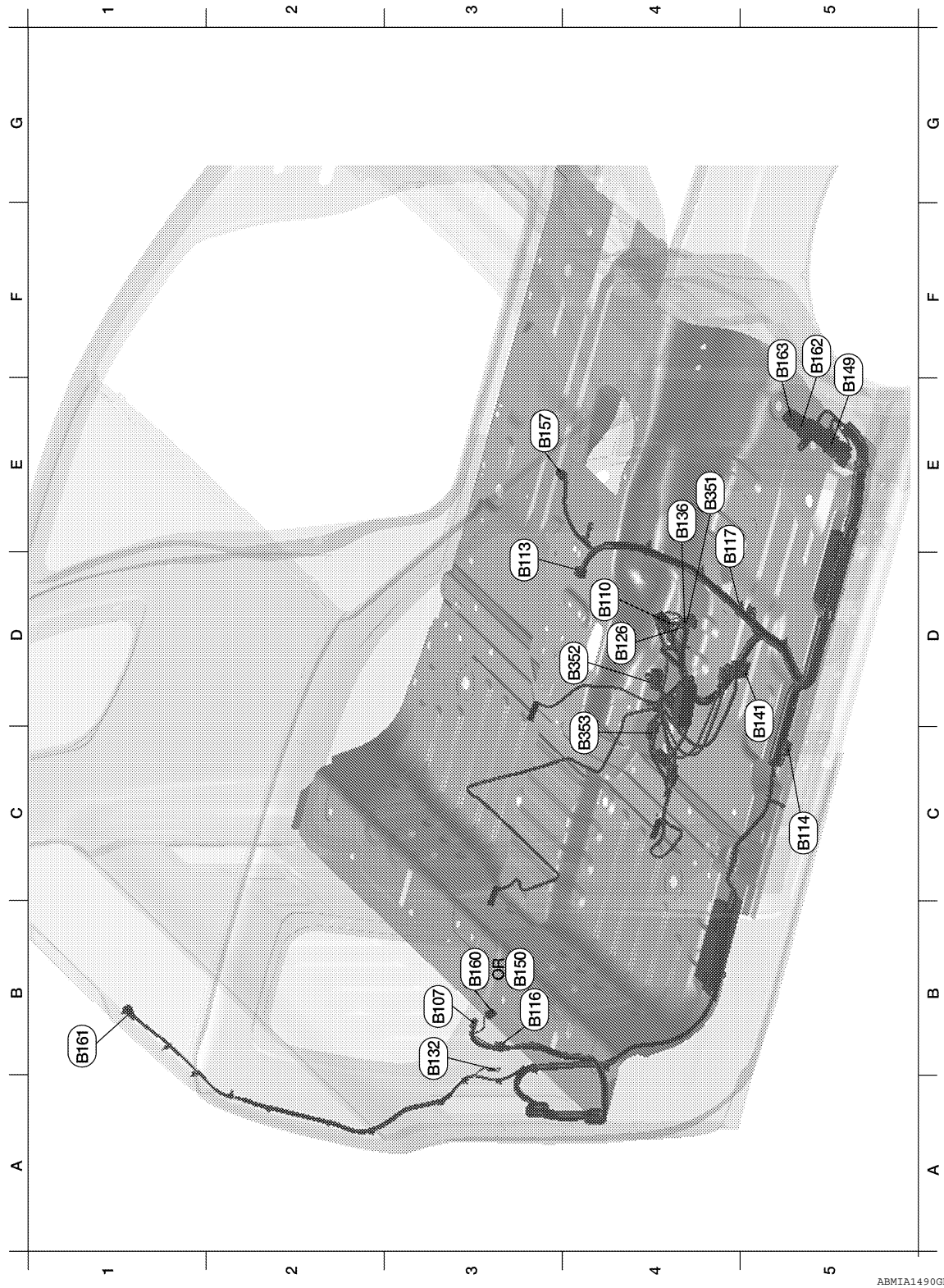
C4	B12	W/3	: Seat belt buckle switch LH	C4	B84	B/1	: Parking brake switch
E4	B14	Y/2	: Front LH seat belt pre-tensioner	Front seat LH harness			
D5	B15	Y/2	: LH side air bag (satellite) sensor	C5	B200	W/16	: To B37
G3	B18	W/3	: Rear door switch LH	C4	B204	GR/2	: Sliding motor LH
F3	B19	—	: Body ground	D4	B205	W/2	: Reclining motor LH
C5	B37	W/16	: To B200	C4	B206	GR/2	: Lifting motor (front)
D2	B38	Y/2	: LH side curtain air bag module	D4	B207	GR/2	: Lifting motor (rear)
B5	B40	W/8	: To E34	C5	B208	W/10	: Power seat switch LH
B5	B69	SMJ	: To M40	C5	B209	W/3	: Front seat heater LH
F4	B72	GR/4	: Subwoofer	F3	B210	B/1	: Rear window defogger
C4	B73	B/6	: Yaw rate/side/decel G sensor				

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# HARNESS

< COMPONENT DIAGNOSIS >

BODY NO. 2 HARNESS (KING CAB MODELS)



ABMIA1490GB

B3	B107	W/8	: To D302	F5	B150	W/2	: Rear door speaker RH (with premium audio system)
D4	B110	W/3	: Seat belt buckle switch RH	E3	B157	Y/2	: To B78
D3	B113	Y/12	: Air bag diagnosis sensor unit	B3	B160	W/2	: Rear door speaker RH (with base audio system)
C5	B114	Y/2	: RH side air bag (satellite) sensor	B1	B161	W/3	: High-mounted stop lamp assembly



# HARNESS

## < COMPONENT DIAGNOSIS >

B3	B116	W/3	: Rear door switch RH	F5	B162	W/12	: To M16
E4	B117	—	: Body ground	F5	B163	W/16	: To M17
D4	B126	Y/2	: Front RH side air bag module	Front seat RH harness			
B3	B132	—	: Body ground	E4	B351	W/16	: To B136
E4	B136	W/8	: To B351	E4	B352	B/18	: Occupant classification system control unit
E4	B141	W/32	: Bluetooth control unit	E4	B353	B/3	: Occupant classification system sensor
F5	B149	SMJ	: To M36				

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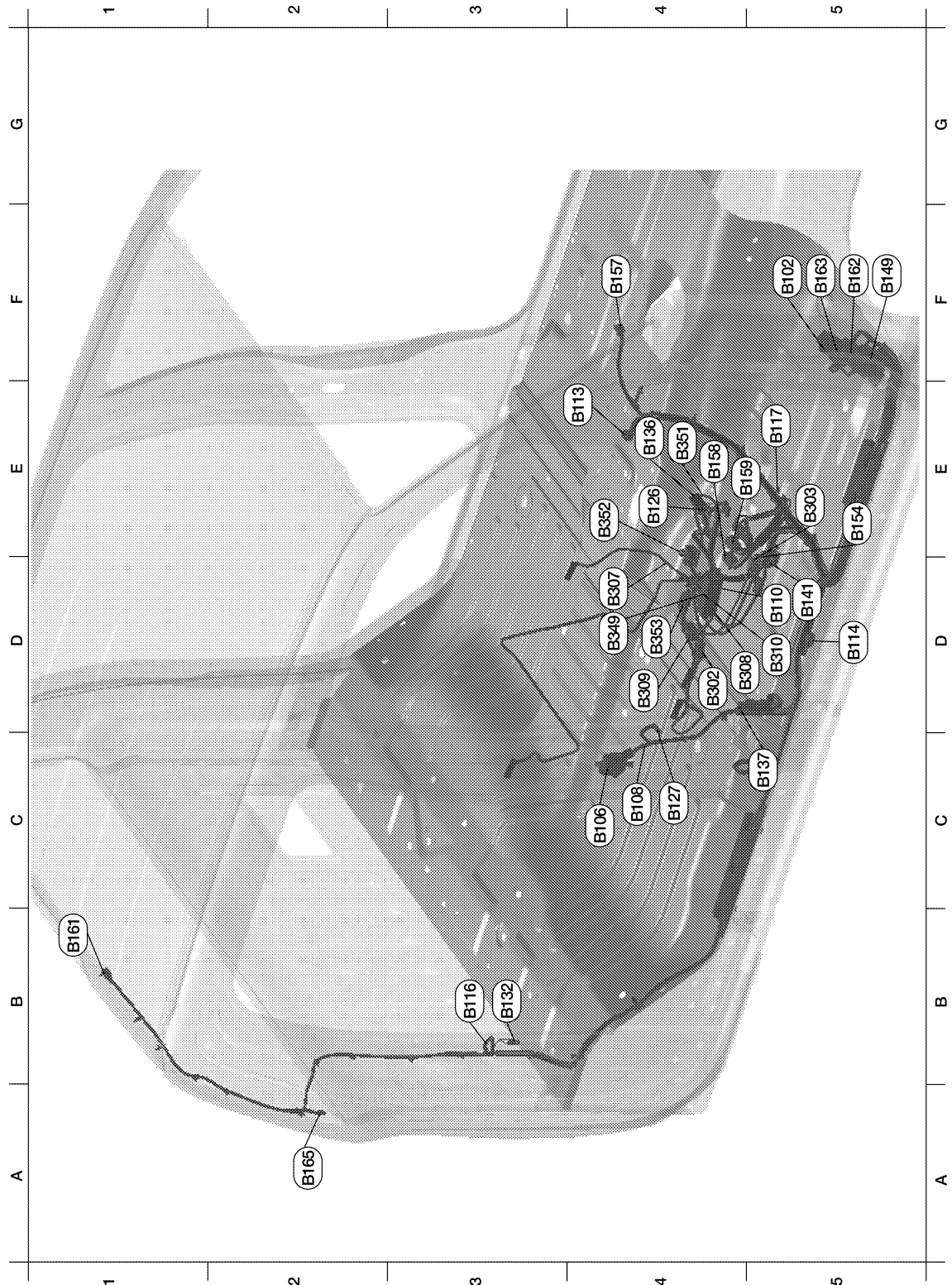
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# HARNESS

< COMPONENT DIAGNOSIS >

BODY NO. 2 HARNESS (CREW CAB MODELS)



ABMIA1491GB

F5	B102	W/2	: To E36	D4	B158	W/8	: Audio amplifier
C4	B106	W/12	: To D301	E4	B159	W/24	: Audio amplifier
C4	B108	W/3	: Front door switch RH	B1	B161	W/3	: High-mounted stop lamp
D4	B110	W/3	: Seat belt buckle switch RH	F5	B162	W/12	: To M16
E4	B113	Y/12	: Air bag diagnosis sensor unit	F5	B163	W/16	: To M17

