

SECTION **PG**

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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

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NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT 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 NATS, 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.

PRECAUTIONS

< PRECAUTION >

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.

Precaution for Power Generation Variable Voltage Control System

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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.

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PREPARATION

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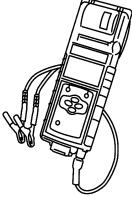
PREPARATION

PREPARATION

Special Service Tool


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

Tool number (Kent-Moore No.) Tool name	Description
<p>— (—) Model GR8-1200 NI Multitasking battery and electrical diagnostic station</p>  <p style="text-align: right; font-size: small;">AWIIA12392Z</p>	<p>Tests batteries, starting and charging systems and charges batteries. For operating instructions, refer to diagnostic station instruction manual.</p>
<p>— (—) Model EXP-800 NI Battery and electrical diagnostic analyzer</p>  <p style="text-align: right; font-size: small;">JSMIA08062Z</p>	<p>Tests batteries and charging systems. For operating instructions, refer to diagnostic analyzer instruction manual.</p>

Commercial Service Tool

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Tool number Tool name	Description
<p>Power tool</p>  <p style="text-align: right; font-size: small;">PIIB1407E</p>	<p>Loosening nuts, screws and bolts</p>

BATTERY

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BASIC INSPECTION

BATTERY

How to Handle Battery

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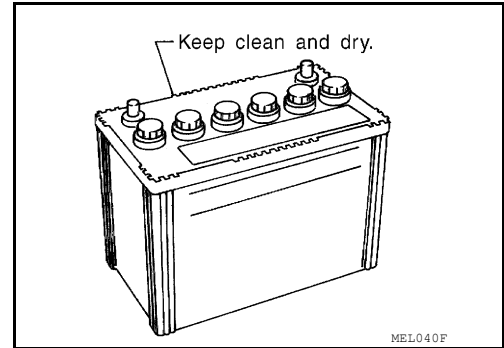
CAUTION:

- 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.

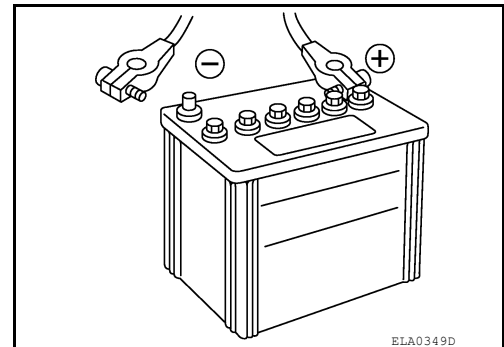
METHODS OF PREVENTING OVER-DISCHARGE

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.)



Work Flow

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BATTERY DIAGNOSIS WITH EXP-800 NI OR GR8-1200 NI

To diagnose and confirm the condition of the battery, use the following special service tools:

- EXP-800 NI Battery and electrical diagnostic analyzer
- GR8-1200 NI Multitasking battery and electrical diagnostic station

NOTE:

Refer to the applicable Instruction Manual for proper battery diagnosis procedures.

BATTERY DIAGNOSIS WITHOUT EXP-800 NI OR GR8-1200 NI

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. Failure to do this may cause personal injury or damage to clothing or the painted surfaces.

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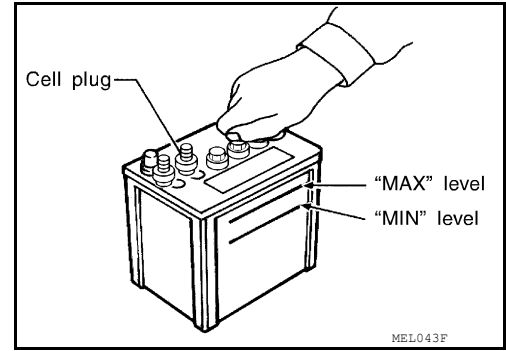
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BATTERY

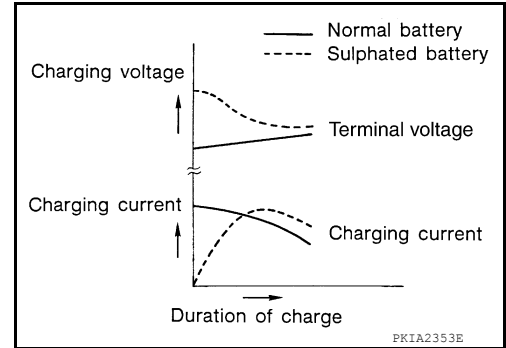
< BASIC INSPECTION >

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



SULFATION

- **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 sulfation on the cell plates.**
- **To determine if a battery has been “sulfated”, 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 sulfated batteries.**
- **A sulfated 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.**



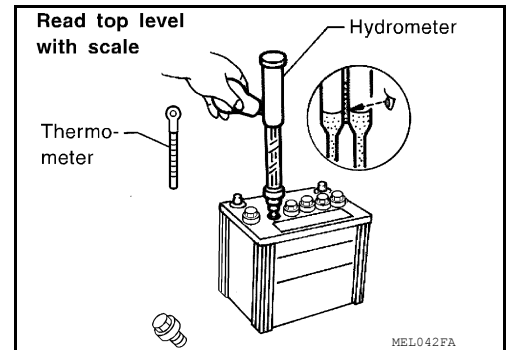
Specific Gravity Check

NOTE:

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.

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

BATTERY

< BASIC INSPECTION >

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
4 (40)	-0.016
-1 (30)	-0.020
-7 (20)	-0.024
-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 (Standard Charge)

Approximate charge condition	Charge current (A)	Charge time (h)
Fully charged	7	2
3/4 charged		2.5
1/2 charged		5
1/4 charged		7.5
Almost discharged		9
Completely discharged		10

Charging Rates (Quick Charge)

Approximate charge condition	Charge current (A)	Charge time (h)
Fully charged	—	—
3/4 charged	16	0.5
1/2 charged	33	
1/4 charged		
Almost discharged	—	—
Completely discharged	—	

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.

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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

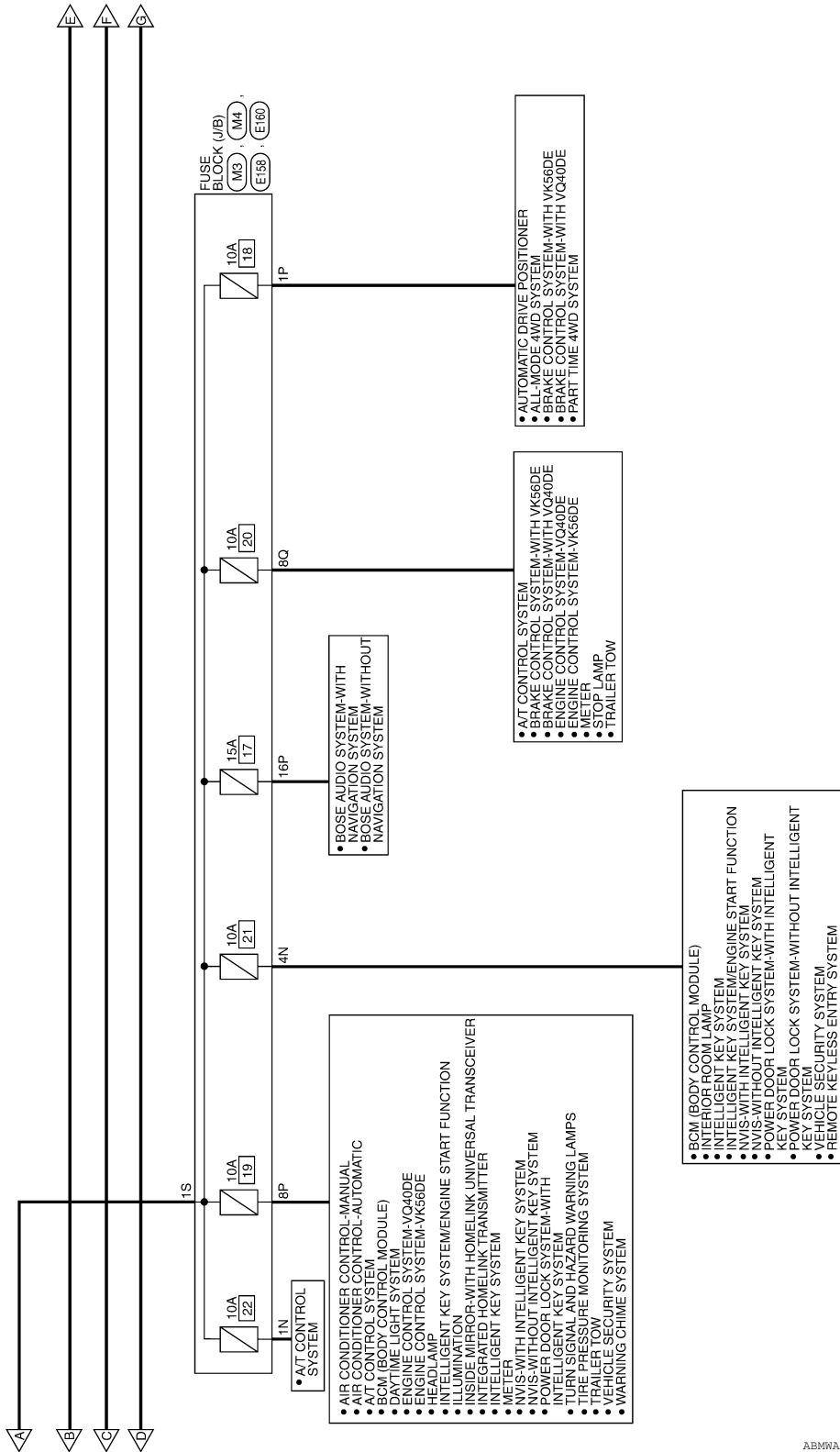
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Required Procedure After Battery Disconnection

System	Item	Reference
Engine Control System	Idle Air Volume Learning	EC-25 (VQ40DE) EC-597 (VK56DE)
Brake Control System	Steering Angle Sensor Neutral Position	BRC-121
Power Window Control System	Power Window System Initialization	PWC-5
Roof	Sunroof Memory Reset/Initialization	RF-5
Automatic Drive Positioner	Automatic Drive Positioner System Initialization	Refer to Owner's Manual.
Audio, Visual & Navigation System	Audio (Radio Preset)	Refer to Owner's Manual.
	Navigation System	Refer to Owner's Manual.

POWER SUPPLY ROUTING CIRCUIT

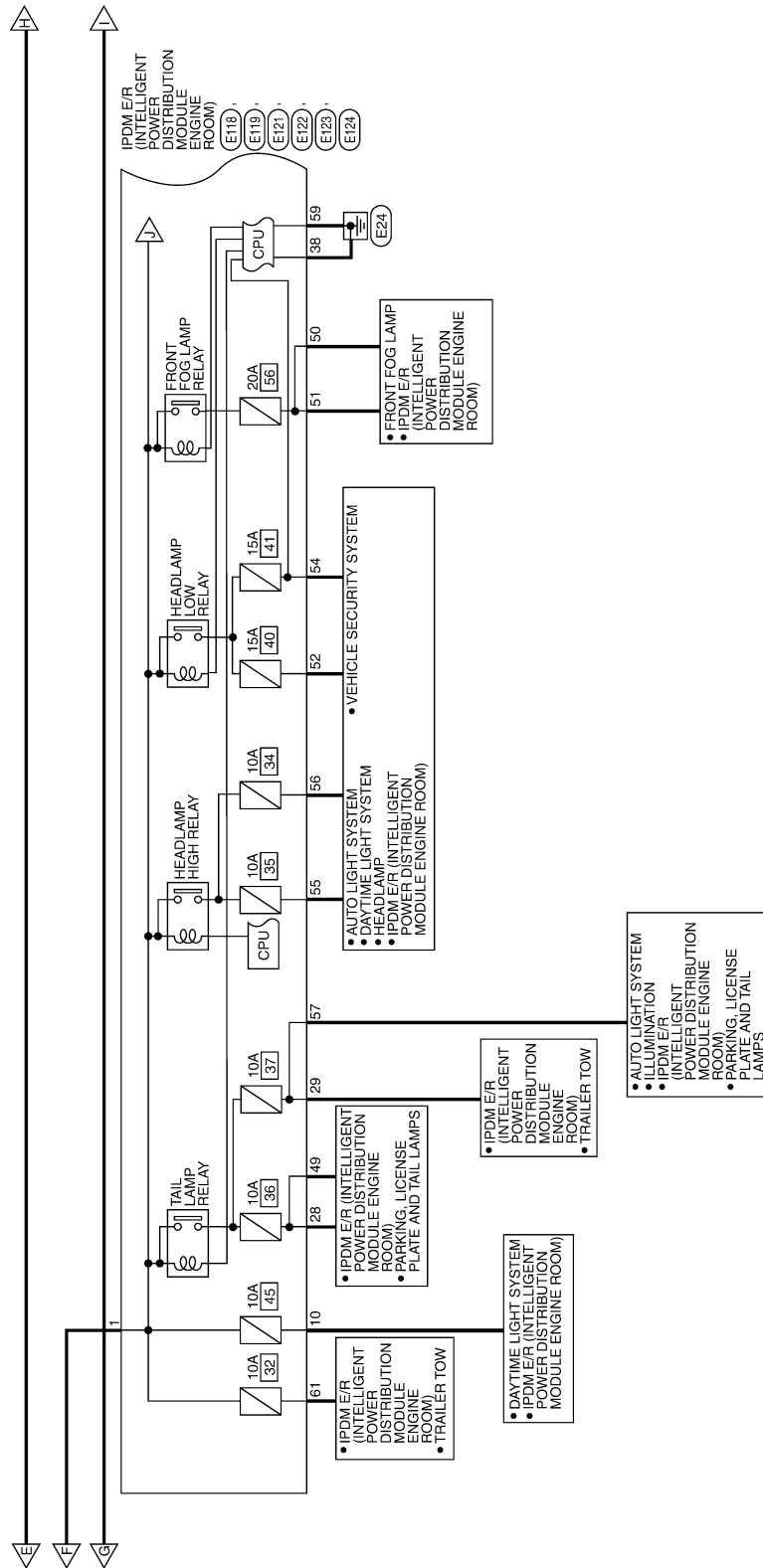
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POWER SUPPLY ROUTING CIRCUIT

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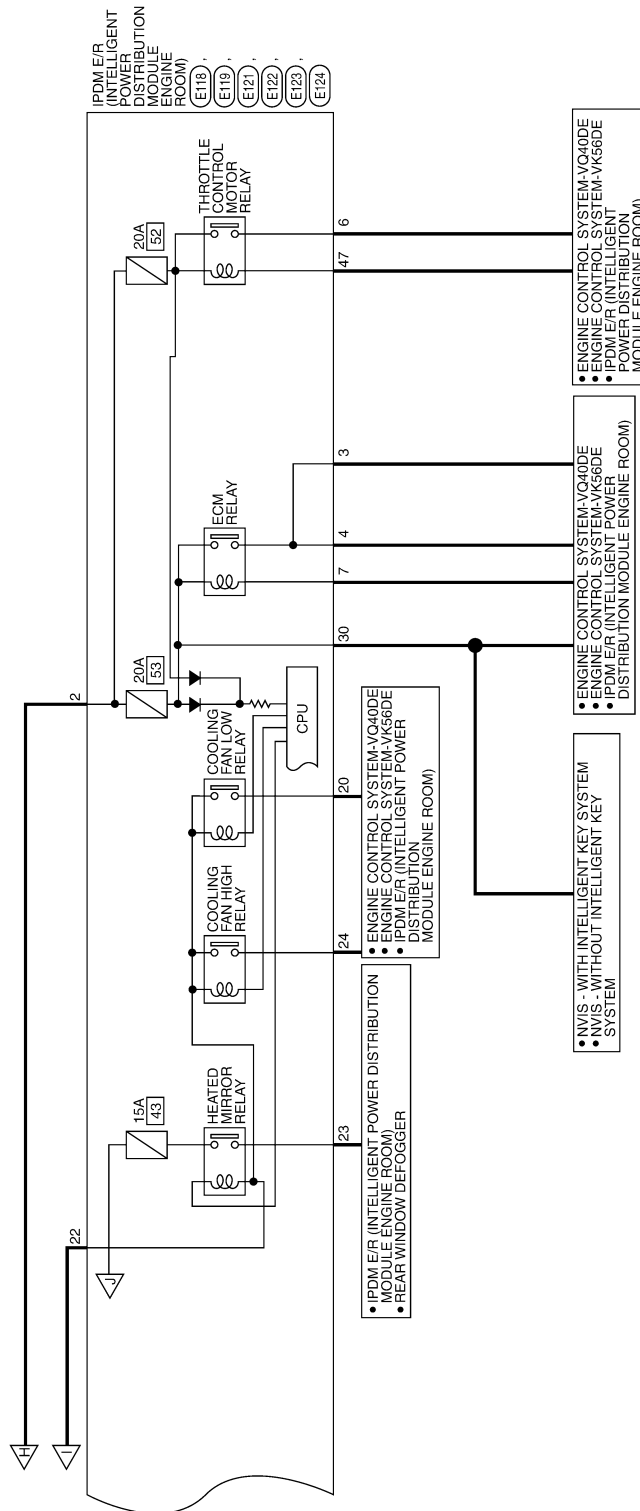