# HARNESS

## < COMPONENT DIAGNOSIS >

D5	B114	Y/2	: RH side air bag (satellite) sensor	A2	B165	B/1	: Rear window defogger	A
B3	B116	W/3	: Rear door switch RH	Front seat RH harness				B
E5	B117	—	: Body ground	D4	B302	W/2	: Reclining motor RH	B
E4	B126	Y/2	: Front RH side air bag module	E5	B303	W/16	: To B154	B
C4	B127	Y/2	: Front RH seat belt pretensioner	D4	B307	W/3	: Front seat heater RH	B
B3	B132	—	: Body ground	D4	B308	W/6	: Power seat switch RH	C
E4	B136	W/16	: To B351	D4	B309	GR/2	: Sliding motor RH	C
C5	B137	B/3	: Belt tension sensor	E4	B310	W/18	: To B349	D
D5	B141	W/32	: Bluetooth control unit	E4	B349	W/8	: To B310	D
F5	B149	SMJ	: To M36	E4	B351	W/16	: To B136	E
E5	B154	W/16	: To B303	E4	B352	B/18	: Occupant classification system control unit	E
F4	B157	Y/2	: To B78	D4	B353	B/3	: Occupant classification system sensor	E

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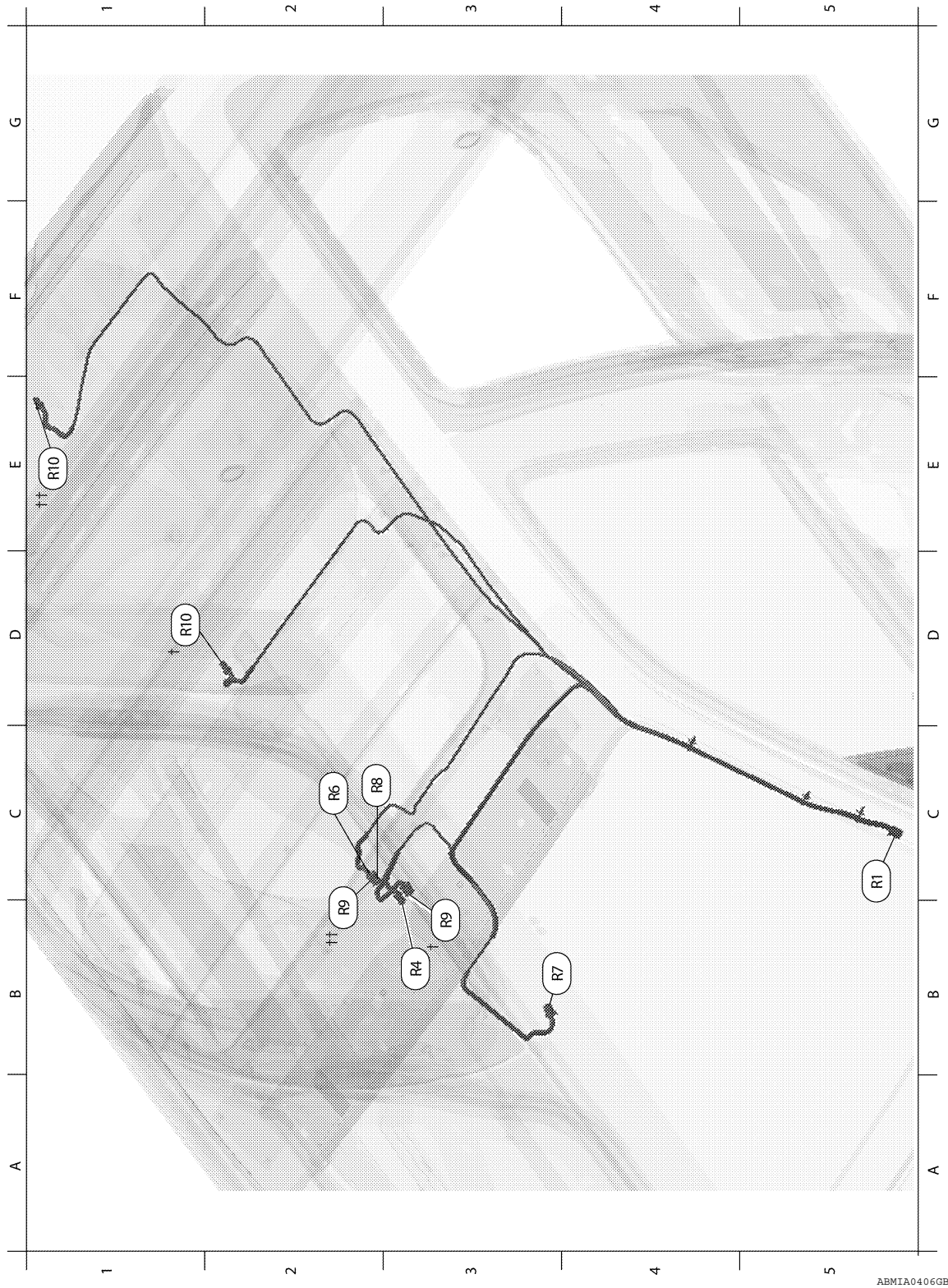
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# HARNESS

< COMPONENT DIAGNOSIS >

## ROOM LAMP HARNESS

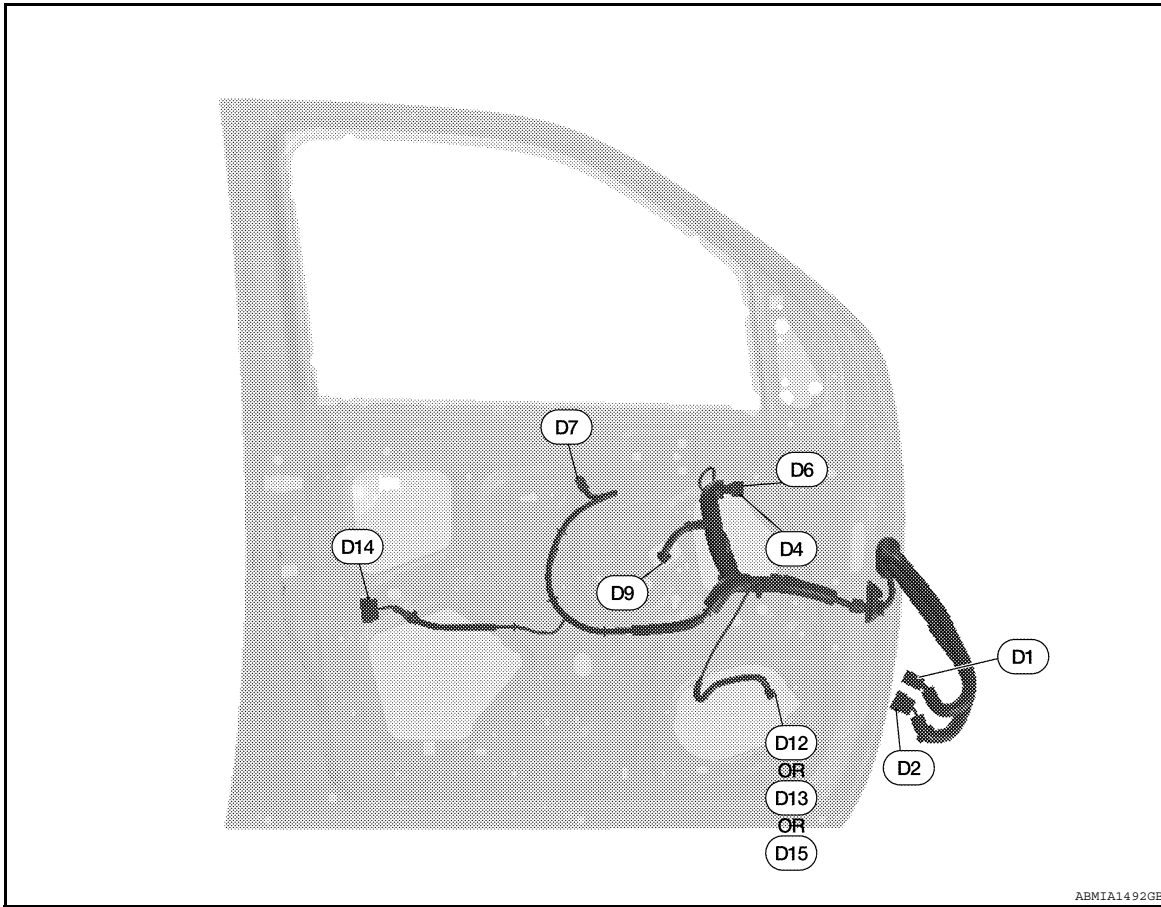


C5	R1	W/24	: To M1	B3	R9†	W/3	: Front room/map lamp assembly (with sunroof)
B3	R4	W/3	: Sunroof switch	B2	R9††	W/3	: Front room/map lamp assembly (without sunroof)
B3	R7	B/10	: Auto anti-dazzling inside mirror	D1	R10†	W/2	: Room lamp 2nd row (king cab)
C3	R8	W/4	: Microphone	E1	R10††	W/2	: Room lamp 2nd row (crew cab)

# HARNESS

< COMPONENT DIAGNOSIS >

## FRONT DOOR LH HARNESS



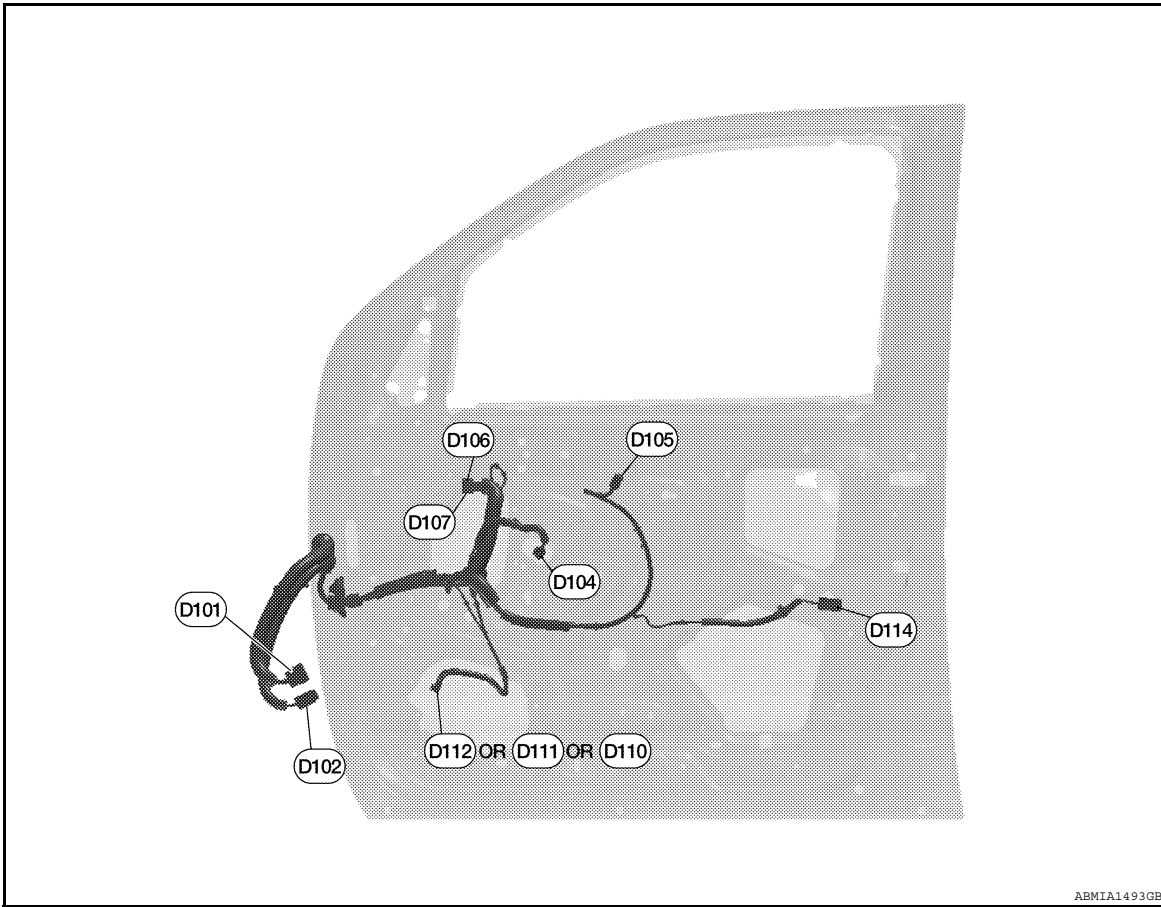
D1	W/16	: To M9	D9	BR/2	: Front power window motor LH
D2	BR/12	: To M8	D12	W/2	: Front door speaker LH
D4	B/10	: Door mirror LH (with heated mirror)	D13	W/2	: Front door speaker LH (king cab with premium audio system)
D6	B/3	: Door mirror LH (without heated mirror)	D15	W/2	: Front door speaker LH (crew cab with premium audio system)
D7	W/16	: Main power window and door lock/unlock switch	D14	GR/6	: Front door lock assembly LH

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# HARNESS

< COMPONENT DIAGNOSIS >

## FRONT DOOR RH HARNESS

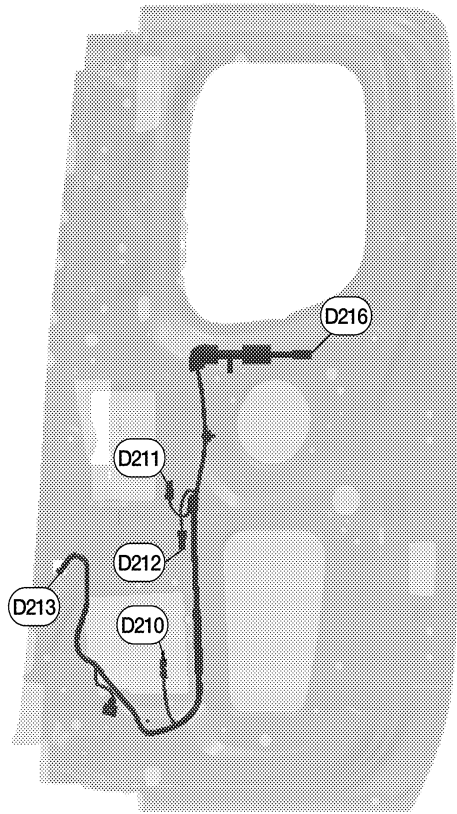


D101	W/12	: To M75	D107	B/10	Door mirror RH (with heated mirror)
D102	W/16	: To M74	D110	W/2	: Front door speaker RH (crew cab with premium audio system)
D104	BR/2	: Front power window motor RH	D111	W/2	: Front door speaker RH (king cab with premium audio system)
D105	W/12	: Power window and door lock/unlock switch RH	D112	W/2	: Front door speaker RH (with base audio system)
D106	B/3	Door mirror RH (without heated mirror)	D114	BR/2	: Front door lock actuator RH

# HARNESS

< COMPONENT DIAGNOSIS >

## REAR DOOR LH HARNESS (KING CAB MODELS)



ABMIA0453GB

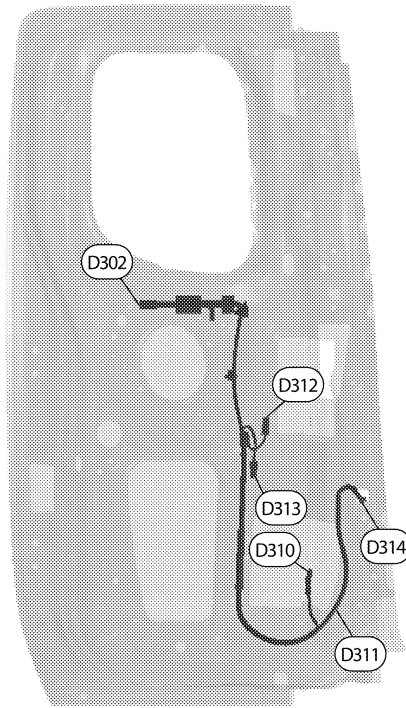
D210	Y/2	: Front LH seat belt pre-tensioner	D213	W/3	: Front door switch LH
D211	B/2	: Rear door switch upper LH	D216	W/8	: To B16
D212	B/2	: Rear door switch lower LH			

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# HARNESS

< COMPONENT DIAGNOSIS >

## REAR DOOR RH HARNESS (KING CAB MODELS)



ABMIA0409GB

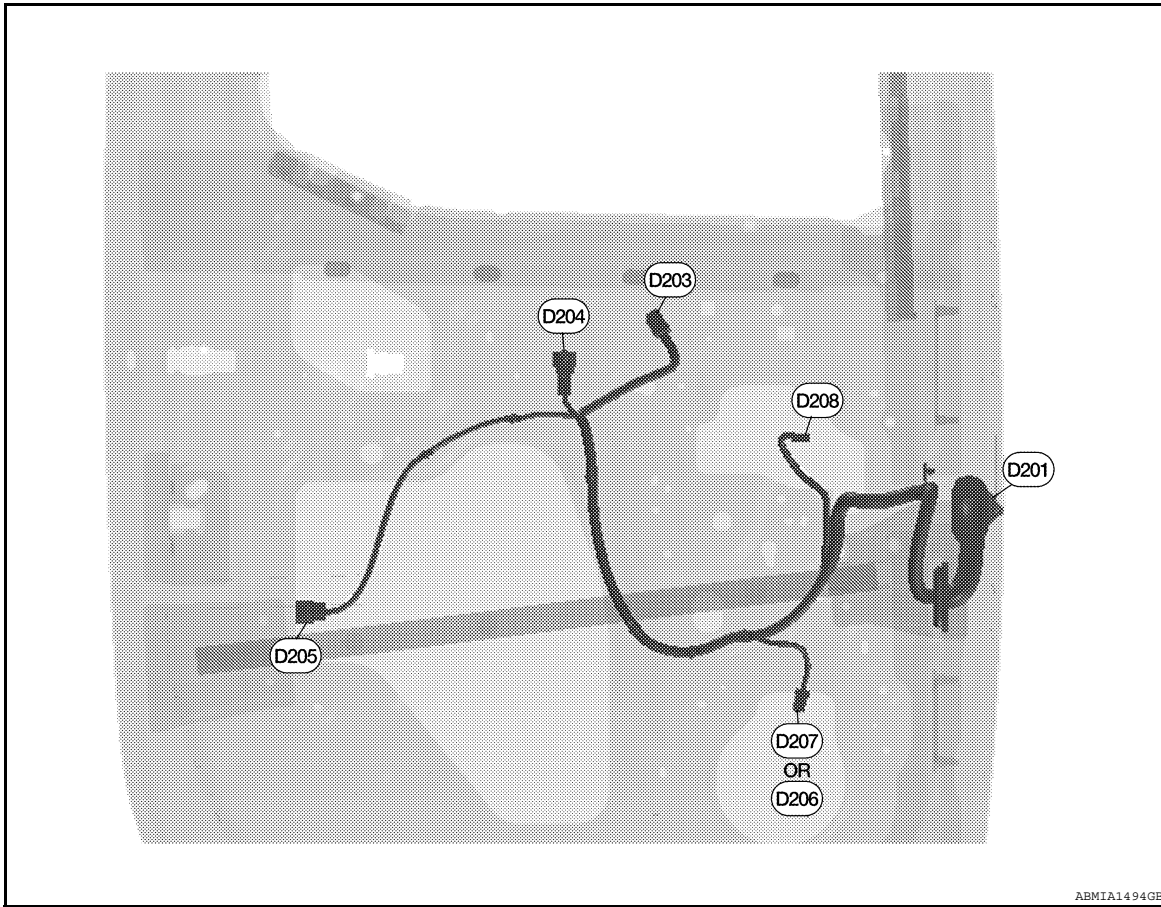
D302	W/8	: To B107	D312	B/2	: Rear door switch upper RH
D310	Y/2	: Front RH seat belt pre-tensioner	D313	B/2	: Rear door switch lower RH
D311	Y/3	: Belt tension sensor	D314	W/3	: Front door switch RH



# HARNESS

< COMPONENT DIAGNOSIS >

## REAR DOOR LH HARNESS (CREW CAB MODELS)



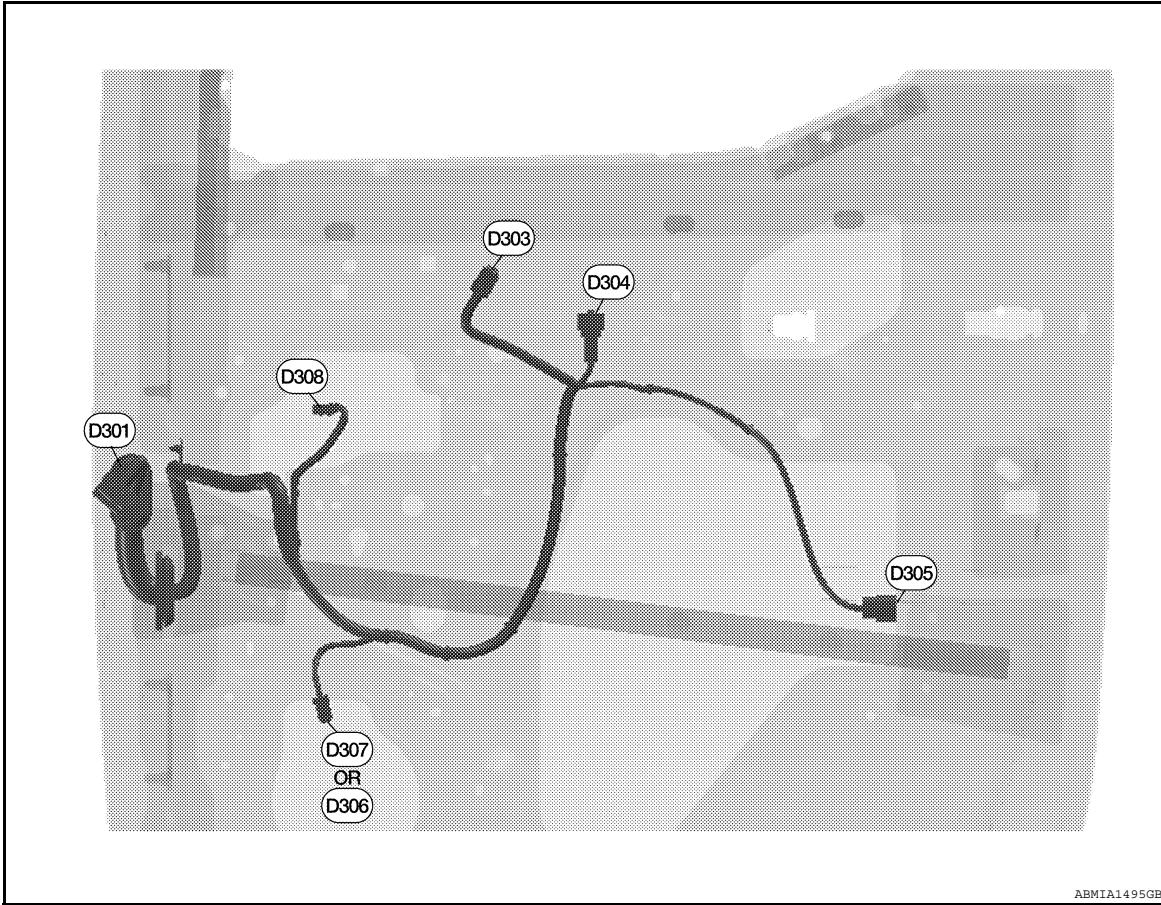
D201	W/12	: To B6	D206	W/2	: Rear door speaker LH (with premium audio system)
D203	W/8	: Rear power window switch LH	D207	W/2	: Rear door speaker LH (with base audio system)
D204	B/2	: Rear power window motor LH	D208	BR/2	: Rear door tweeter LH
D205	BR/2	: Rear door lock actuator LH			