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POWER SUPPLY ROUTING CIRCUIT

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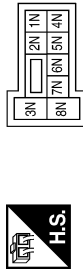
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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

BATTERY POWER SUPPLY CONNECTORS

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



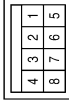
Terminal No.	Color of Wire	Signal Name
1N	R/B	-
4N	R/Y	-

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



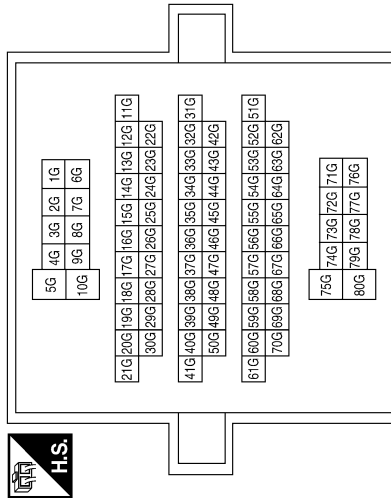
Terminal No.	Color of Wire	Signal Name
1P	R/B	-
8P	R/Y	-
16P	R/B	-

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



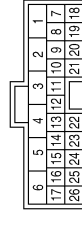
Terminal No.	Color of Wire	Signal Name
2	W/G	-

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



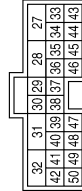
Terminal No.	Color of Wire	Signal Name
21G	V	-(PART TIME 4WD SYSTEM)

Connector No.	M165
Connector Name	TRANSFER CONTROL UNIT (PART TIME 4WD SYSTEM)
Connector Color	WHITE



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

Connector No.	M166
Connector Name	TRANSFER CONTROL UNIT (PART TIME 4WD SYSTEM)
Connector Color	WHITE



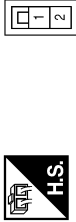
Terminal No.	Color of Wire	Signal Name
40	V	SSOF

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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT 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

< DTC/CIRCUIT 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

Terminal No.	Color of Wire	Signal Name
49	GR	ILLUMINATION
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	BLACK



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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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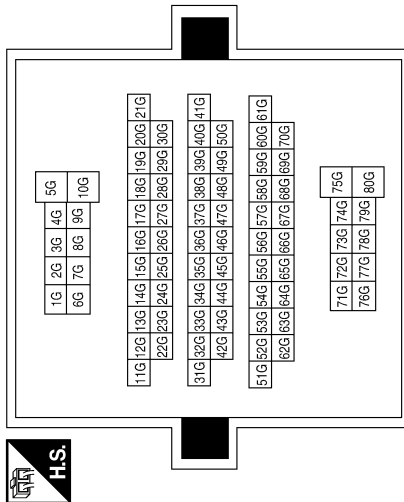
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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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



Terminal No.	Color of Wire	Signal Name
21G	V	- (PART TIME 4WD SYSTEM)

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.	Color of Wire	Signal Name
1S	W	-

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



Terminal No.	Color of Wire	Signal Name
8Q	R/B	-

Connector No.	E202
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	-

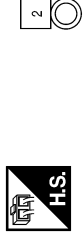


Terminal No.	Color of Wire	Signal Name
5	B/R	-

POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Connector No.	E210
Connector Name	STARTER MOTOR
Connector Color	BLACK



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



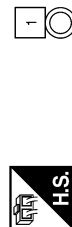
Terminal No.	1	Color of Wire	B/R	Signal Name	-
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Connector No.	E204
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	-



Terminal No.	6	Color of Wire	B/R	Signal Name	-
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Connector No.	F34
Connector Name	START MOTOR
Connector Color	BLACK



Terminal No.	1	Color of Wire	B/R	Signal Name	-
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POWER SUPPLY ROUTING CIRCUIT

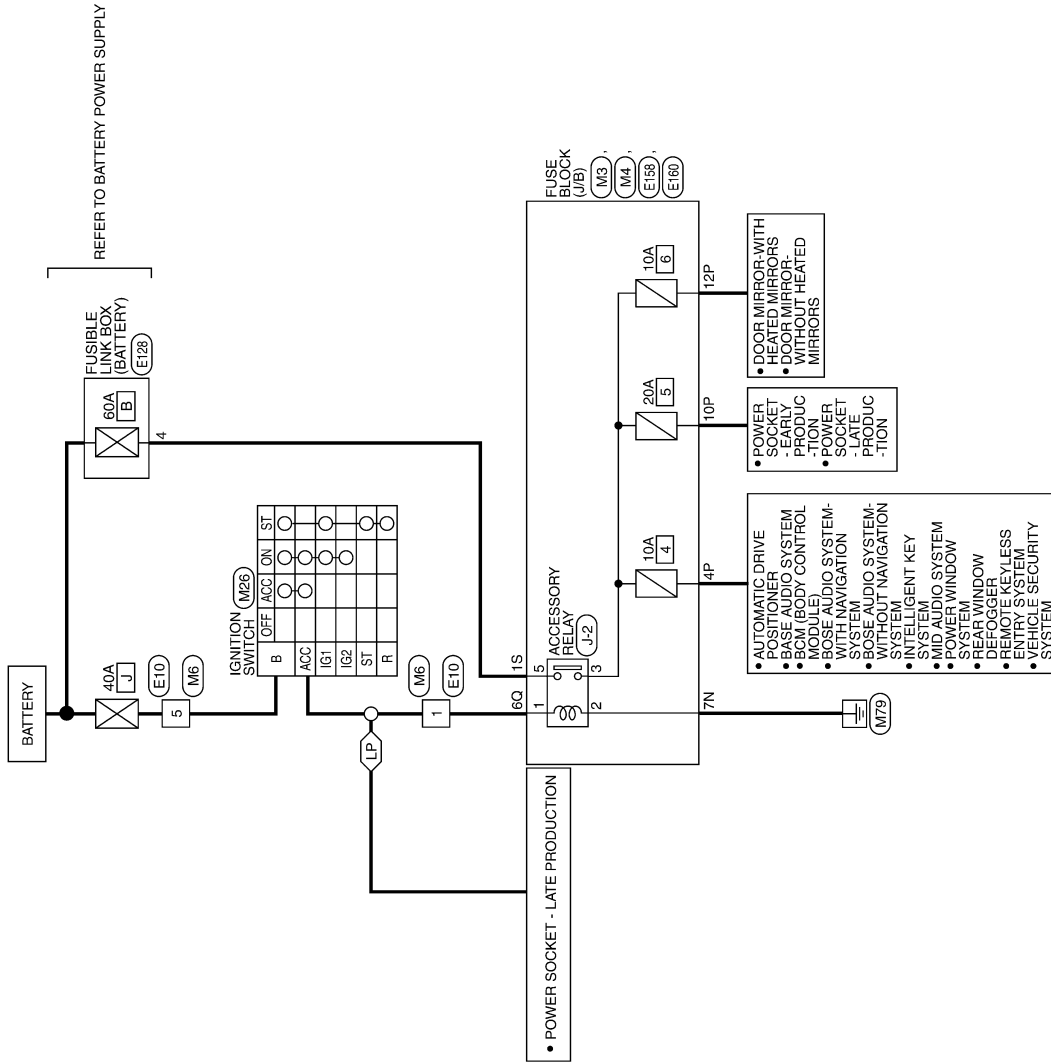
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Wiring Diagram—Accessory Power Supply—

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LP : LATE PRODUCTION

ACCESSORY POWER SUPPLY



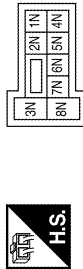
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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

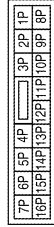
ACCESSORY POWER SUPPLY CONNECTORS

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



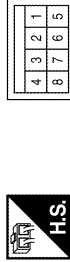
Terminal No.	Color of Wire	Signal Name
7N	B	--

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



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

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



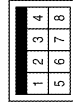
Terminal No.	Color of Wire	Signal Name
1	G/Y	--
5	G	--

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE



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

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



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

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



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

ABMIA1433GB

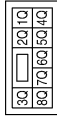
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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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



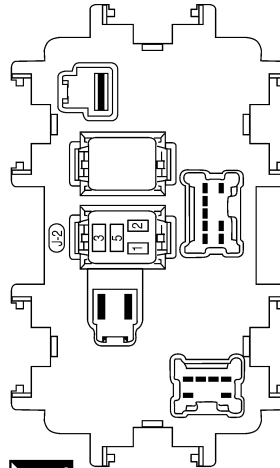
Terminal No.	6Q	Color of Wire	G/Y	Signal Name	-
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Connector No.	E158
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK



Terminal No.	1S	Color of Wire	W	Signal Name	-
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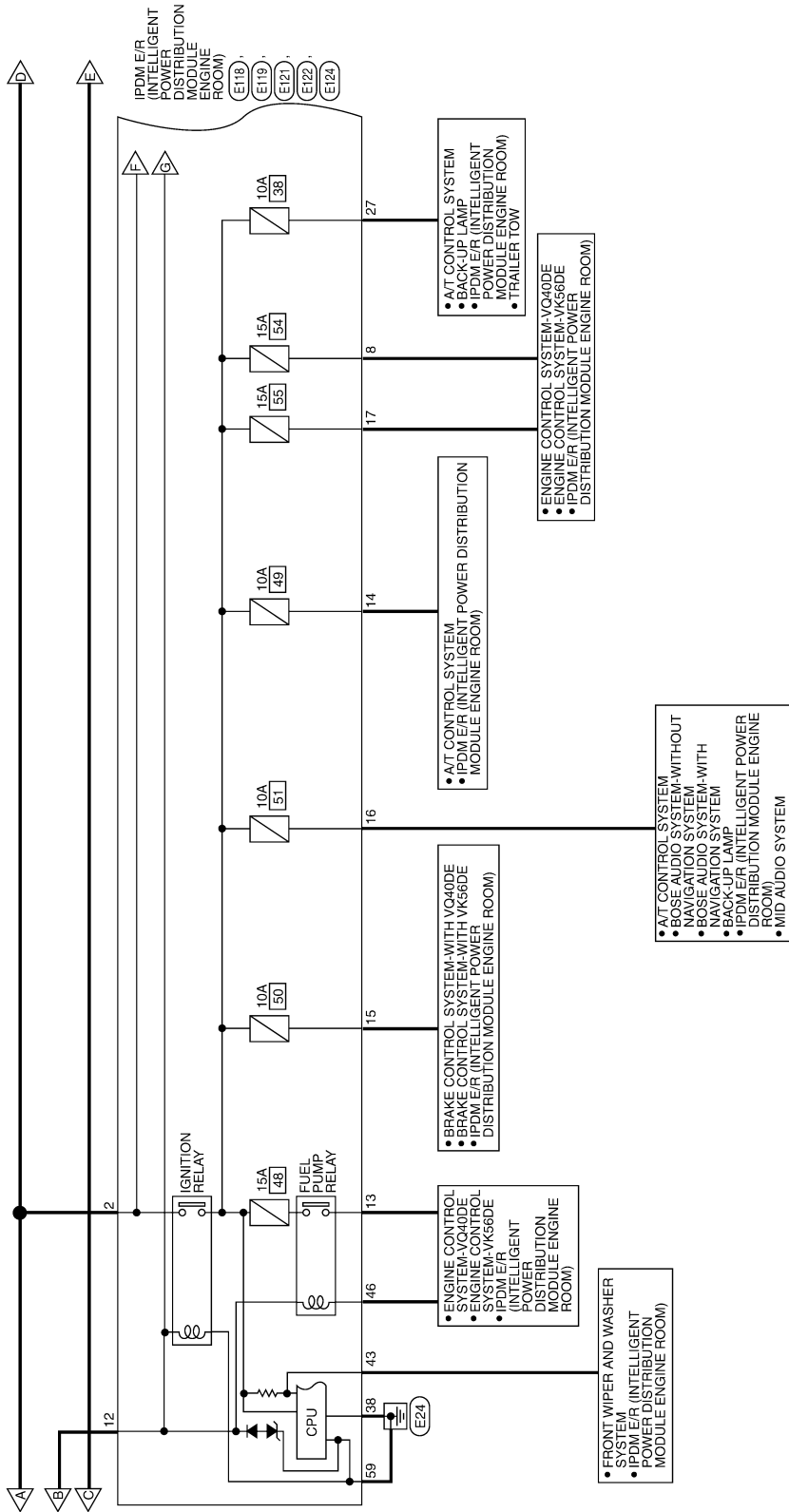
Connector No.	J-2
Connector Name	FUSE BLOCK (J/B) (ACCESSORY RELAY)
Connector Color	-



ABMIA3510GB

POWER SUPPLY ROUTING CIRCUIT

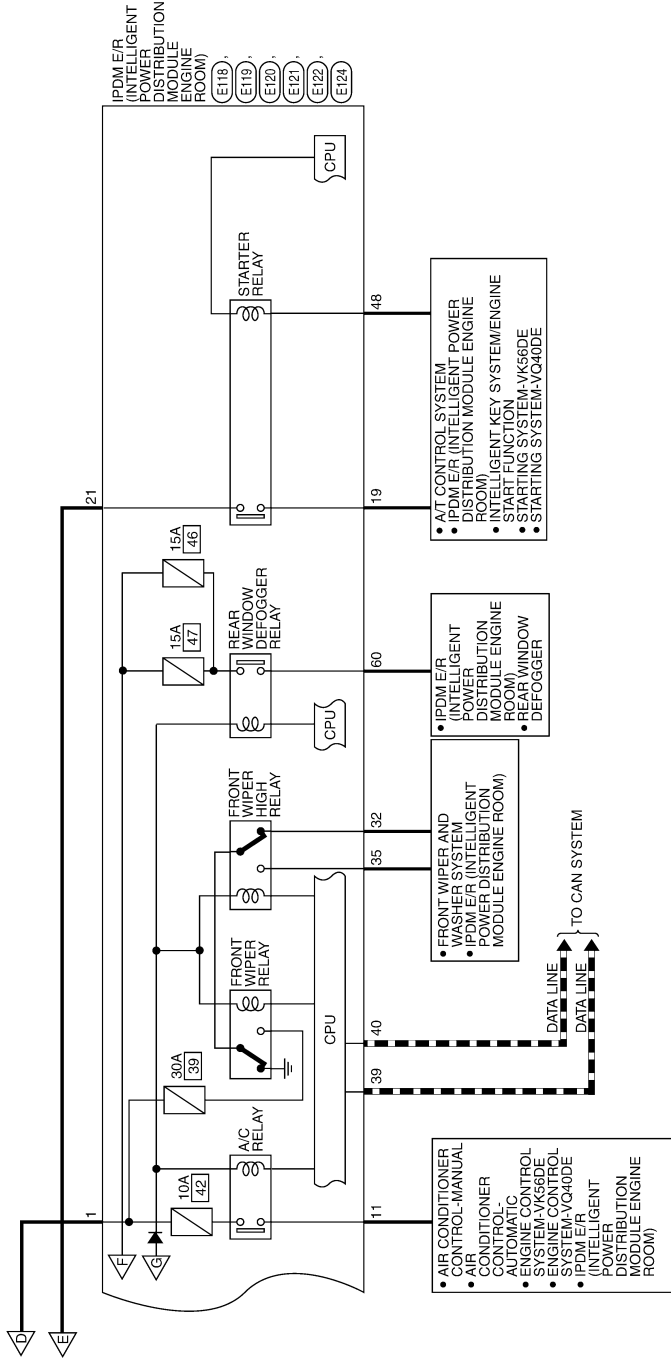
< DTC/CIRCUIT DIAGNOSIS >



ABMWA1441GB

POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >



ABMWA1082GB

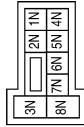
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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

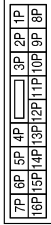
IGNITION POWER SUPPLY CONNECTORS

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



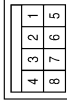
Terminal No.	Color of Wire	Signal Name
3N	L	-
5N	W/G	-
7N	B	-
8N	GR	-

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	-
7P	LG	-
9P	W/G	-
13P	W/G	-
14P	O	-
15P	W/R	-

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



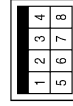
Terminal No.	Color of Wire	Signal Name
2	W/G	-
3	GR	-
5	G	-
6	R	-

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
B	G	-
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	-
3	GR	-
5	G	-
6	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

POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT 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	REVERS 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 SENS
11	Y	A/C COMPRESSOR
12	W/G	IGN SW (IG)
13	R	FUEL PUMP
14	W/G	A/T CU 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	RANGE 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	29	28	27



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

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POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT 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	-
3Q	W/G	-
5Q	W/R	-

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



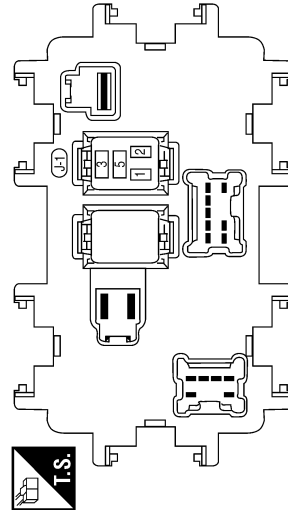
Terminal No.	Color of Wire	Signal Name
1R	W/G	-
2R	W/G	-

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



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

Connector No.	J-1
Connector Name	FUSE BLOCK (J/B) (REAR BLOWER MOTOR RELAY)
Connector Color	-



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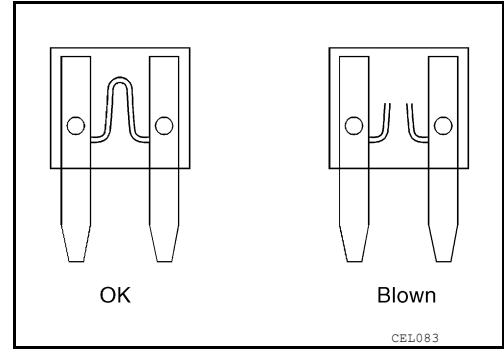
POWER SUPPLY ROUTING CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Fuse

INFOID:000000007355074

- If fuse is blown, be sure to eliminate cause of incident 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:000000007355075

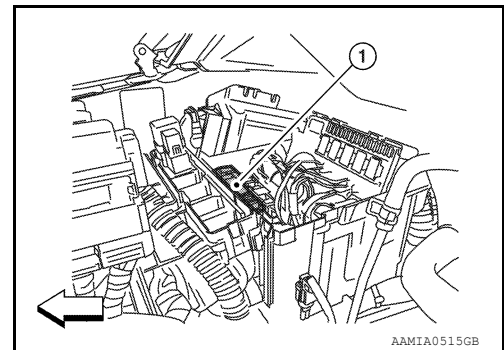
A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

1 : Fusible link

←: Vehicle front

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.



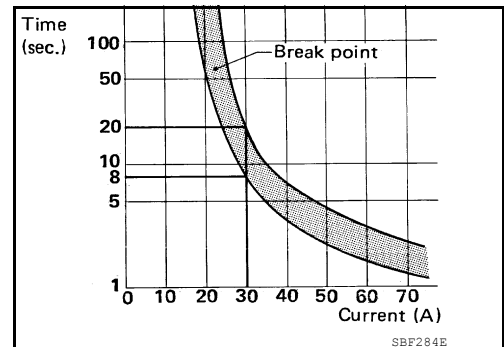
Circuit Breaker (Built Into BCM)

INFOID:000000007355076

For example, when current is 30A, the circuit is broken within 8 to 20 seconds.

A circuit breaker is used for the following systems:

- Power windows
- Power sunroof



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GROUND CIRCUIT

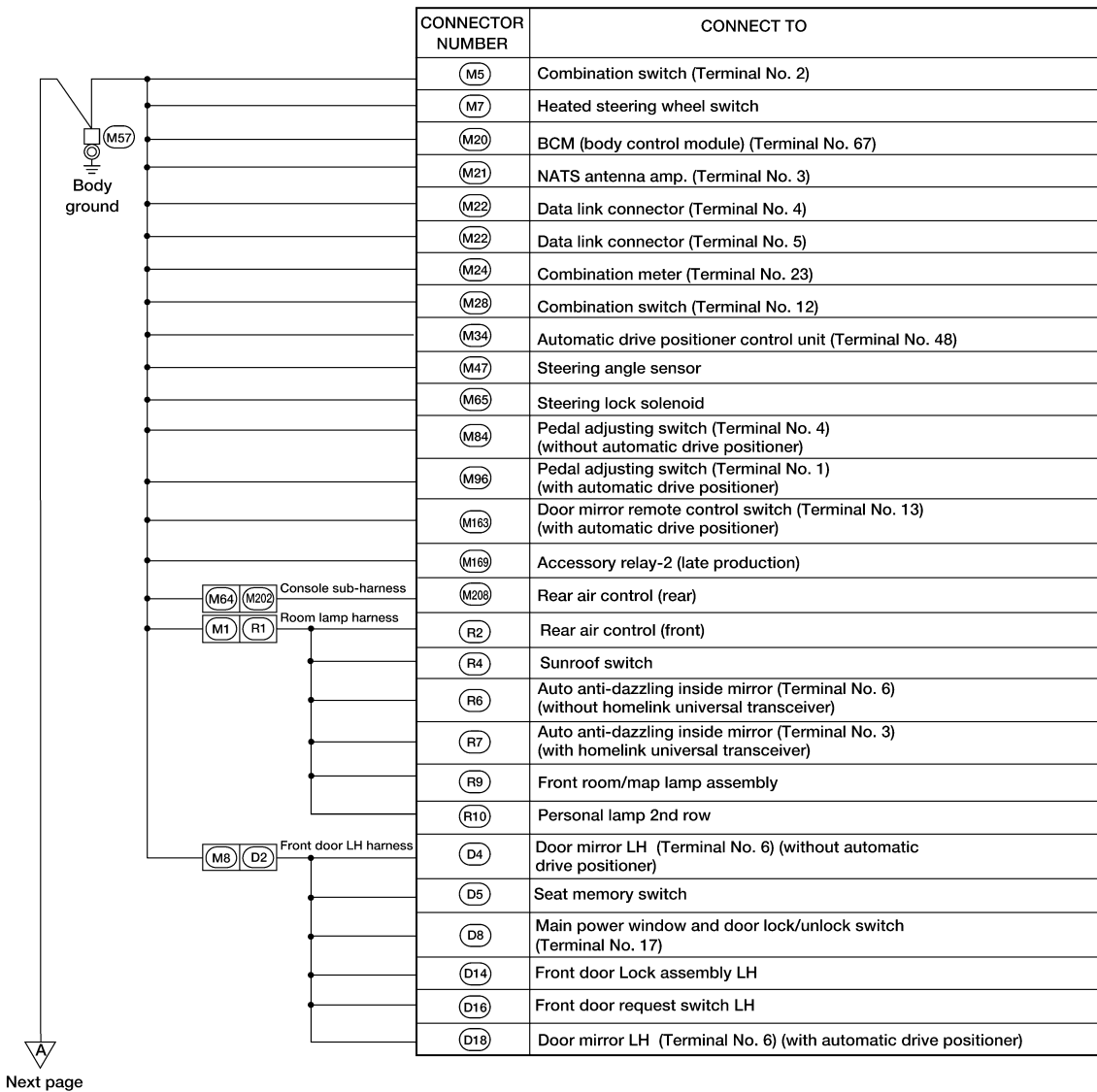
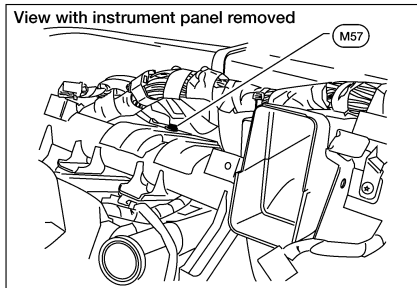
< DTC/CIRCUIT DIAGNOSIS >

GROUND CIRCUIT

Ground Distribution

INFOID:000000007355077

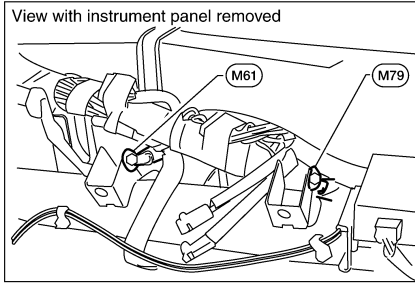
Main Harness



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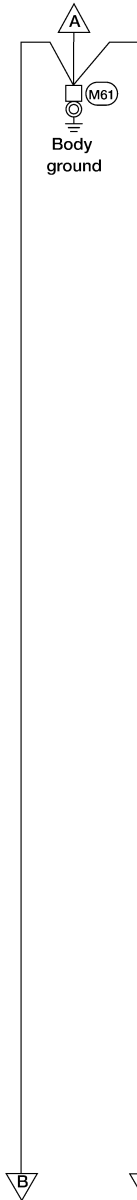
GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >



CONNECTOR NUMBER	CONNECT TO
(M13)	Front passenger air bag OFF indicator (Terminal No. 1) (without front passenger power seat)
(M14)	Front passenger air bag OFF indicator (Terminal No. 1) (with front passenger power seat)
(M24)	Combination meter (Terminal No. 13)
(M32)	In-vehicle sensor
(M34)	Automatic drive positioner control unit (Terminal No. 40)
(M35)	Air bag diagnosis sensor unit (Terminal No. 2)
(M42)	AV control unit (Terminal No. 20) (with BOSE audio system without NAVI)
(M45)	AV control unit (Terminal No. 54) (with BOSE audio system without NAVI)
(M46)	AV control unit (Terminal No. 68) (with BOSE audio system without NAVI)
(M48)	AV control unit (Terminal No. 68) (with BOSE audio system with NAVI)
(M48)	AV control unit (Terminal No. 87) (with BOSE audio system with NAVI)
(M48)	AV control unit (Terminal No. 70) (with BOSE audio system with NAVI)
(M48)	AV control unit (Terminal No. 89) (with BOSE audio system with NAVI)
(M48)	AV control unit (Terminal No. 90) (with BOSE audio system with NAVI)
(M50)	A/C auto amp. (Terminal No. 36)
(M51)	Front blower switch
(M52)	Front air control (Terminal No. 20)
(M55)	Hazard switch
(M70)	AV control unit (Terminal No. 85) (with BOSE audio system without NAVI)
(M98)	A/C and AV switch assembly
(M122)	Variable blower control (front)
(M131)	AV control unit (Terminal No. 20) (with MID audio system)
(M133)	AV control unit (Terminal No. 54) (with MID audio system)
(M134)	AV control unit (Terminal No. 68) (with MID audio system)
(M135)	AV control unit (Terminal No. 85) (with MID audio system)
(M139)	Diode-1
(M152)	Transfer control unit (Terminal No. 3) (all-mode 4WD system)
(M154)	VDC OFF switch
(M156)	A/T shift selector (Terminal No. 8) (without manual mode switch)
(M156)	A/T shift selector (Terminal No. 10) (without manual mode switch)
(M156)	A/T shift selector (Terminal No. 2) (without manual mode switch)
(M157)	A/T shift selector (Terminal No. 9) (with manual mode switch without Intelligent Key system)
(M157)	A/T shift selector (Terminal No. 2) (with manual mode switch without Intelligent Key system)

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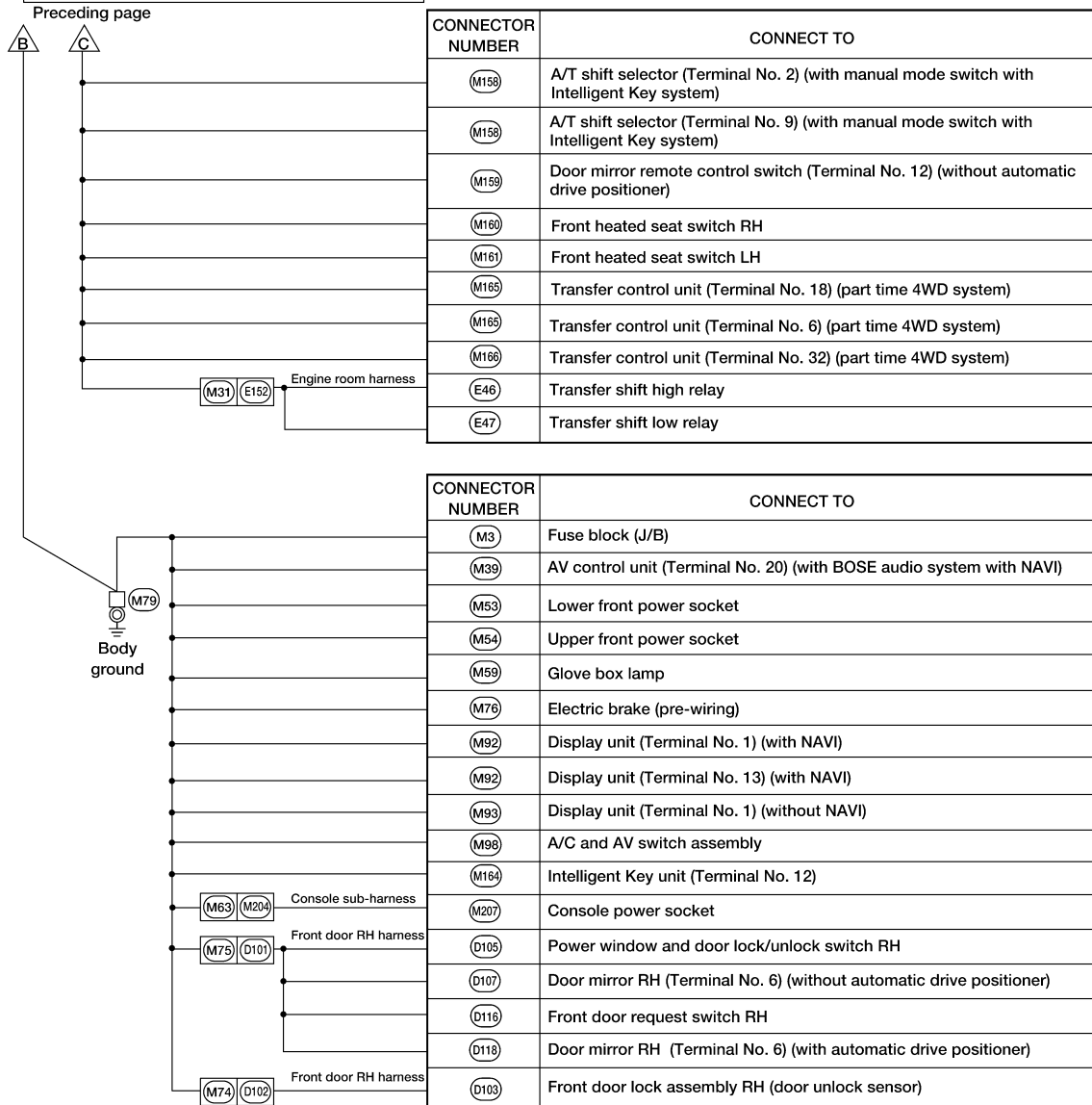
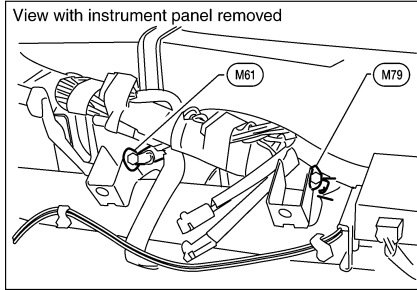
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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