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# HARNESS

< COMPONENT DIAGNOSIS >

## REAR DOOR RH HARNESS (CREW CAB MODELS)



D301	W/12	: To B106	D306	W/2	: Rear door speaker RH (with premium audio system)
D303	W/8	: Rear power window switch RH	D307	W/2	: Rear door speaker RH (with base audio system)
D304	B/2	: Rear power window motor RH	D308	BR/2	: Rear door tweeter RH
D305	BR/2	: Rear door lock actuator RH			

# ELECTRICAL UNITS LOCATION

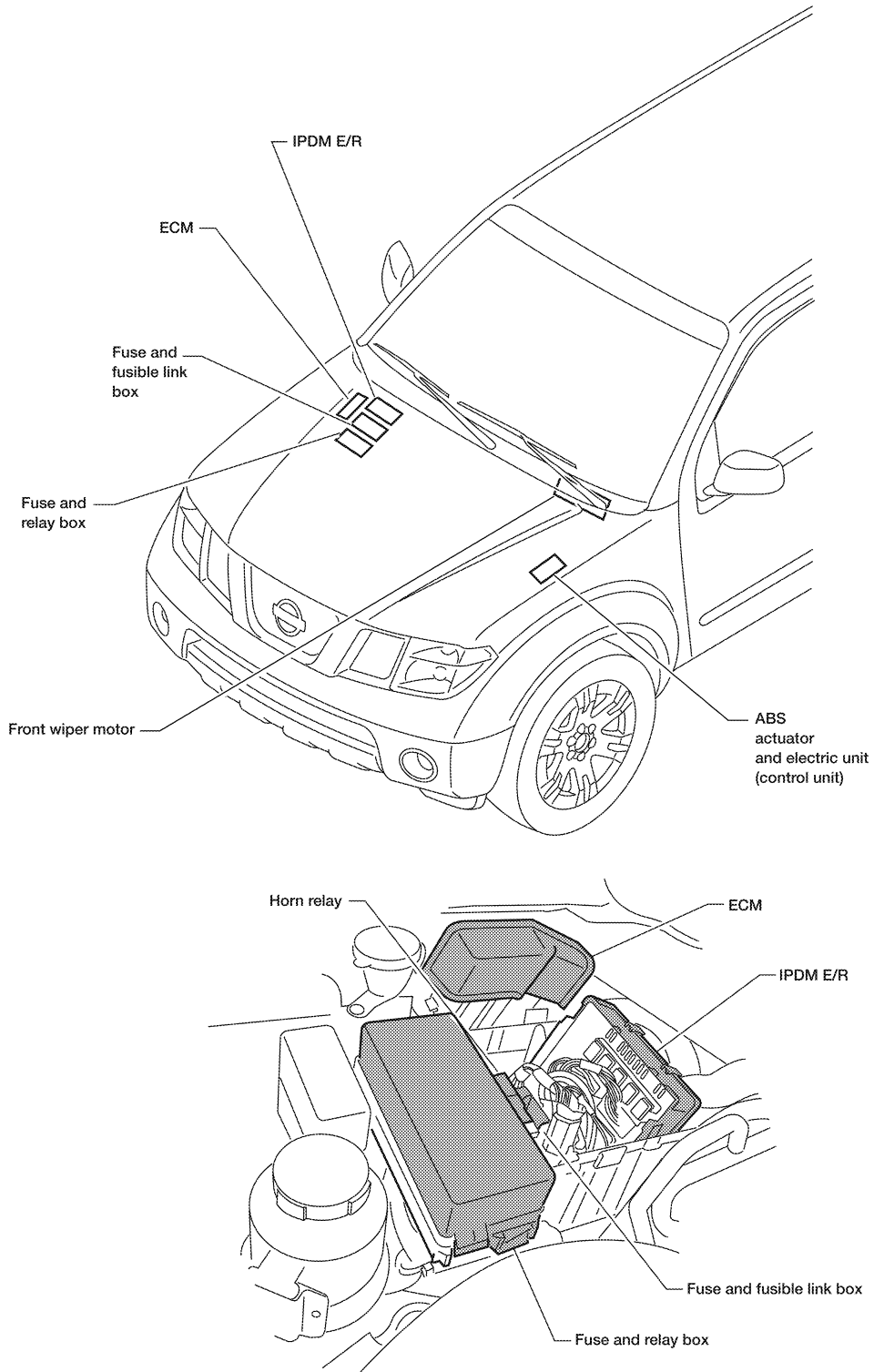
< COMPONENT DIAGNOSIS >

## ELECTRICAL UNITS LOCATION

### Electrical Units Location

INFOID:000000005272422

### ENGINE COMPARTMENT

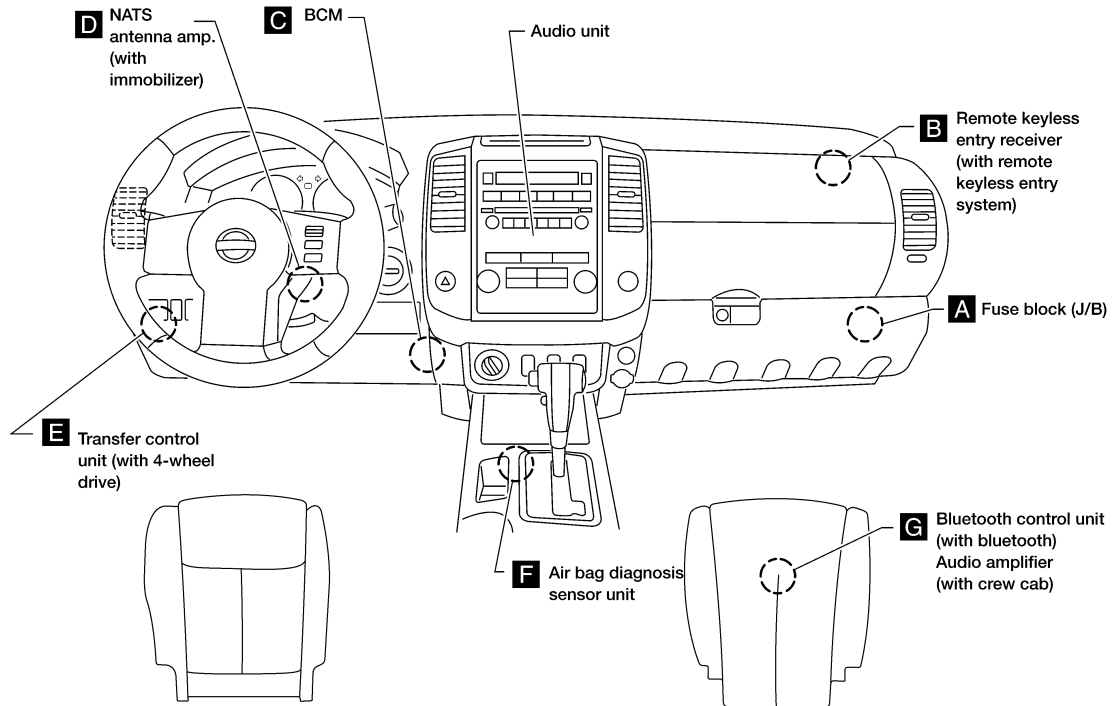


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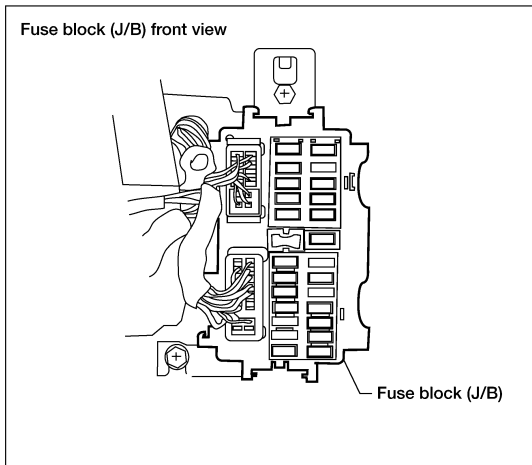
ABMIA0357GB