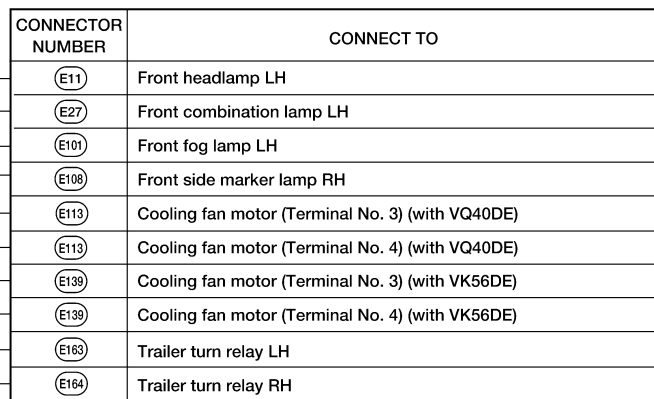
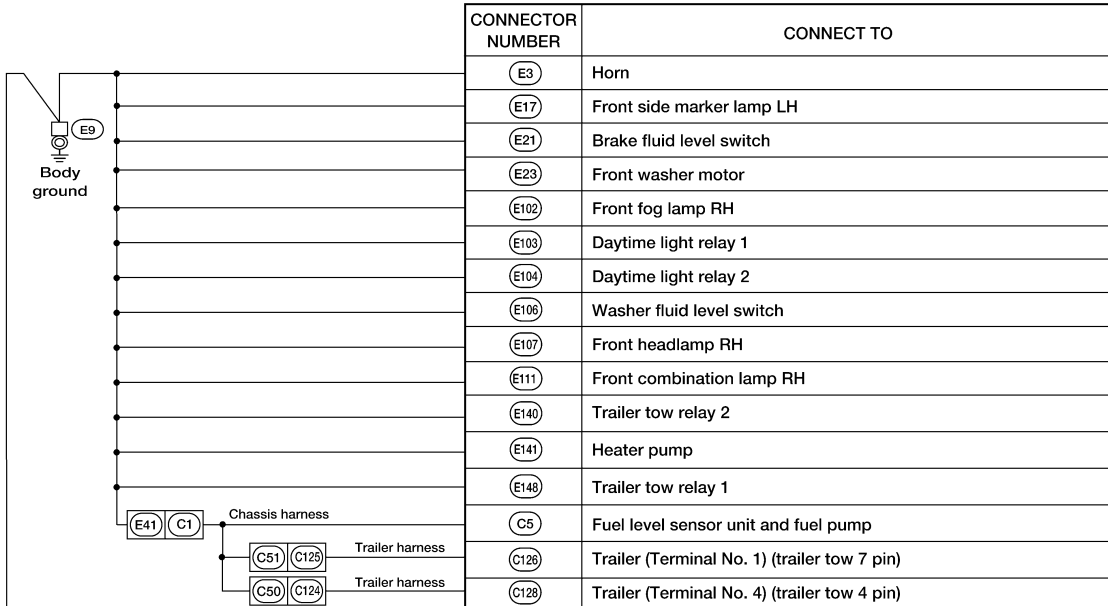
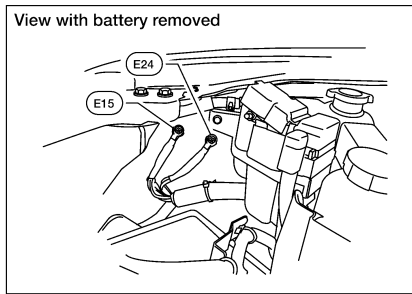
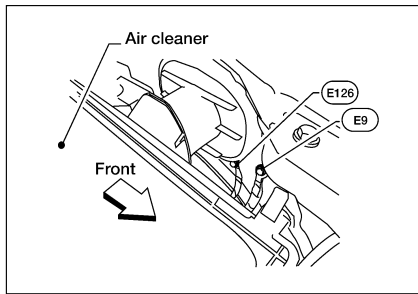


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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Engine Room Harness



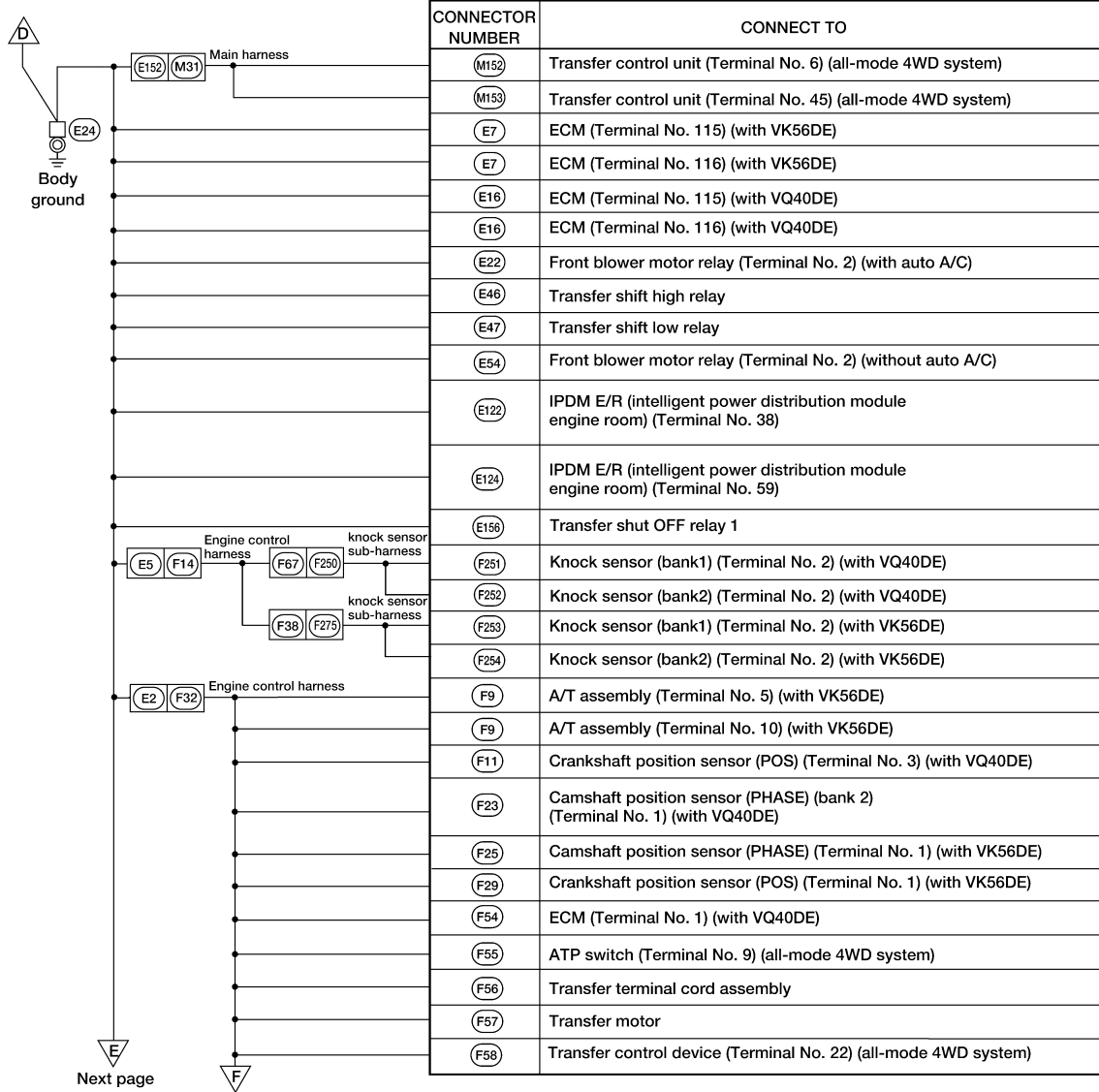
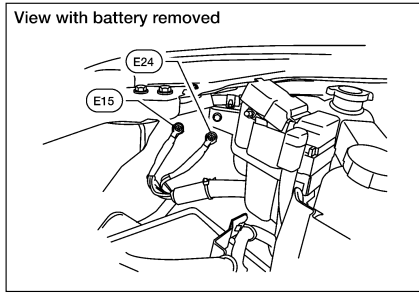
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GROUND CIRCUIT

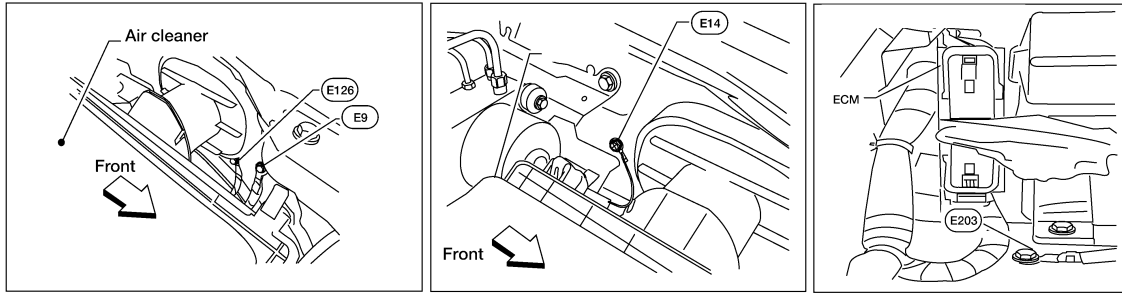
< DTC/CIRCUIT DIAGNOSIS >



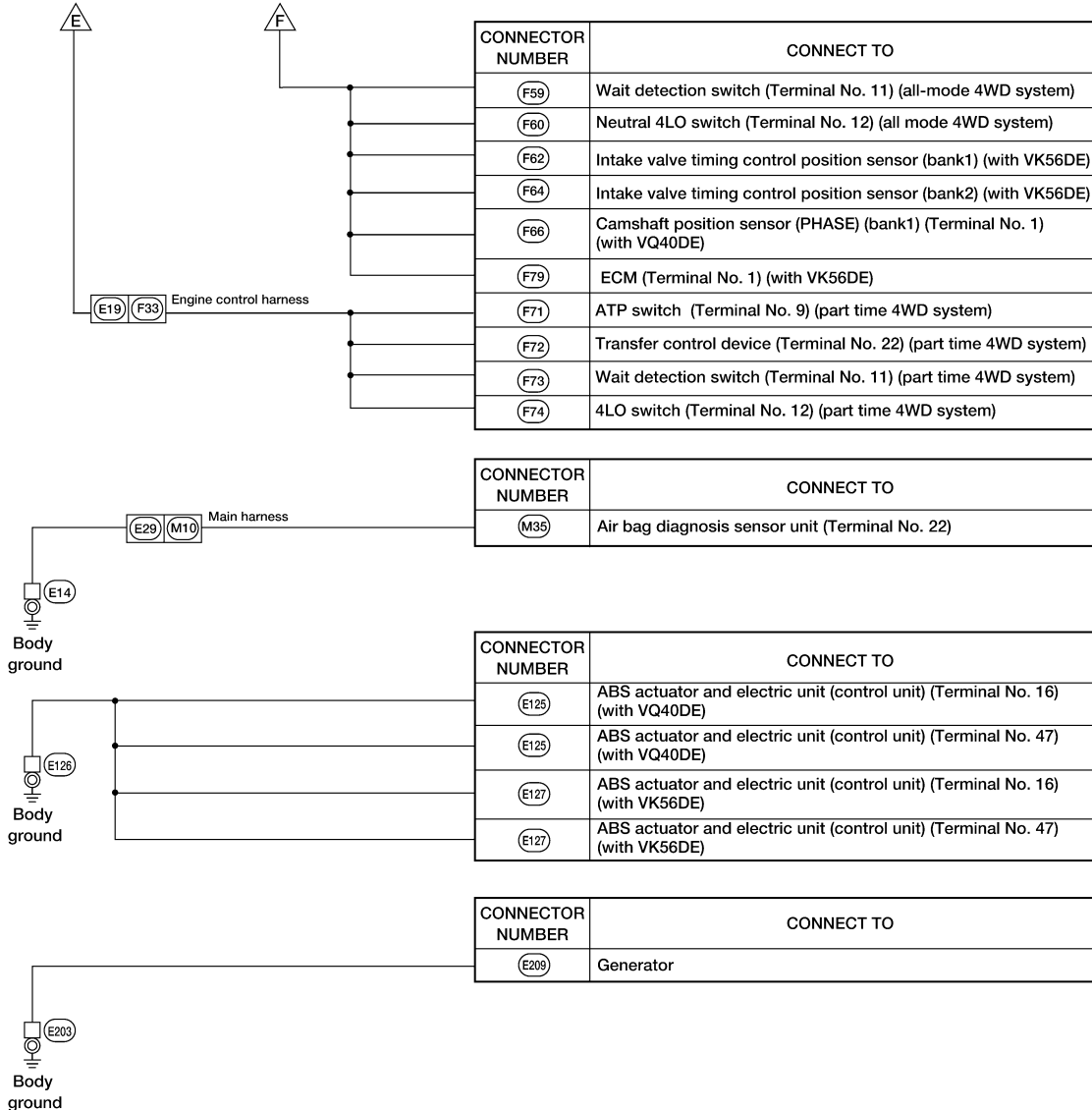
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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >



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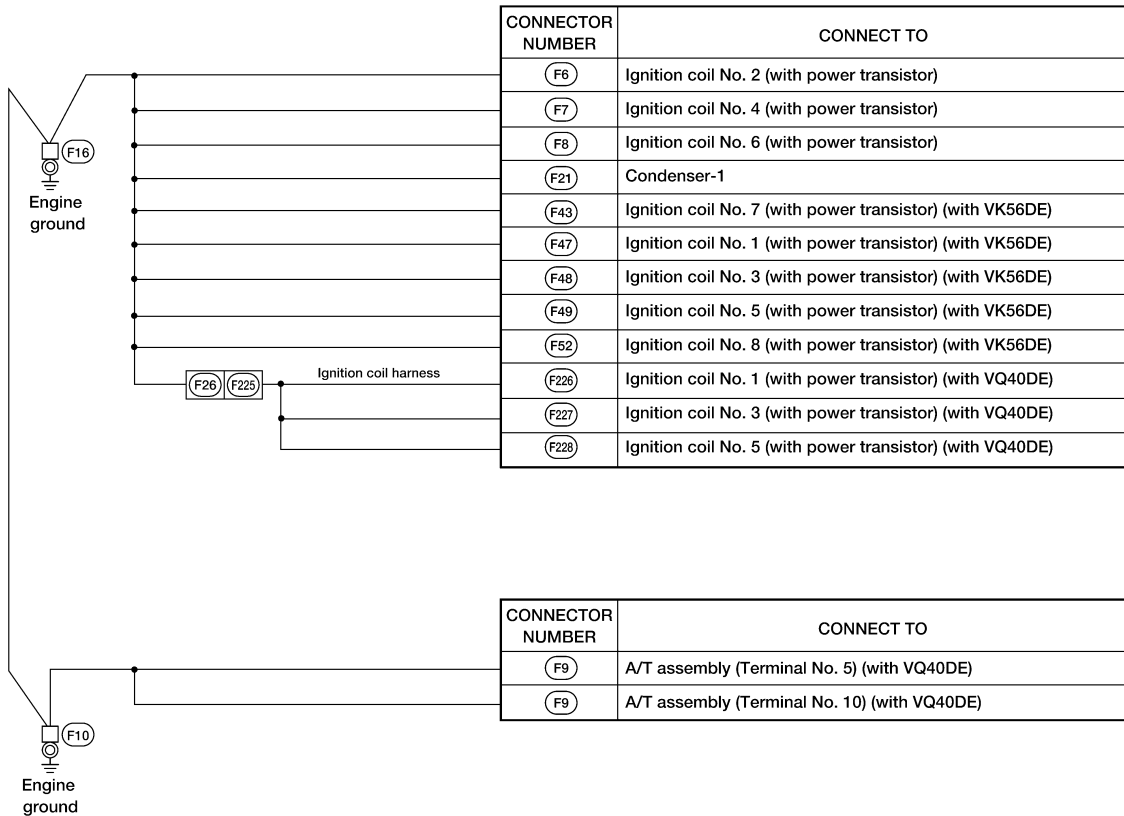
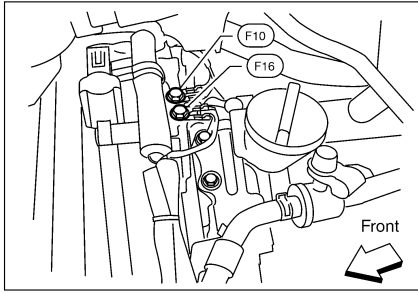
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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Engine Control Harness