# ELECTRICAL UNITS LOCATION

< COMPONENT DIAGNOSIS >  
 PASSENGER COMPARTMENT



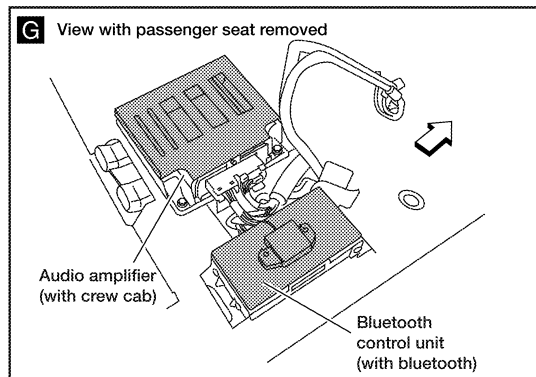
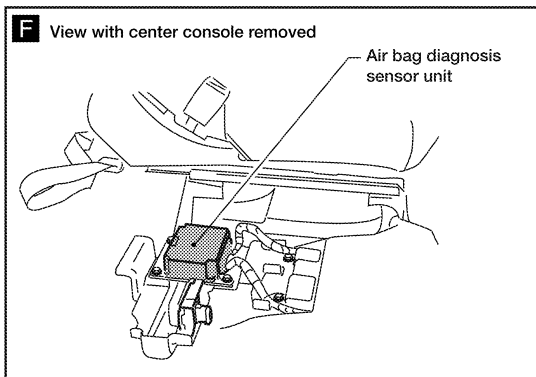
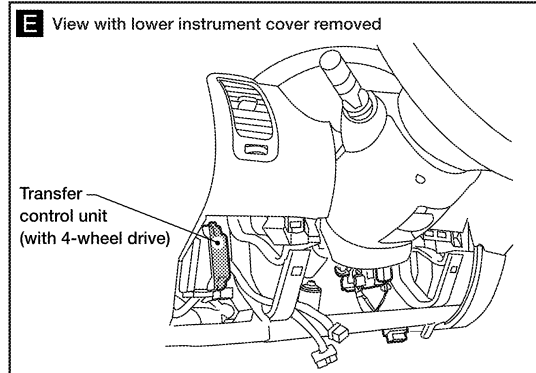
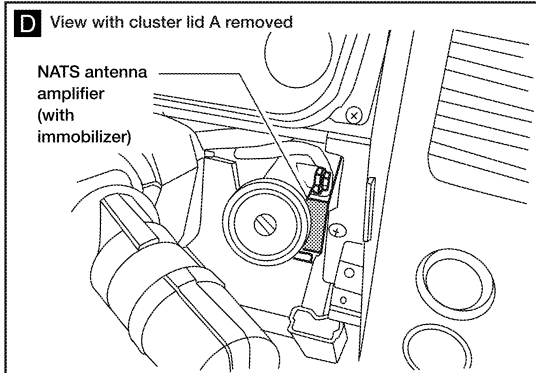
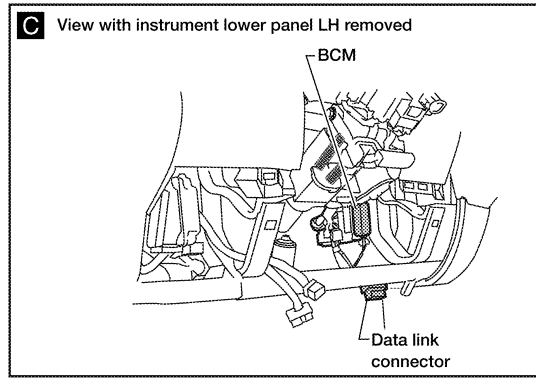
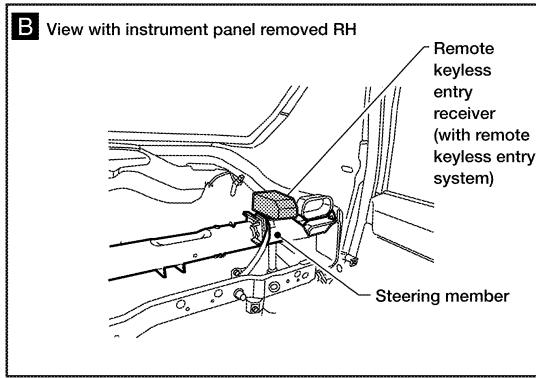
**A** Instrument panel side RH



ABMIA1479GB

# ELECTRICAL UNITS LOCATION

## < COMPONENT DIAGNOSIS >



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# HARNESS CONNECTOR

< COMPONENT DIAGNOSIS >

## HARNESS CONNECTOR

### Description

INFOID:000000005272423

#### HARNESS CONNECTOR (TAB-LOCKING TYPE)

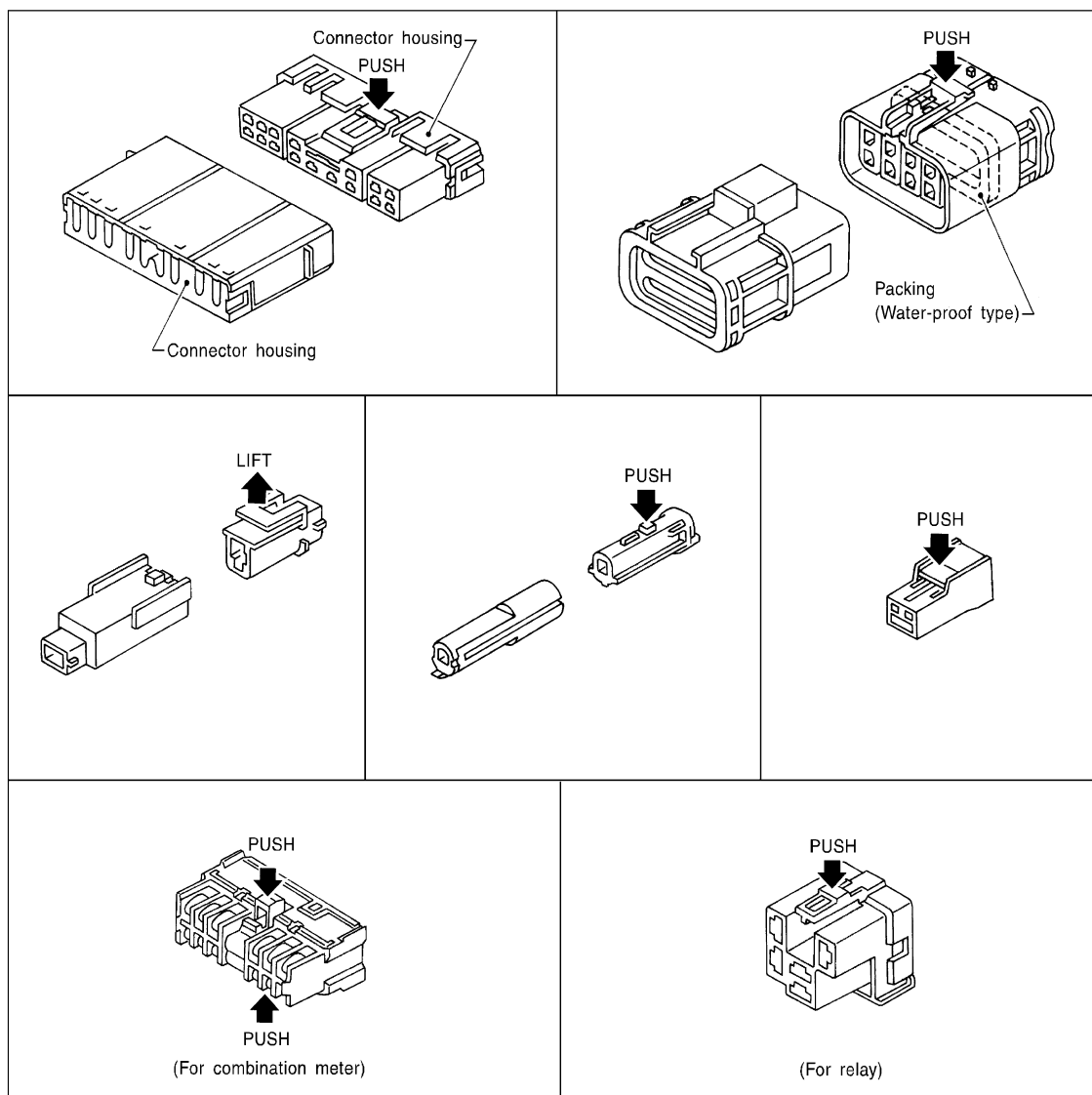
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the figure below.

Refer to the next page for description of the slide-locking type connector.

#### **CAUTION:**

**Do not pull the harness or wires when disconnecting the connector.**

[Example]



SEL769DA

#### HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.

# HARNESS CONNECTOR

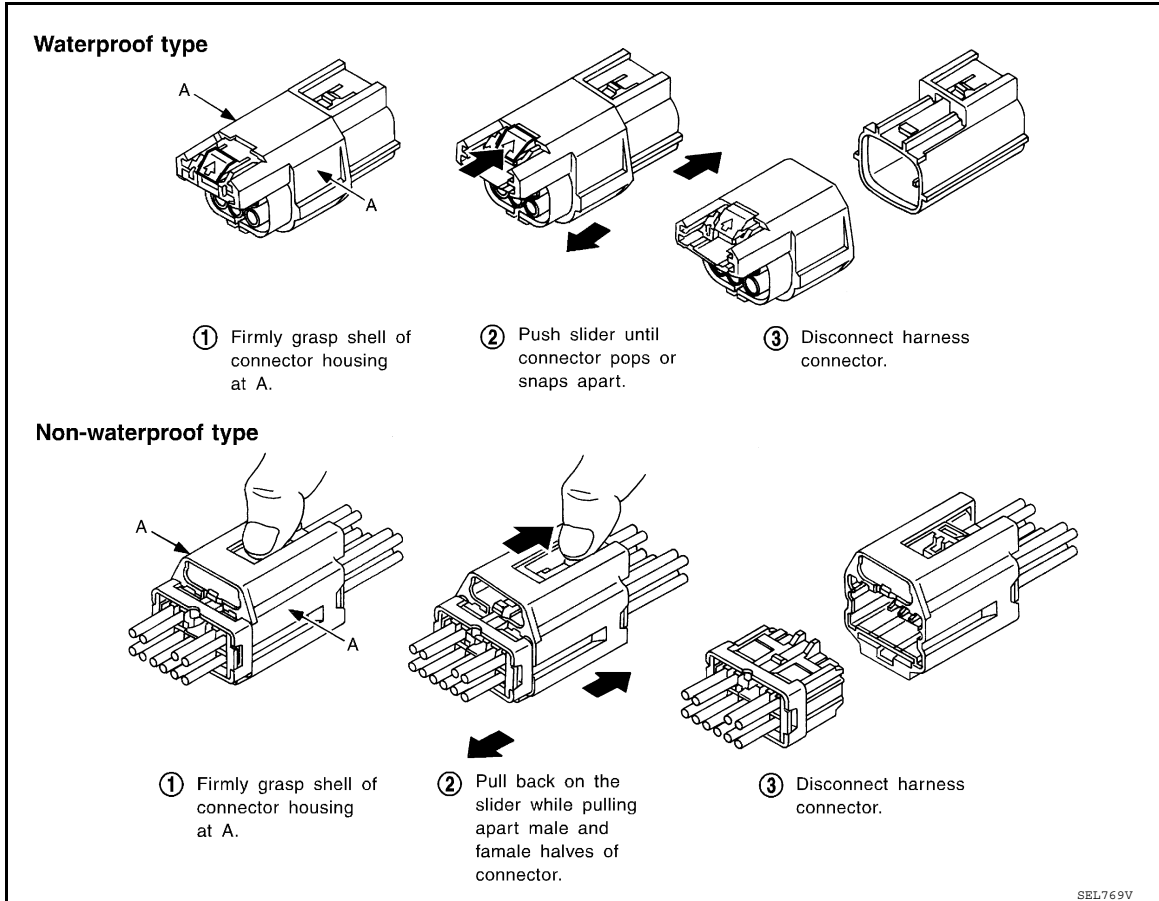
## < COMPONENT DIAGNOSIS >

- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the figure below.

### CAUTION:

- Do not pull the harness or wires when disconnecting the connector.
- Be careful not to damage the connector support bracket when disconnecting the connector.

[Example]



## HARNESS CONNECTOR (LEVER LOCKING TYPE)

- Lever locking type harness connectors are used on certain control units and control modules such as ECM, ABS actuator and electric unit (control unit), etc.
- Lever locking type harness connectors are also used on super multiple junction (SMJ) connectors.
- Always confirm the lever is fully locked in place by moving the lever as far as it will go to ensure full connection.

### CAUTION:

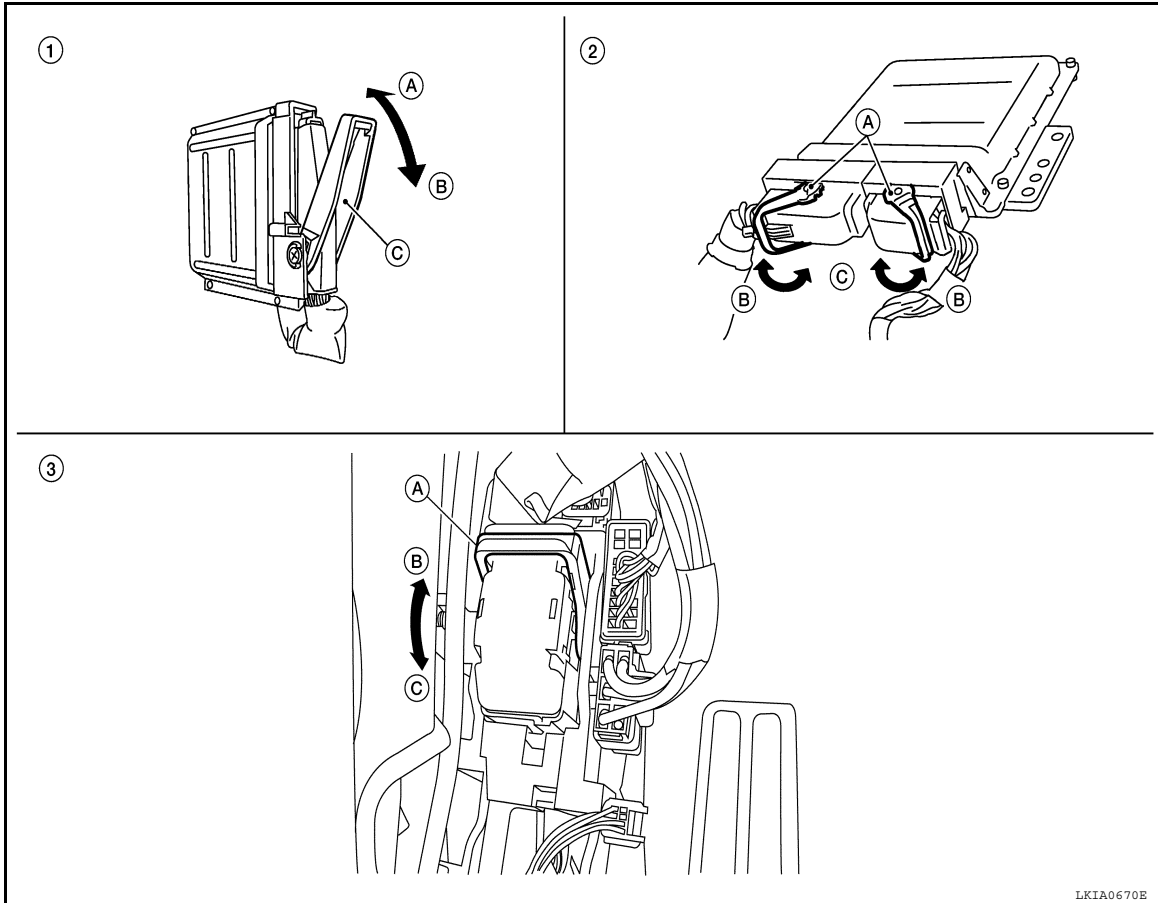
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# HARNES CONNECTOR

## < COMPONENT DIAGNOSIS >

- Always confirm the lever is fully released (loosened) before attempting to disconnect or connect these connectors to avoid damage to the connector housing or terminals.



LKIA0670E

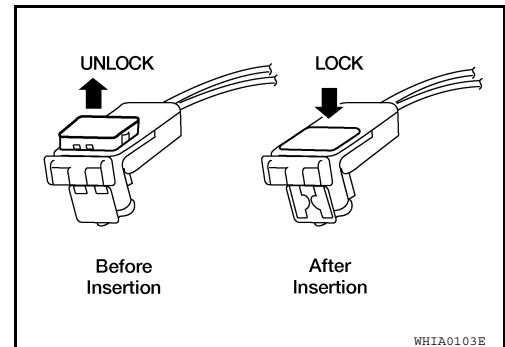
- |                                   |                                 |                  |
|-----------------------------------|---------------------------------|------------------|
| 1. Control unit with single lever | 2. Control unit with dual lever | 3. SMJ connector |
| A. Fasten                         | A. Fasten                       | A. Fasten        |
| B. Loosen                         | B. Loosen                       | B. Loosen        |
| C. Lever                          | C. Lever                        | C. Lever         |

## HARNES CONNECTOR (DIRECT-CONNECT SRS COMPONENT TYPE)

- SRS direct-connect type harness connectors are used on certain SRS components such as air bag modules and seat belt pre-tensioners.
- Always pull up to release black locking tab prior to removing connector from SRS components.
- Always push down to lock black locking tab after installing connector to SRS components. When locked, the black locking tab is level with the connector housing.

### CAUTION:

- Do not pull the harness or wires when removing connectors from SRS components.



WHIA0103E



# STANDARDIZED RELAY

< COMPONENT DIAGNOSIS >

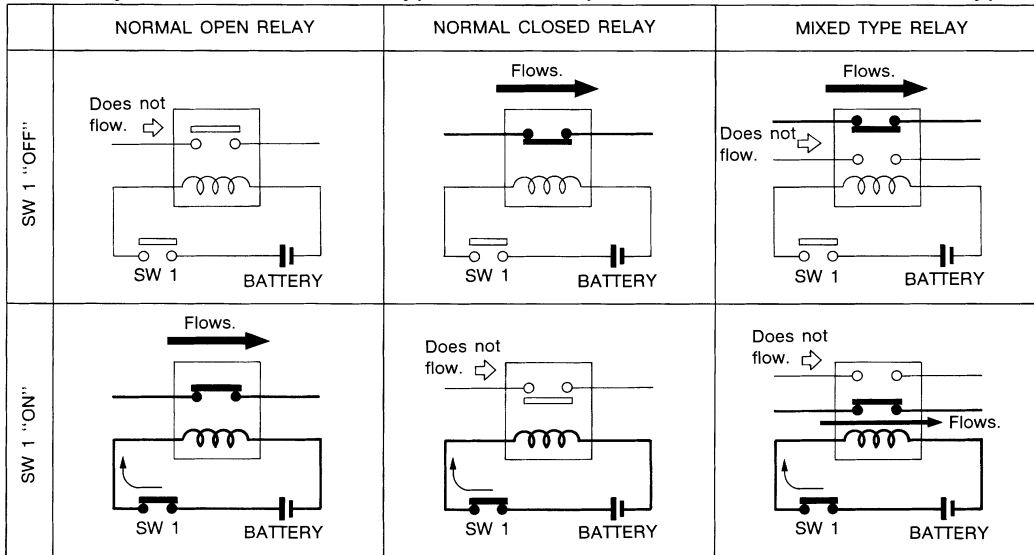
## STANDARDIZED RELAY

### Description

INFOID:000000005272424

### NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

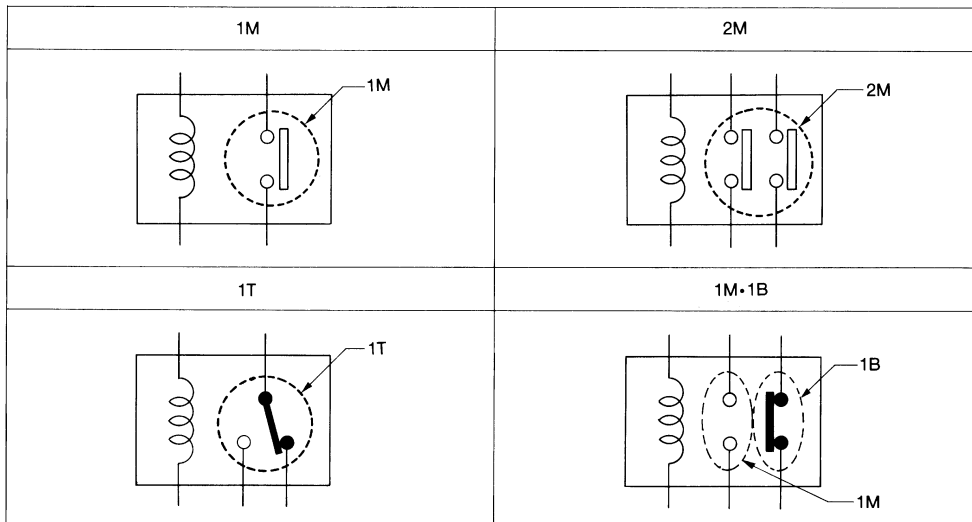
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



SEL881H

### TYPE OF STANDARDIZED RELAYS

- 1M ..... 1 Make
- 1T ..... 1 Transfer
- 2M ..... 2 Make
- 1M-1B ..... 1 Make 1 Break

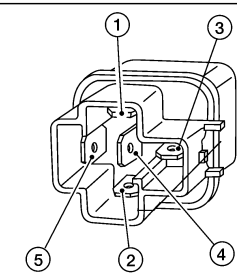
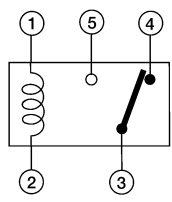
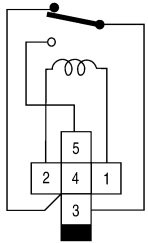
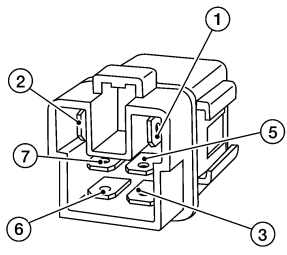
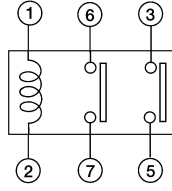
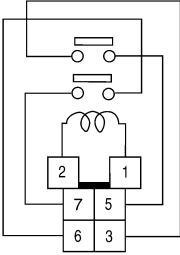
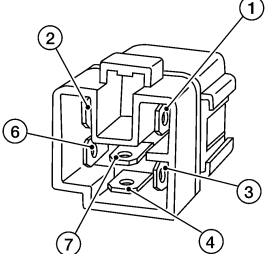
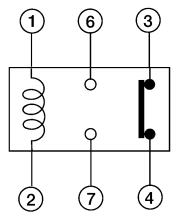
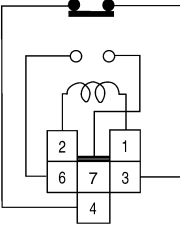
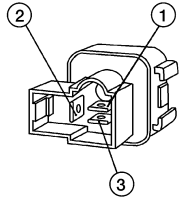
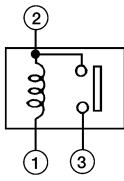
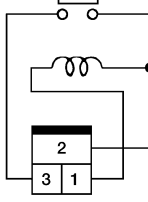
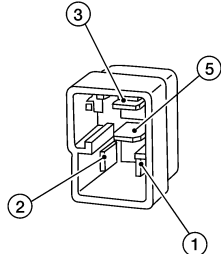
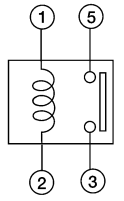
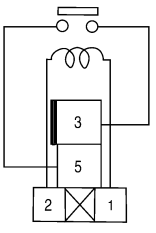


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# STANDARDIZED RELAY

## < COMPONENT DIAGNOSIS >

Type	Outer view	Circuit	Connector Symbol and connection	Case color
1T				BLACK
2M				BROWN
1M · 1B				GRAY
1M				BLACK
				BLUE

The arrangement of terminal numbers on the actual relays may differ from those shown above.