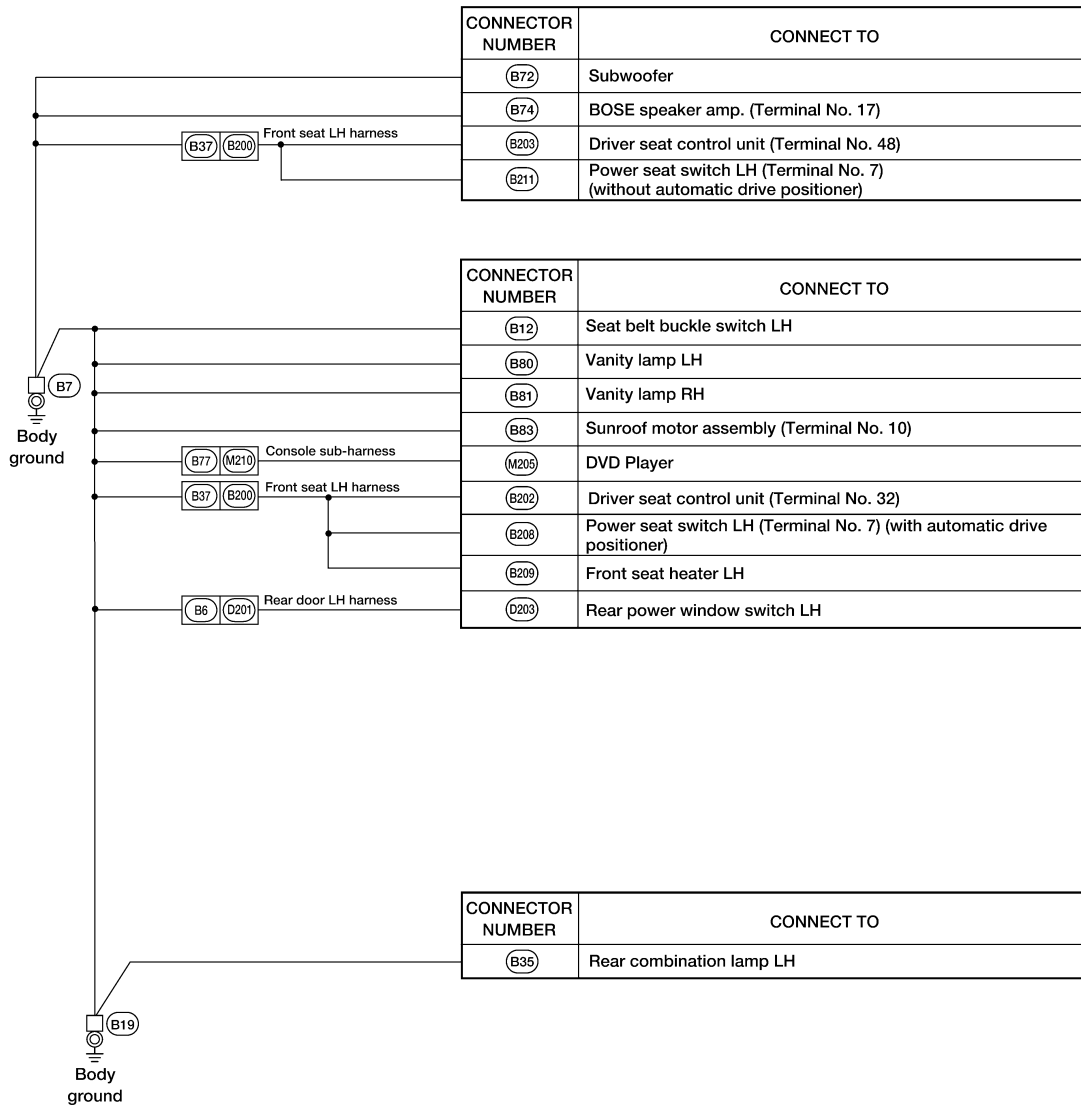
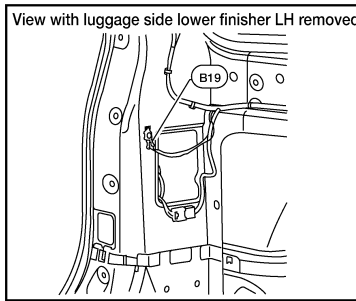
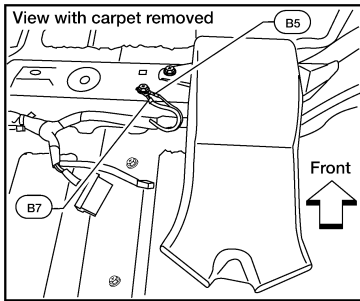


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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Body Harness



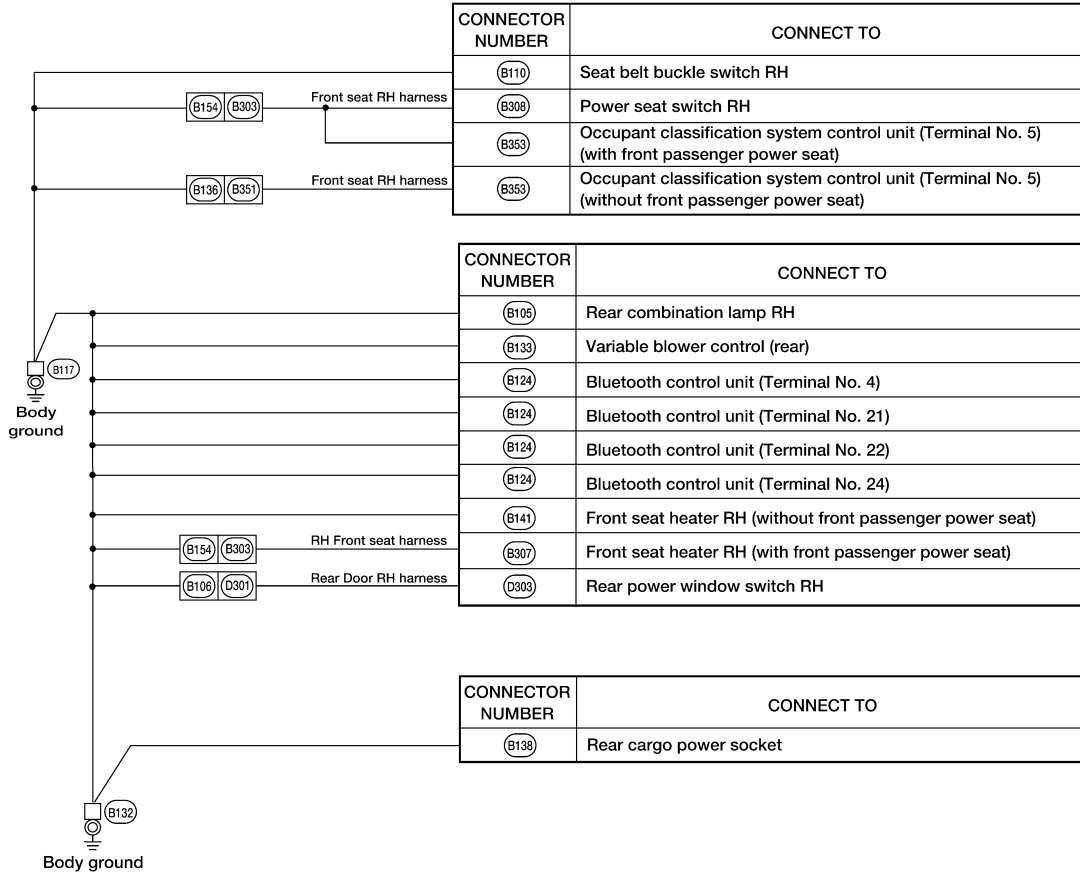
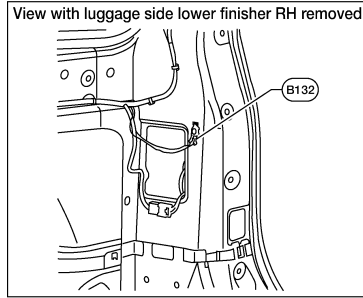
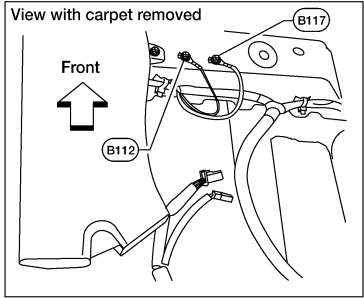
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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Body No. 2 Harness

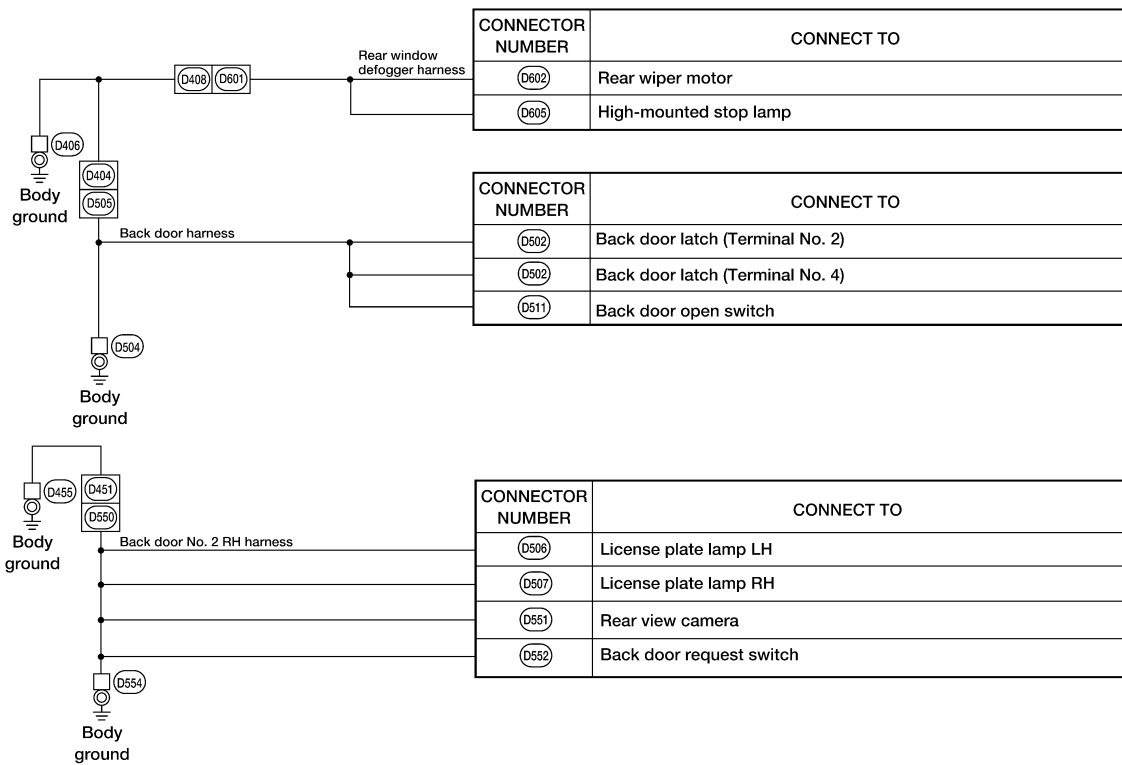
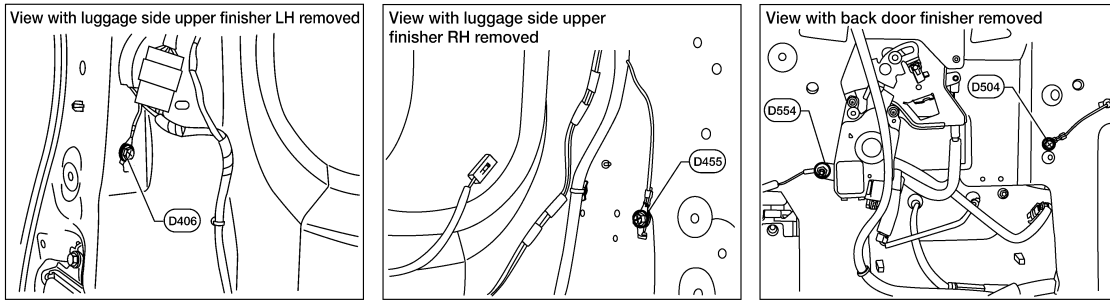


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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Back Door No. 2 and Back Door Harness

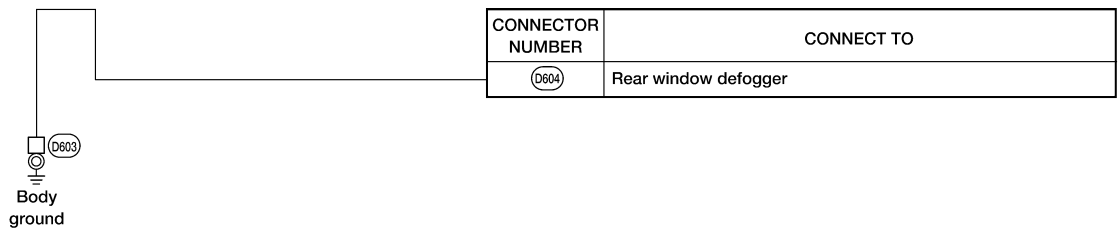
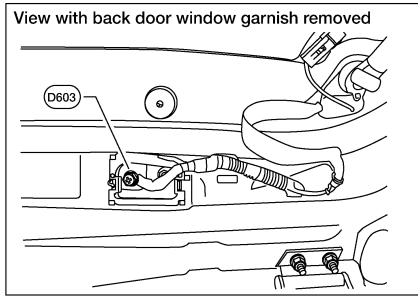


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GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >



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HARNESS

< DTC/CIRCUIT DIAGNOSIS >

HARNESS

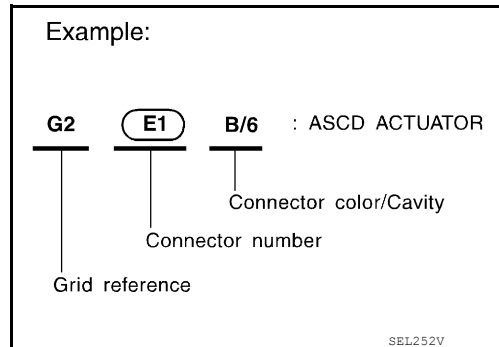
Harness Layout

INFOID:000000007355078

HOW TO READ HARNESS LAYOUT

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

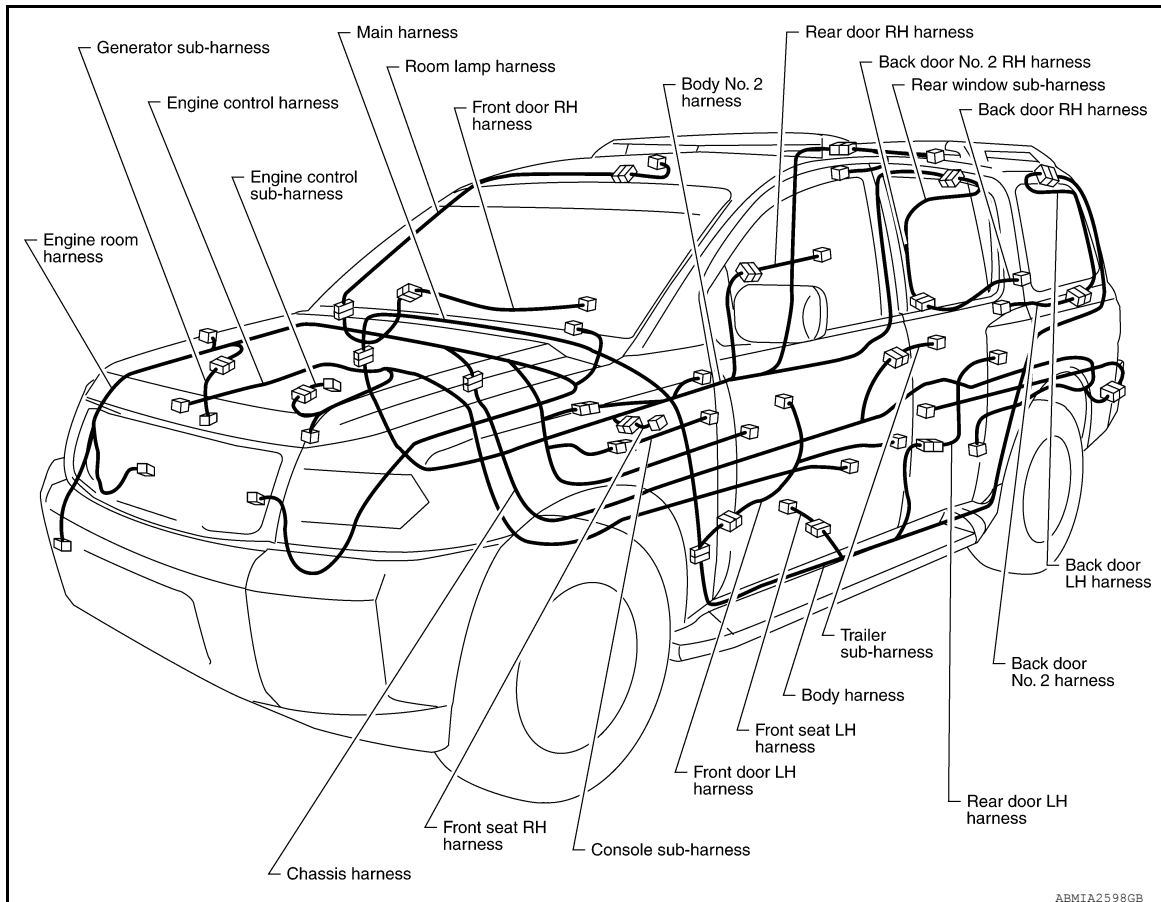
- Main Harness and Console Sub-harness
- Engine Room Harness (RH View) and Generator Sub-harness
- Engine Room Harness (Passenger Compartment)
- Engine Room Harness (LH View)
- Engine Control Harness (VQ40DE), Injector Sub-harness, Ignition Coil Sub-harness and Knock Sensor Sub-harness
- Engine Control Harness (VK56DE) and Knock Sensor Sub-harness
- Chassis Harness and Trailer Sub-harness
- Body Harness and Front Seat LH Harness
- Body No. 2 Harness and Front Seat RH Harness
- Room Lamp Harness
- Back Door No. 2 Harness, Back Door No. 2 RH Harness, Back Door Harness, Rear Window Sub-harness and Back Door RH 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 (if used) to the connector.