WKIA0253E

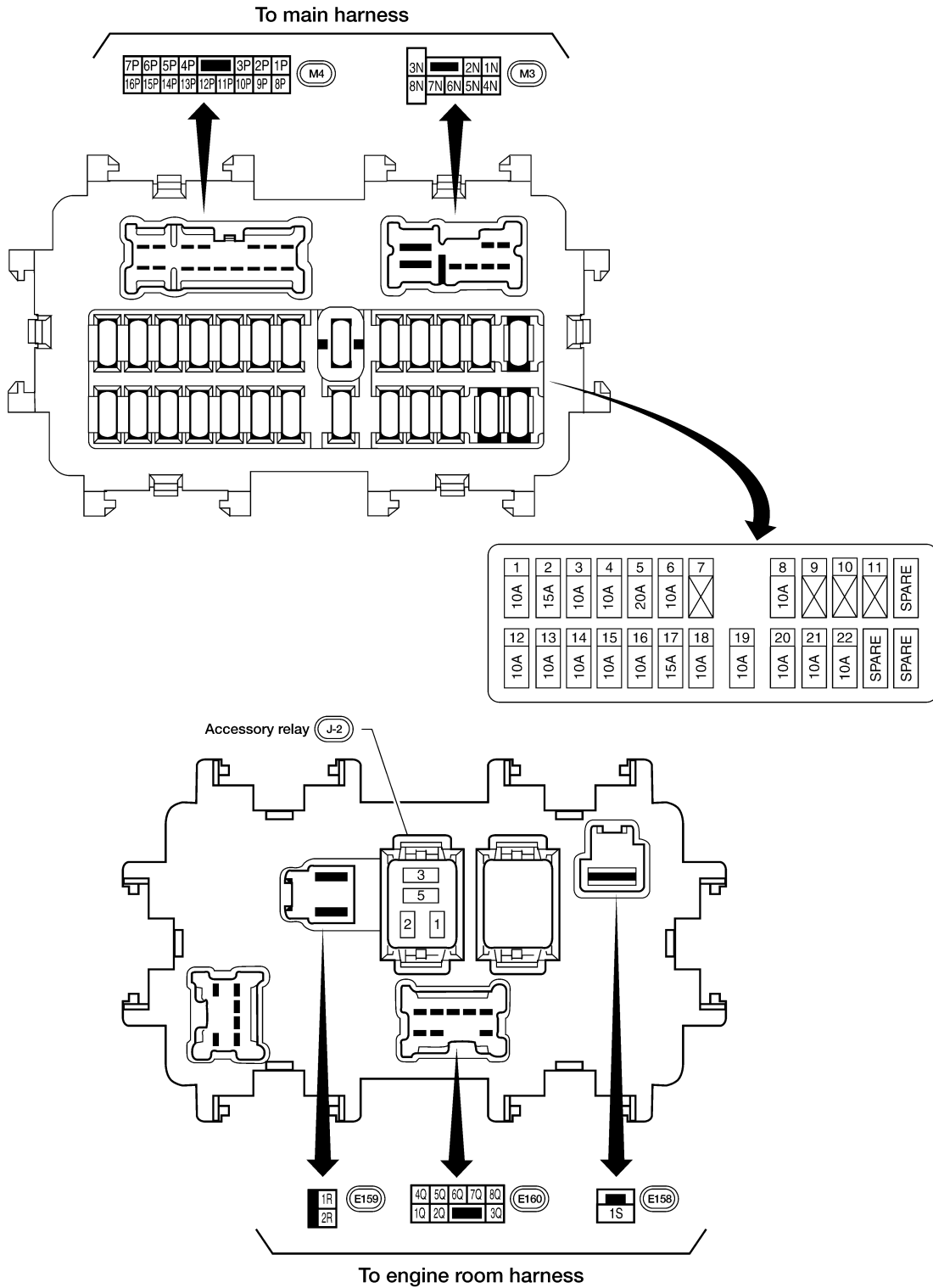
# FUSE BLOCK - JUNCTION BOX (J/B)

< COMPONENT DIAGNOSIS >

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

### Terminal Arrangement

INFOID:000000005272425



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# FUSE, FUSIBLE LINK AND RELAY BOX

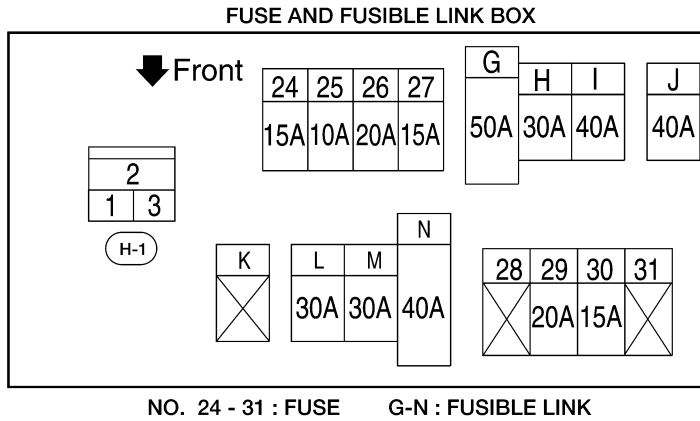
< COMPONENT DIAGNOSIS >

## FUSE, FUSIBLE LINK AND RELAY BOX

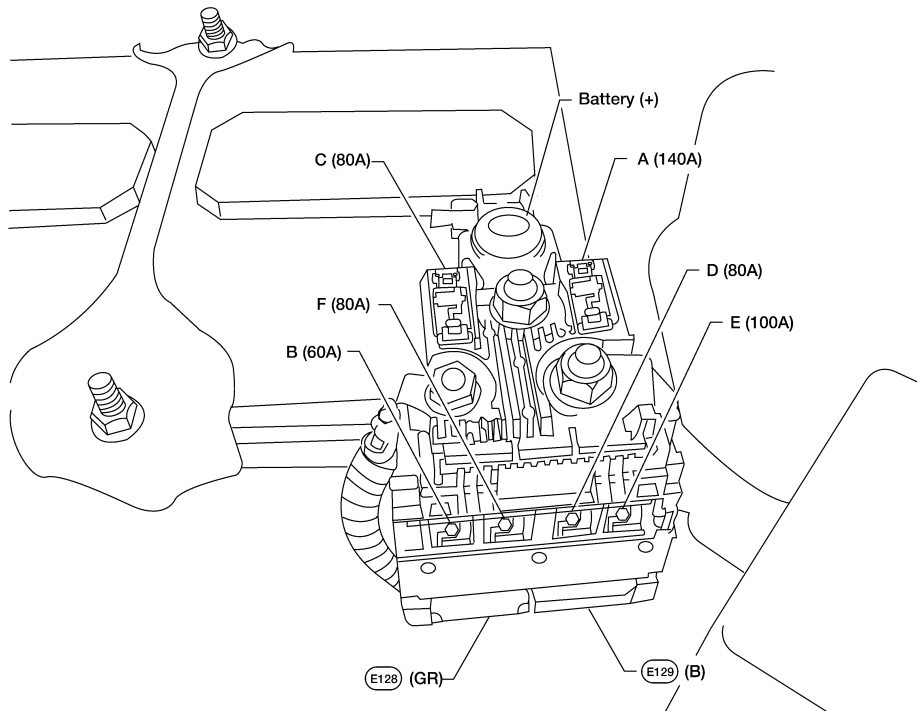
### Terminal Arrangement

INFOID:000000005272426

### FUSE AND FUSIBLE LINK BOX



### FUSIBLE LINK BOX (BATTERY)



ABMIA1482GB

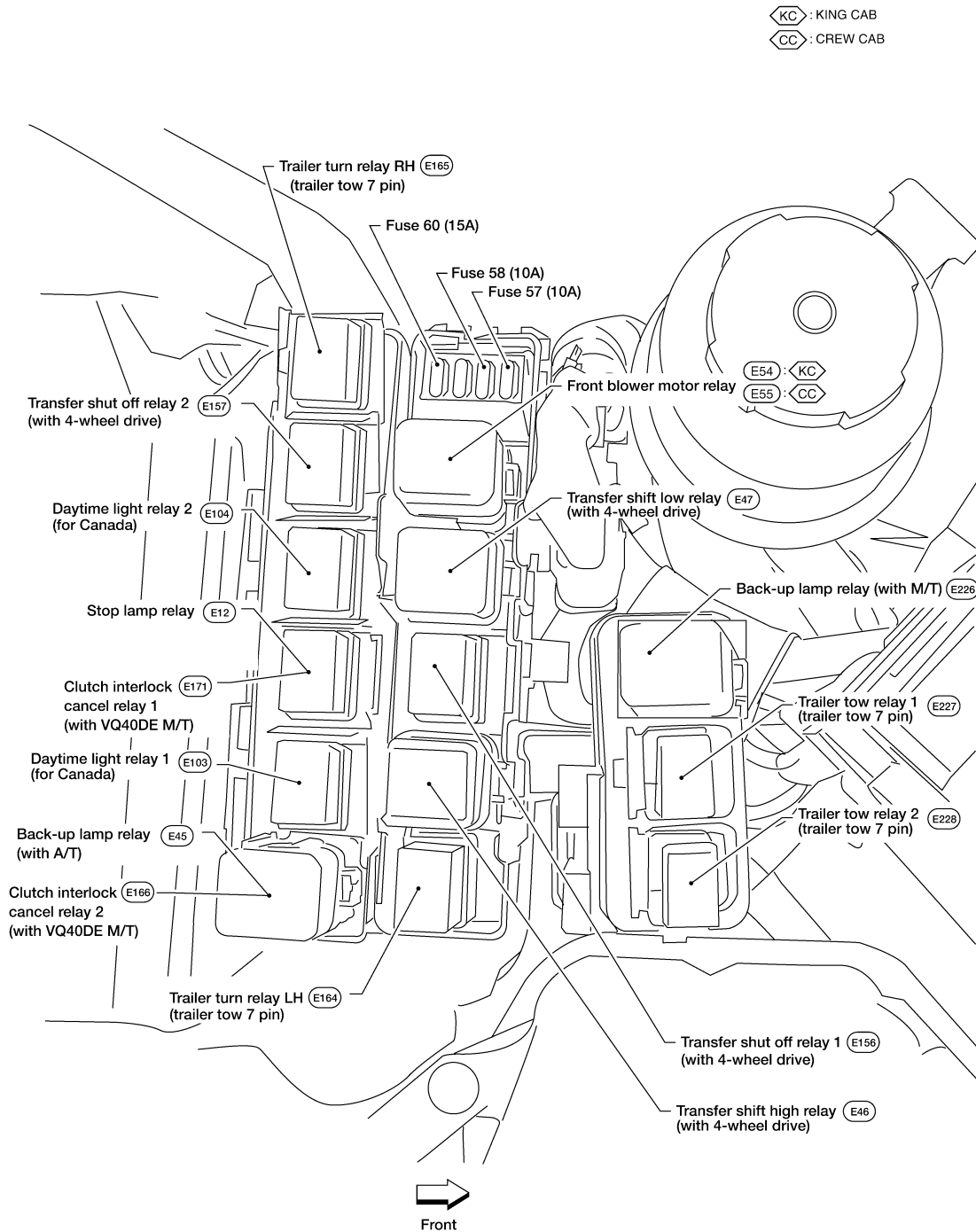
# FUSE AND RELAY BOX

< COMPONENT DIAGNOSIS >

## FUSE AND RELAY BOX

### Terminal Arrangement

INFOID:000000005272427



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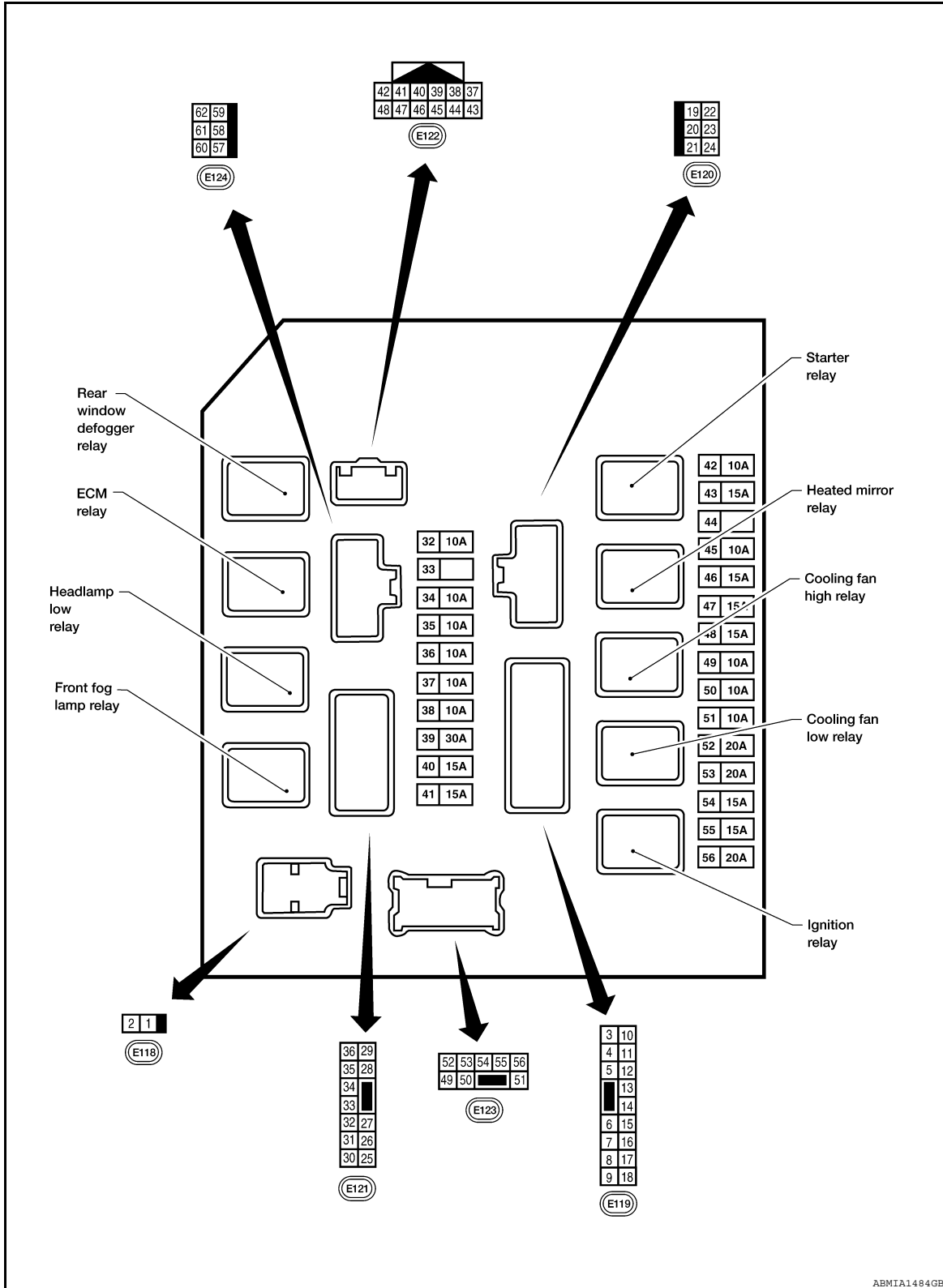
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< COMPONENT DIAGNOSIS >

## IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

### IPDM E/R Terminal Arrangement - Type A

INFOID:000000005589586



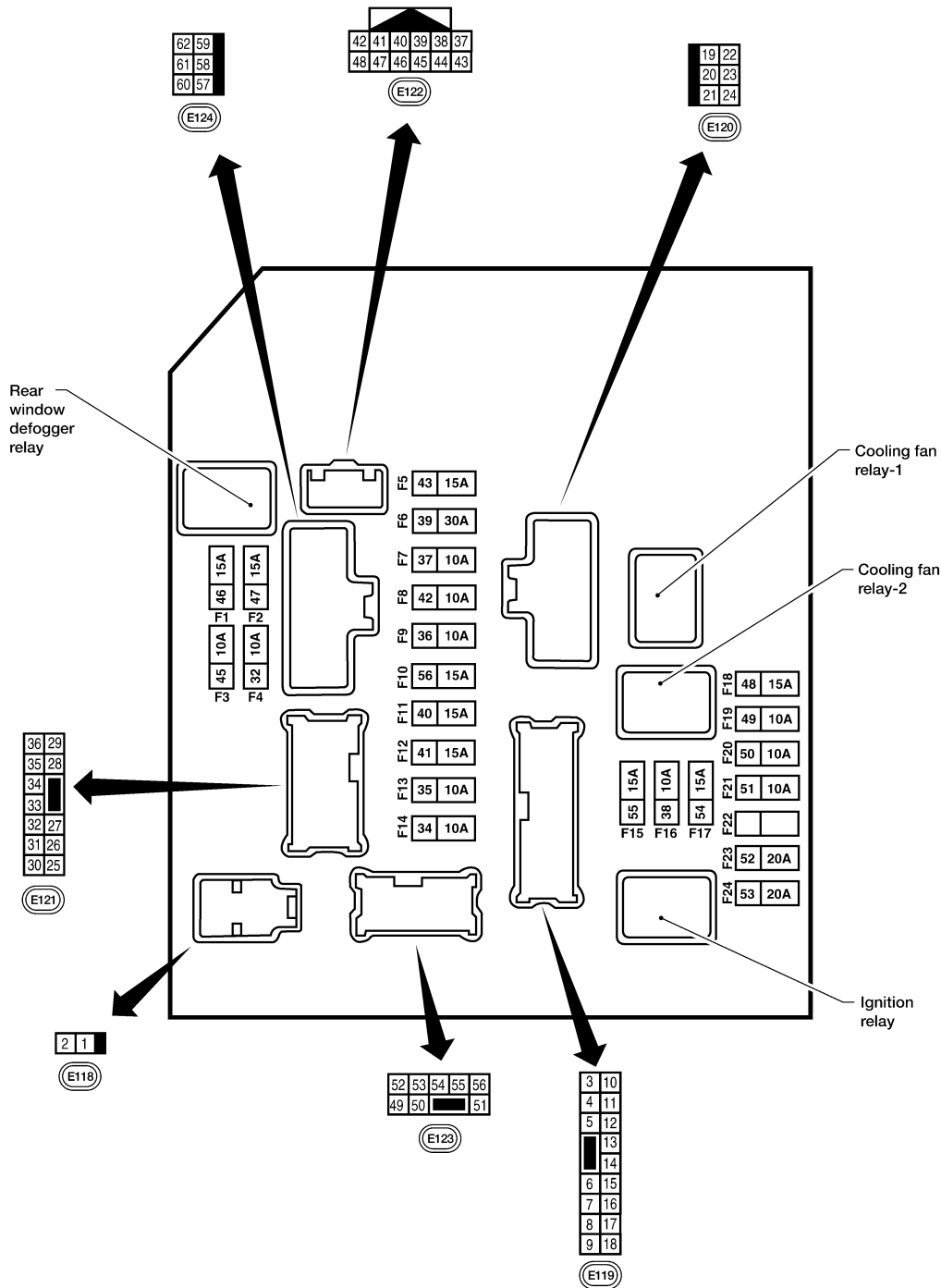
ABMIA1484GB

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< COMPONENT DIAGNOSIS >

## IPDM E/R Terminal Arrangement - Type B

INFOID:000000005589587



**NOTE:**

Numbers preceded by an "F" represent the fuse numbers imprinted on the IPDM E/R. The other numbers represent the fuse numbers as they appear in the wiring diagrams.

ABMIA1481GB

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# BATTERY

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR

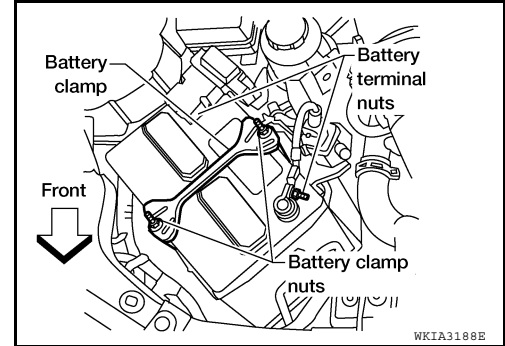
### BATTERY

#### Removal and Installation

INFOID:000000005272429

#### REMOVAL

1. Disconnect both negative and positive battery terminals.  
**CAUTION:**  
**Disconnect negative battery terminal first.**
2. Remove battery clamp nuts and battery clamp.
3. Remove battery.



#### INSTALLATION

Installation is in the reverse order of removal.

**CAUTION:**

**Connect positive battery terminal first.**

**Battery clamp nuts : 3.92 N-m (0.40 kg-m, 35 in-lb)**

**Battery terminal nut : 3.4 N-m (0.35 kg-m, 30 in-lb)**

Reset electronic systems as necessary. Refer to [PG-7. "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).



# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Battery

INFOID:000000005272430

Application (Standard battery)	VQ40DE	QR25DE
Type*	GR35	
Capacity (20 HR) minimum V-AH	12-63	
Cold cranking current A (For reference value)	550	

\*: Always check with the Parts Department for the latest parts information

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