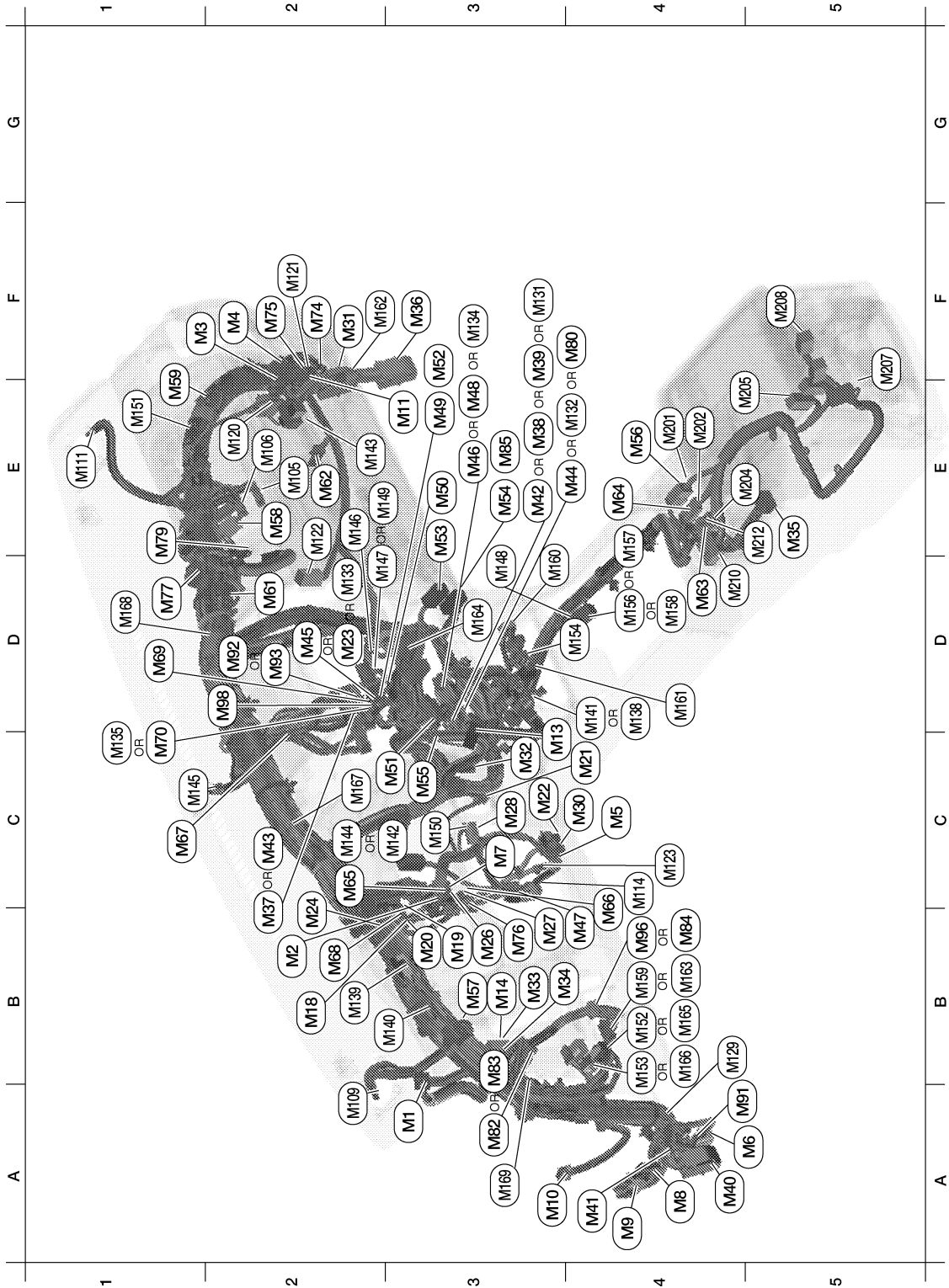
OUTLINE



HARNESS

< DTC/CIRCUIT DIAGNOSIS >

MAIN HARNESS



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A3	M1	W/24	: To R1	D1	M77	Y/4	: Front passenger air bag module (service replacement)
B2	M2	L/4	: Heated steering relay	E1	M79	—	: Body ground
F1	M3	W/8	: Fuse block (J/B)	F4	M80	GR/3	: AV control unit (with BOSE audio system with NAVI)

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

F2	M4	W/16	: Fuse block (J/B)	A3	M82	W/2	: Circuit breaker-2 (with automatic drive positioner)	A
C4	M5	W/2	: Combination switch	B3	M83	W/2	: Circuit breaker-2 (without automatic drive positioner)	B
A5	M6	W/8	: To E10	B4	M84	BR/6	: Pedal adjusting switch (without automatic drive positioner)	C
C3	M7	W/6	: Heated steering wheel switch	E3	M85	W/4	: Aux in jack	D
A4	M8	BR/12	: To D2	A4	M91	W/16	: To E26	E
A4	M9	W/24	: To D1	D2	M92	W/24	: Display unit (with NAVI)	F
A3	M10	Y/4	: To E29	D2	M93	W/24	: Display unit (without NAVI)	G
E3	M11	B/5	: Passenger select unlock relay	B4	M96	BR/6	: Pedal adjusting switch (with automatic drive positioner)	H
C3	M13	BR/3	: Front passenger air bag OFF indicator (without power seat)	D2	M98	W/16	: A/C and AV switch assembly	I
B3	M14	BR/2	: Front passenger air bag OFF indicator (with power seat)	F2	M105	Y/2	: Front passenger air bag module	J
B2	M18	W/40	: BCM (body control module)	F2	M106	O/2	: Front passenger air bag module	K
B3	M19	W/15	: BCM (body control module)	A2	M109	BR/2	: Front tweeter LH	L
B3	M20	B/15	: BCM (body control module)	E2	M111	BR/2	: Front tweeter RH	
C4	M21	W/4	: NATS antenna amp.	C4	M114	W/2	: Heated steering wheel	
C3	M22	W/16	: Data link connector	E2	M120	W/4	: Remote keyless entry receiver	
D2	M23	W/32	: AV control unit (with BOSE audio system with NAVI)	F2	M121	W/4	: Front blower motor resistor	
B2	M24	W/40	: Combination meter	E2	M122	W/4	: Variable blower control (front)	
B3	M26	W/6	: Ignition switch	C4	M123	W/2	: Tire pressure warning check connector	
B3	M27	W/2	: Key switch	F3	M131	W/20	: AV control unit (with mid audio system)	
C3	M28	W/16	: Combination switch	E3	M132	GR/3	: AV control unit (with mid audio system)	
C4	M29	Y/6	: Combination switch	D2	M133	W/24	: AV control unit (with mid audio system)	
C4	M30	GR/8	: Combination switch	F3	M134	W/16	: AV control unit (with mid audio system)	
F2	M31	SMJ	: To E152	C1	M135	W/32	: AV control unit (with mid audio system)	
C3	M32	W/4	: In-vehicle sensor	D4	M138	GR/8	: 4WD shift switch (part time 4WD system)	
B3	M33	W/32	: Automatic drive positioner control unit	B2	M139	B/2	: Diode-1	
B4	M34	W/16	: Automatic drive positioner control unit	B3	M140	B/2	: Diode-2	
E5	M35	Y/28	: Air bag diagnosis sensor unit	D4	M141	GR/8	: 4WD shift switch (all-mode 4WD system)	
F3	M36	SMJ	: To B149	C2	M142	B/6	: Mode door motor (front) (with auto A/C)	PG
C2	M37	W/12	: AV control unit (with BOSE audio system with NAVI)	E3	M143	B/6	: Air mix door motor (passenger)	
E3	M38	W/20	: Audio unit	C2	M144	B/6	: Mode door motor (front) (without auto A/C)	N
F3	M39	W/20	: AV control unit (with BOSE audio system with NAVI)	C1	M145	B/4	: Optical sensor	O
A4	M40	SMJ	: To B69	E3	M146	GR/2	: Intake sensor	
A4	M41	W/16	: Satellite radio tuner	D2	M147	B/6	: Air mix door motor (driver)	
E3	M42	W/20	: AV control unit (with BOSE audio system without NAVI)	B3	M148	B/2	: Diode-3	P
D2	M43	W/12	: AV control unit (with BOSE audio system without NAVI)	E3	M149	B/6	: Air mix door motor (front)	
E3	M44	GR/3	: AV control unit (with BOSE audio system without NAVI)	C3	M150	W/2	: Ignition keyhole illumination	

HARNESSES

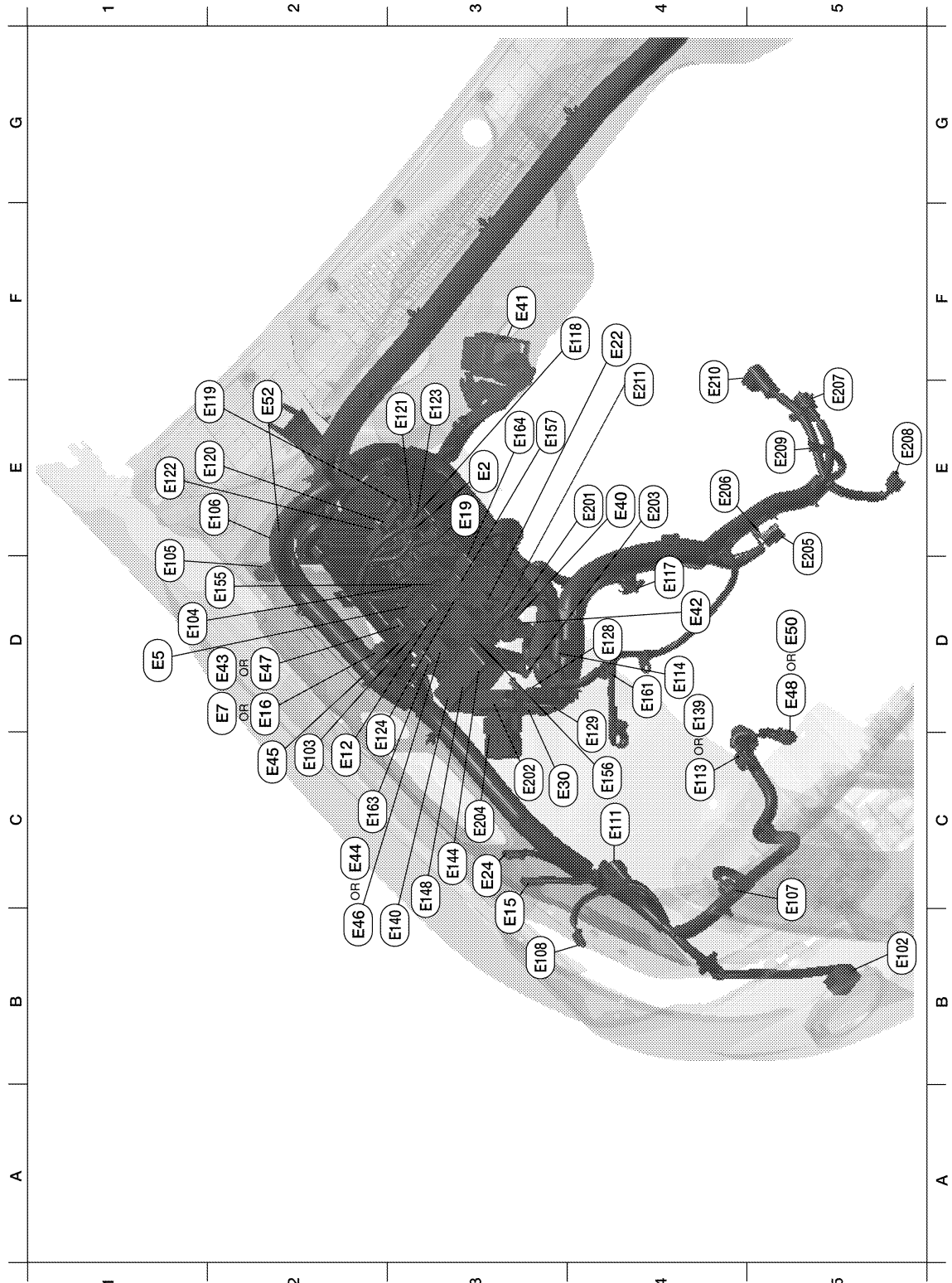
< DTC/CIRCUIT DIAGNOSIS >

D2	M45	W/24	: AV control unit (with BOSE audio system without NAVI)	E1	M151	L/20	: Joint connector-M01
E3	M46	W/16	: AV control unit (with BOSE audio system without NAVI)	B4	M152	W/24	: Transfer control unit (all-mode 4WD system)
B4	M47	W/8	: Steering angle sensor	B4	M153	GR/24	: Transfer control unit (all-mode 4WD system)
E3	M48	W/40	: AV control unit (with BOSE audio system with NAVI)	D4	M154	GR/6	: VDC OFF switch
E3	M49	B/26	: A/C auto amp.	D4	M156	W/10	: A/T shift selector (without manual mode switch)
E3	M50	L/26	: A/C auto amp.	E4	M157	W/10	: A/T shift selector (with manual mode switch without Intelligent Key system)
C3	M51	W/8	: Front blower switch	D4	M158	W/10	: A/T shift selector (with manual mode switch and Intelligent Key system)
F3	M52	B/26	: Front air control	B4	M159	W/16	: Door mirror remote control switch (without automatic drive positioner)
E3	M53	B/3	: Lower front power socket	D3	M160	BR/6	: Front heated seat switch RH
E3	M54	GR/3	: Upper front power socket	D4	M161	W/6	: Front heated seat switch LH
C3	M55	W/4	: Hazard switch	F2	M162	W/2	: To B131
E4	M56	W/16	: To M201	B4	M163	BR/16	: Door mirror remote control switch (with automatic drive positioner)
B3	M57	—	: Body ground	D3	M164	W/40	: Intelligent Key unit
E2	M58	B/6	: Intake door motor	B4	M165	W/26	: Transfer control unit (part time 4WD system)
E1	M59	BR/2	: Glove box lamp	B4	M166	W/24	: Transfer control unit (part time 4WD system)
D2	M61	—	: Body ground	C2	M167	L/20	: Joint connector-M02
E2	M62	B/2	: Front blower motor	D1	M168	G/20	: Joint connector-M03
E4	M63	W/6	: To M204	A3	M169	BR/6	: Accessory relay-2 (late production)
D4	M64	W/6	: To M202	Console sub-harness			
C2	M65	W/4	: Steering lock solenoid	E4	M201	W/16	: To M56
C4	M66	GR/6	: Key switch and ignition knob switch	E4	M202	W/6	: To M64
C2	M67	W/4	: Remote keyless entry receiver	E4	M204	W/6	: To M63
B2	M68	GR/2	: Instrument panel area antenna	E4	M205	W/32	: DVD player
D1	M69	W/12	: AV control unit (with BOSE audio system without NAVI)	F5	M207	B/3	: Console power socket
C1	M70	W/32	: AV control unit (with BOSE audio system without NAVI)	F5	M208	B/10	: Rear air control (rear)
F2	M74	W/16	: To D102	D4	M210	W/18	: To B77
F2	M75	W/12	: To D101	D4	M212	GR/2	: Center console area antenna
B3	M76	W/6	: Electric brake (pre-wiring)				

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

ENGINE ROOM HARNESS (RH VIEW)



ABMIA1402GB

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

E3	E2	W/16	: To F32	F4	E118	B/2	: IPDM E/R (intelligent power distribution module engine room)
D1	E5	W/24	: To F14	E2	E119	W/16	: IPDM E/R (intelligent power distribution module engine room)

HARNESS

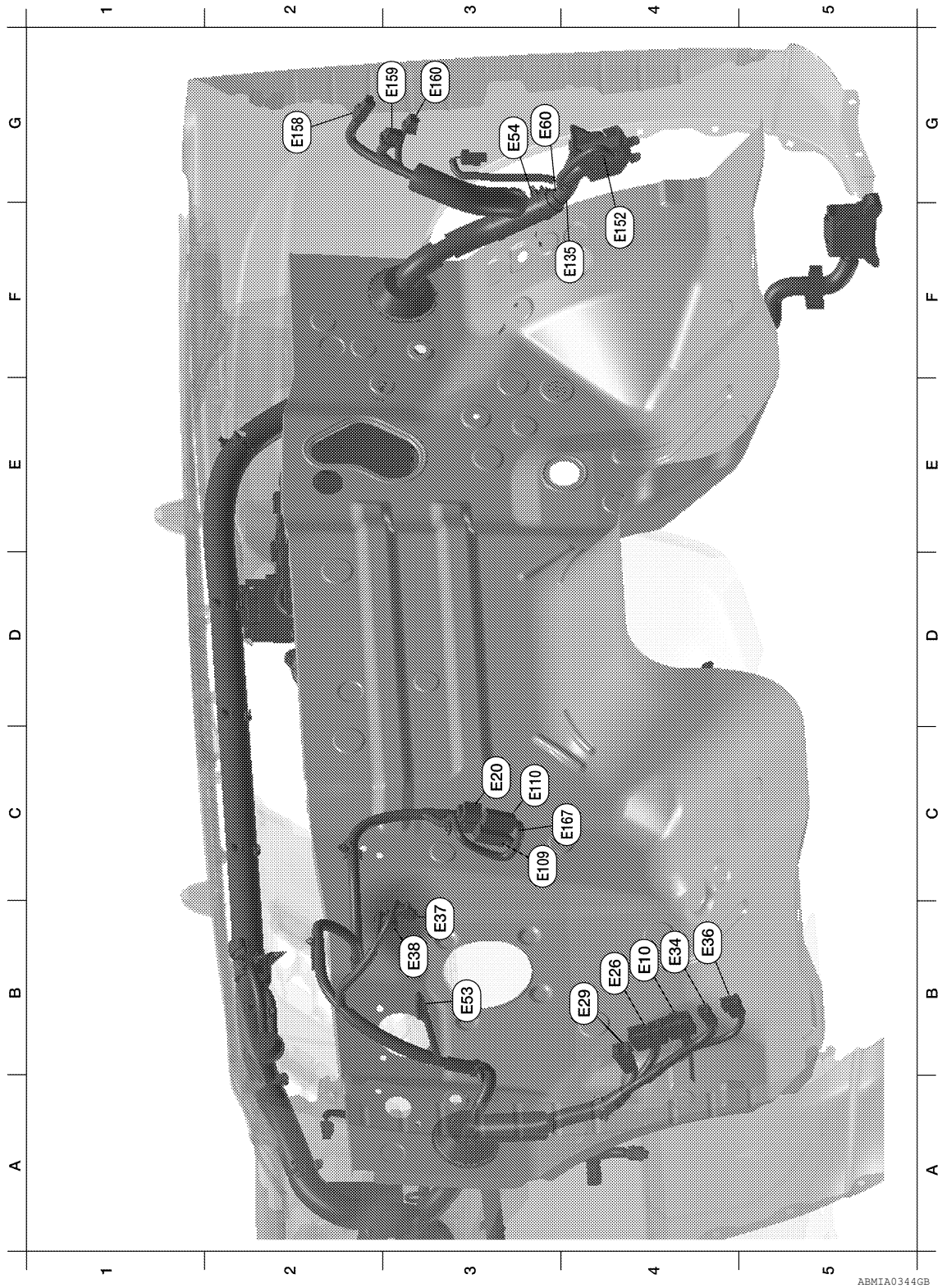
< DTC/CIRCUIT DIAGNOSIS >

D2	E7	B/40	: ECM (with VK56DE)	E2	E120	W/6	: IPDM E/R (intelligent power distribution module engine room)
C2	E12	L/4	: Stop lamp relay	E3	E121	BR/12	: IPDM E/R (intelligent power distribution module engine room)
C3	E15	—	: Body ground	E1	E122	W/12	: IPDM E/R (intelligent power distribution module engine room)
D2	E16	B/40	: ECM (with VQ40DE)	E3	E123	BR/8	: IPDM E/R (intelligent power distribution module engine room)
D3	E19	W/16	: To F33	C2	E124	B/6	: IPDM E/R (intelligent power distribution module engine room)
F4	E22	BR/6	: Front blower motor relay (with auto A/C)	D4	E128	GR/2	: Fusible link box (battery)
C3	E24	—	: Body ground	D4	E129	B/2	: Fusible link box (battery)
C3	E30	—	: Fusible link box (battery)	D4	E139	B/4	: Cooling fan motor (with VK56DE)
E4	E40	GR/9	: To E201	B3	E140	BR/6	: Trailer tow relay 2
F3	E41	SMJ	: To C1	C3	E144	L/4	: Heater pump relay
D4	E42	B/4	: To E211	C3	E148	L/4	: Trailer tow relay 1
D2	E43	B/5	: Transfer shift low relay (part time 4WD system)	D2	E155	L/4	: Transfer shut off relay
C2	E44	B/5	: Transfer shift high relay (part time 4WD system)	C4	E156	L/4	: Transfer shut off relay 1
C2	E45	BR/6	: Back-up lamp relay	E3	E157	L/4	: Transfer shut off relay 2
B2	E46	B/5	: Transfer shift high relay (all-mode 4WD system)	D4	E161	B/3	: Battery current sensor
D2	E47	B/5	: Transfer shift low relay (all-mode 4WD system)	C2	E163	L/4	: Trailer turn relay LH
D5	E48	B/3	: Refrigerant pressure sensor (with VQ40DE)	E3	E164	L/4	: Trailer turn relay RH
D5	E50	B/3	: Refrigerant pressure sensor (with VK56DE)	Generator sub-harness			
E2	E52	W/2	: To F35	E4	E201	GR/9	: To E40
B5	E102	B/2	: Front fog lamp RH	C3	E202	—	: Fusible link box (battery)
C2	E103	B/5	: Daytime light relay 1	E4	E203	—	: Body ground
D1	E104	L/4	: Daytime light relay 2	C3	E204	—	: Fusible link box (battery)
D1	E105	B/2	: Front and rear washer motor	D5	E205	B/3	: Generator
E2	E106	BR/2	: Washer fluid level switch	E4	E206	—	: Generator
C5	E107	B/3	: Front headlamp RH	F5	E207	GR/1	: Starter motor
B3	E108	GR/2	: Front side marker lamp RH	E5	E208	GR/1	: Oil pressure switch (with VQ40DE)
C4	E111	GR/3	: Front combination lamp RH	E5	E209	—	: Generator
C4	E113	GR/4	: Cooling fan motor	E4	E210	B/1	: Starter motor
D4	E114	B/6	: Delta stroke sensor	E4	E211	B/4	: To E42
D4	E117	GR/2	: Front wheel sensor RH				

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

ENGINE ROOM HARNESS (PASSENGER COMPARTMENT)



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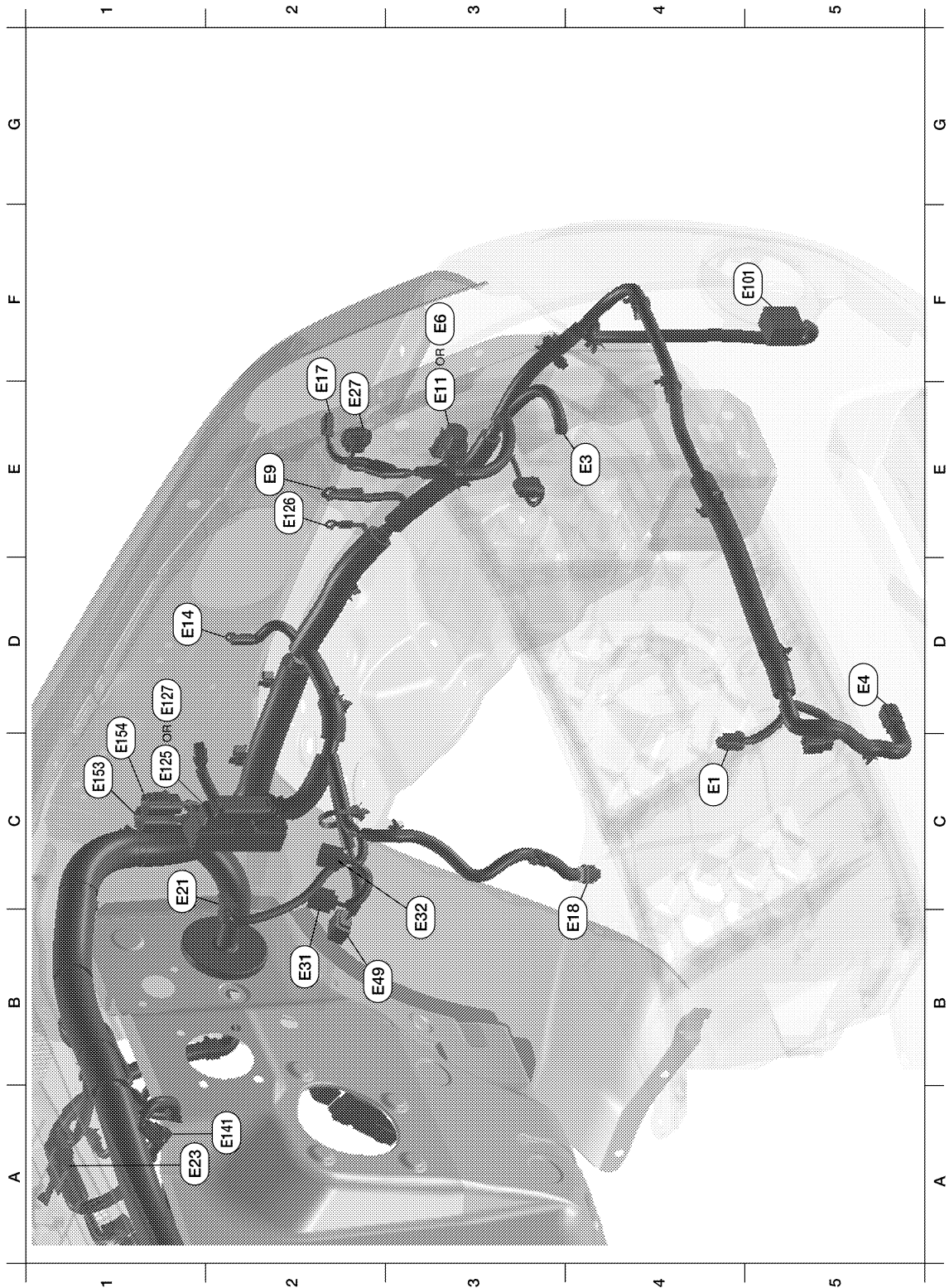
B4	E10	W/8	: To M6	G3	E60	BR/3	: Intelligent Key warning buzzer
C3	E20	B/6	: Accelerator pedal position (APP) sensor	C3	E109	GR/2	: Pedal adjusting motor assembly
B4	E26	W/16	: To M91	C3	E110	B/3	: Pedal adjusting motor assembly
B4	E29	Y/4	: To M10	F4	E135	GR/2	: Transfer dropping resistor

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

B4	E34	W/8	: To B40	F4	E152	SMJ	: To M31
B4	E36	W/2	: To B42	G2	E158	B/1	: Fuse block (J/B)
B3	E37	BR/2	: ASCD brake switch	G3	E159	B/2	: Fuse block (J/B)
B3	E38	W/4	: Stop lamp switch	G3	E160	W/8	: Fuse block (J/B)
B3	E53	B/1	: Parking brake switch	C3	E167	GR/2	: Pedal adjusting motor
G3	E54	BR/6	: Front blower motor relay (without auto A/C)				

ENGINE ROOM HARNESS (LH VIEW)



ABMIA0345GB

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

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

C4	E1	B/2	: Ambient sensor	E2	E27	GR/3	: Front combination lamp LH
E4	E3	B/2	: Horn	B2	E31	B/3	: Front pressure sensor
D5	E4	Y/2	: Crash zone sensor	B3	E32	B/3	: Rear pressure sensor
F3	E6	B/3	: Front headlamp LH (with daytime light system)	B3	E49	B/6	: Active booster
E2	E9	—	: Body ground	F5	E101	B/2	: Front fog lamp LH
E3	E11	B/3	: Front headlamp LH (without daytime light system)	C1	E125	B/47	: ABS actuator and electric unit (control unit) (with VQ40DE)
D1	E14	—	: Body ground	E2	E126	—	: Body ground
F2	E17	GR/2	: Front side marker lamp LH	C1	E127	B/47	: ABS actuator and electric unit (control unit) (with VK56DE)
B4	E18	GR/2	: Front wheel sensor LH	A2	E141	B/2	: Heater pump
C1	E21	GR/2	: Brake fluid level switch	C1	E153	W/2	: Transfer motor relay
A1	E23	GR/5	: Front wiper motor	C1	E154	W/2	: Transfer motor relay

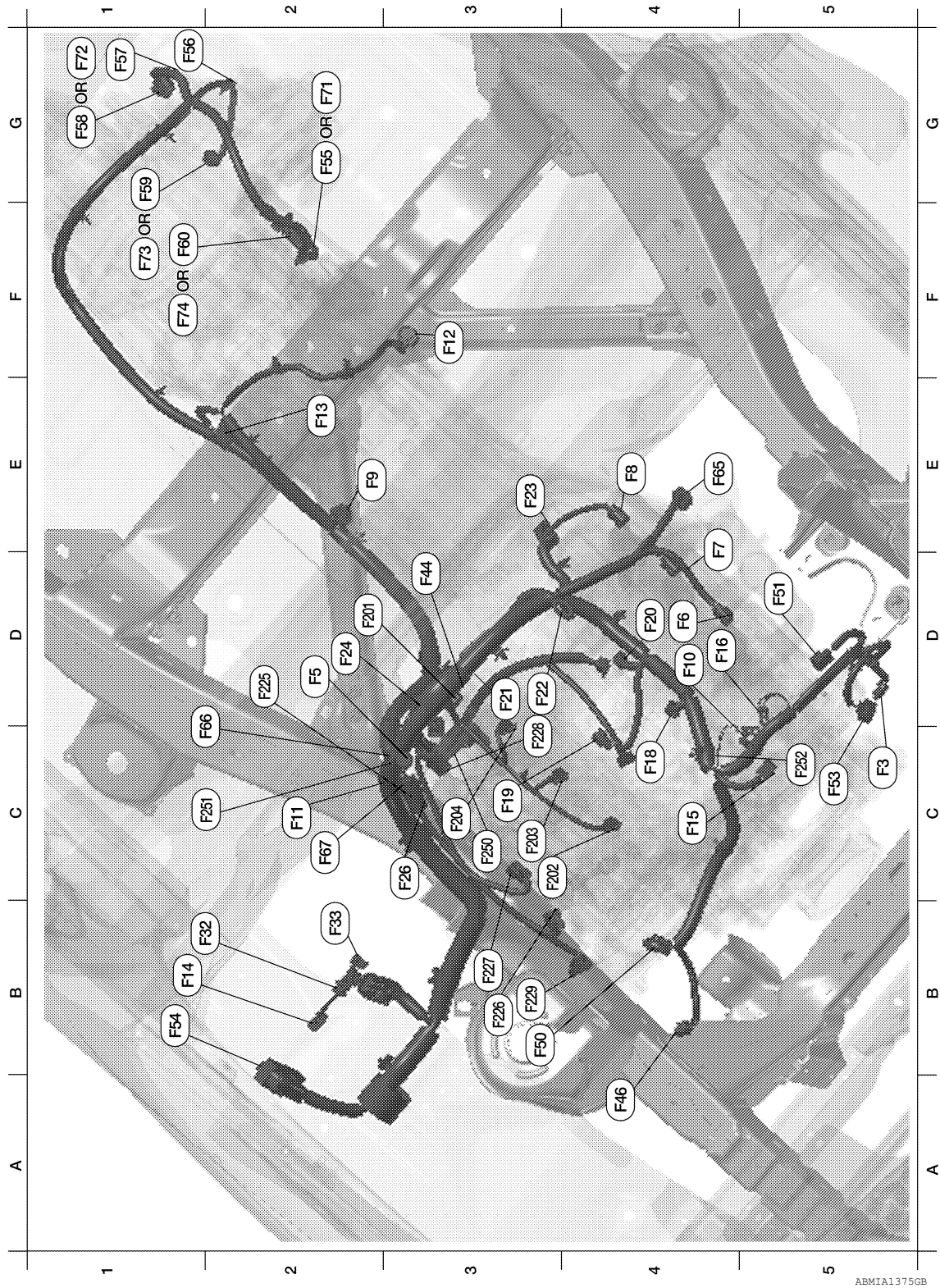
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HARNESS

< DTC/CIRCUIT DIAGNOSIS >

ENGINE CONTROL HARNESS (VQ40DE)



ABMIA1375GB

C5	F3	B/1	: A/C Compressor	G2	F55	B/2	: ATP switch (all-mode 4WD system)
D2	F5	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 2)	G1	F56	B/8	: Transfer terminal cord assembly
D4	F6	GR/3	: Ignition coil No. 2 (with power transistor)	G1	F57	B/2	: Transfer motor
D4	F7	GR/3	: Ignition coil No. 4 (with power transistor)	G1	F58	GR/6	: Transfer control device (all-mode 4WD system)

HARNESSES

< DTC/CIRCUIT DIAGNOSIS >

E4	F8	GR/3	: Ignition coil No. 6 (with power transistor)	F1	F59	B/2	: Wait detection switch (all-mode 4WD system)	A
E2	F9	G/10	: A/T assembly	F1	F60	GR/2	: Neutral 4LO switch (all-mode 4WD system)	B
D4	F10	—	: Engine ground	E4	F65	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 1)	B
C2	F11	B/3	: Crankshaft position sensor (POS)	D1	F66	G/3	: Camshaft position sensor (PHASE) (bank 1)	C
F3	F12	G/4	: Heated oxygen sensor 2 (bank 2)	C2	F67	L/4	: To F250	C
E2	F13	L/4	: Heated oxygen sensor 2 (bank 1)	G2	F71	B/2	: ATP switch (part time 4WD system)	D
B1	F14	W/24	: To E5	G1	F72	B/8	: Transfer control device (part time 4WD system)	D
C4	F15	GR/2	: EVAP canister purge volume control solenoid valve	F1	F73	GR/2	: Wait detection switch (part time 4WD system)	E
D4	F16	—	: Engine ground	F1	F74	GR/2	: 4LO switch (part time 4WD system)	E
C4	F18	GR/2	: Fuel injector No. 2	Injector sub-harness				E
C3	F19	B/2	: VIAS control solenoid valve	D2	F201	G/4	: To F44	F
D4	F20	GR/2	: Fuel injector No. 4	C3	F202	GR/2	: Fuel injector No. 1	F
D3	F21	W/2	: Condenser-1	C3	F203	GR/2	: Fuel injector No. 3	G
D3	F22	GR/2	: Fuel injector No. 6	C3	F204	GR/2	: Fuel injector No. 5	G
E3	F23	B/3	: Camshaft position sensor (PHASE) (bank 2)	Ignition coil sub-harness				H
D2	F24	GR/2	: Engine coolant temperature sensor	D2	F225	G/8	: To F26	H
C3	F26	G/8	: To F225	B3	F226	GR/3	: Ignition coil No. 1 (with power transistor)	I
B1	F32	W/16	: To E2	B3	F227	GR/3	: Ignition coil No. 3 (with power transistor)	I
B2	F33	W/16	: To E19	C3	F228	GR/3	: Ignition coil No. 5 (with power transistor)	J
D3	F44	G/4	: To F201	B3	F229	G/2	: Intake valve timing control solenoid valve (bank 1)	J
A4	F46	B/3	: Power steering pressure sensor	Knock sensor sub-harness				K
B3	F50	W/6	: Electric throttle control actuator	C3	F250	L/4	: To F67	K
D5	F51	G/2	: Intake valve timing control solenoid valve (bank 2)	C1	F251	GR/2	: Knock sensor (bank 1)	L
C5	F53	B/6	: Mass air flow sensor	C5	F252	GR/2	: Knock sensor (bank 2)	L
B1	F54	B/81	: ECM					L

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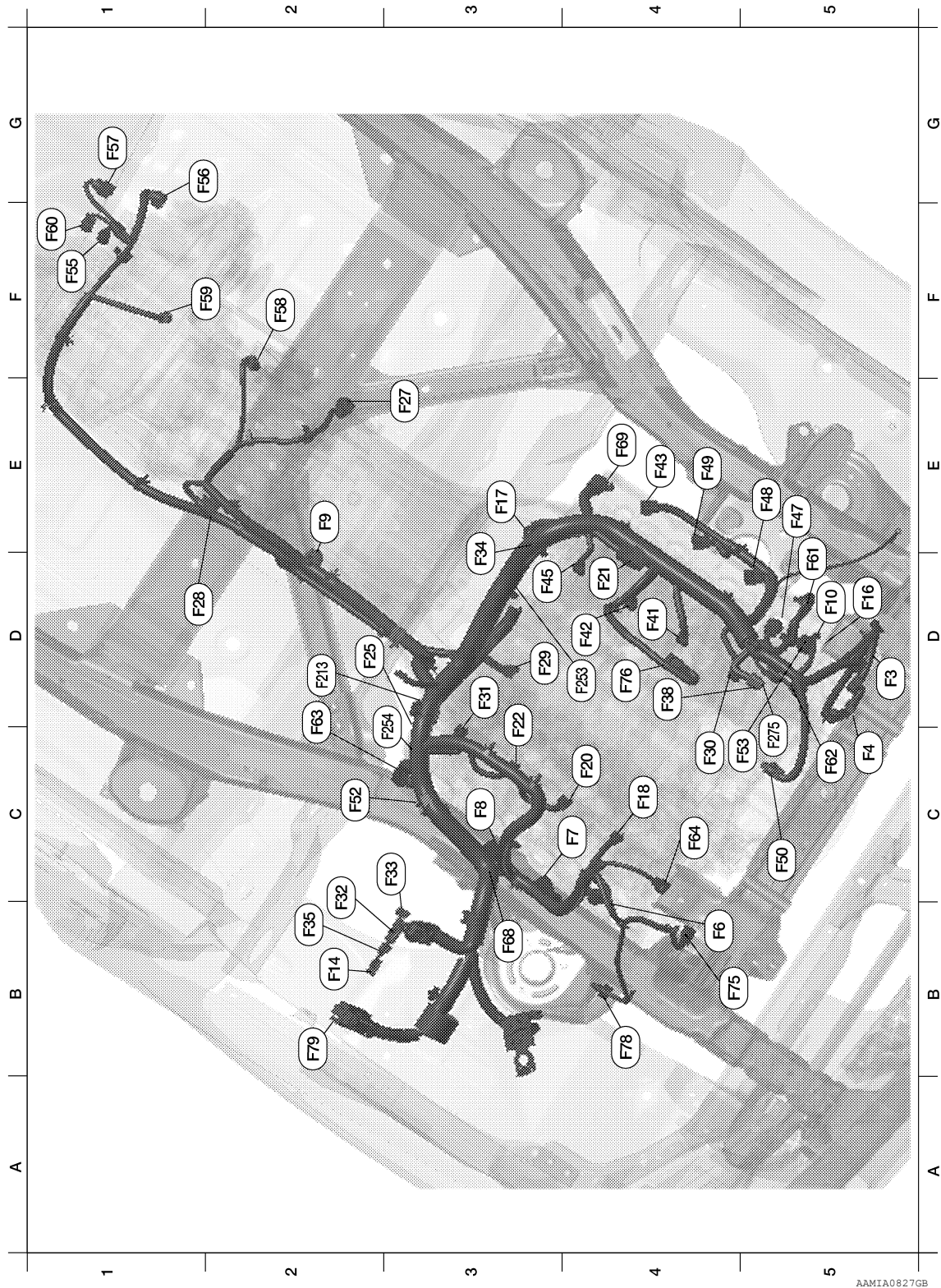
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HARNESS

< DTC/CIRCUIT DIAGNOSIS >

ENGINE CONTROL HARNESS (VK56DE)



AAMIA0827GB

D5	F3	B/1	: A/C Compressor	D3	F45	GR/2	: Fuel injector No. 7
C5	F4	GR/1	: Oil pressure switch	E5	F47	GR/3	: Ignition coil No. 1 (with power transistor)
B4	F6	GR/3	: Ignition coil No. 2 (with power transistor)	E5	F48	GR/3	: Ignition coil No. 3 (with power transistor)
C4	F7	GR/3	: Ignition coil No. 4 (with power transistor)	E4	F49	GR/3	: Ignition coil No. 5 (with power transistor)
C3	F8	GR/3	: Ignition coil No. 6 (with power transistor)	C5	F50	W/6	: Electric throttle control actuator

HARNESSES

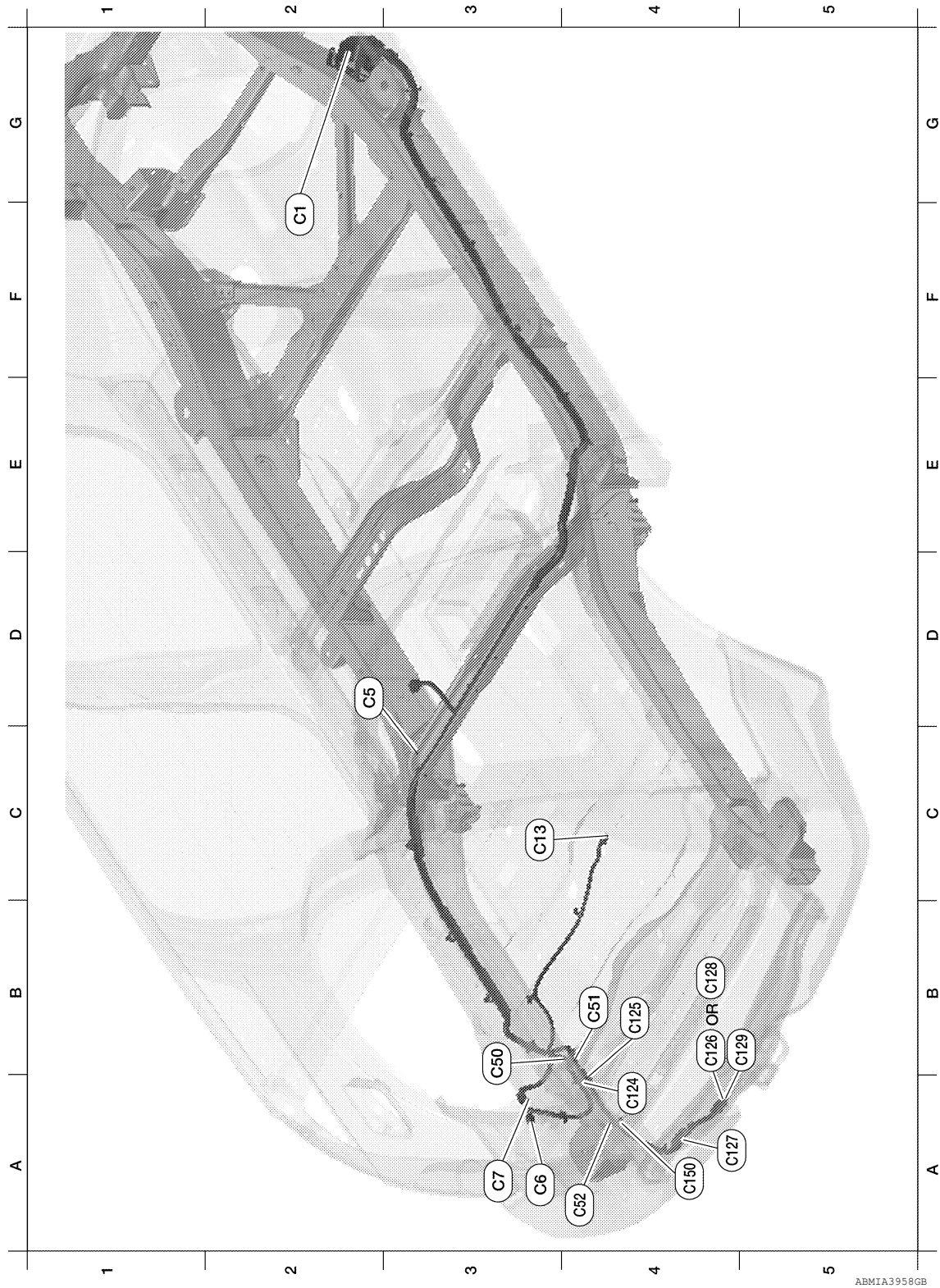
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E2	F9	G/10	: A/T assembly	C2	F52	GR/3	: Ignition coil No. 8 (with power transistor)	A	
D5	F10	—	: Engine ground	C4	F53	B/6	: Mass air flow sensor	B	
B2	F14	W/24	: To E5	F1	F55	B/2	: ATP switch (all-mode 4WD system)	C	
D5	F16	—	: Engine ground	G2	F56	B/8	: Transfer terminal cord assembly	D	
E3	F17	GR/1	: Starter motor	G1	F57	B/2	: Transfer motor (all-mode 4WD)	E	
C4	F18	GR/2	: Fuel injector No. 2	F2	F58	GR/6	: Transfer control device (all-mode 4WD system)	F	
C4	F20	GR/2	: Fuel injector No. 4	F2	F59	B/2	: Wait detection switch (all-mode 4WD system)	G	
D4	F21	W/2	: Condenser-1	F1	F60	GR/2	: Neutral 4LO switch (all-mode 4WD system)	H	
D3	F22	GR/2	: Fuel injector No. 6	D5	F61	G/2	: Intake valve timing control solenoid valve (bank 1)	I	
D2	F25	B/3	: Camshaft position sensor (PHASE)	C5	F62	B/3	: Intake valve timing control position sensor (bank 1)	J	
E3	F27	G/4	: Heated oxygen sensor 2 (bank 1)	C2	F63	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 2)	K	
D1	F28	G/4	: Heated oxygen sensor 2 (bank 2)	C4	F64	B/3	: Intake valve timing control position sensor (bank 2)	L	
D3	F29	B/3	: Crankshaft position sensor (POS)	B3	F68	GR/2	: Water valve	PG	
C4	F30	GR/2	: Fuel injector No. 1	E4	F69	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 1)	N	
D3	F31	GR/2	: Fuel injector No. 8	B4	F75	G/2	: Intake valve timing control solenoid valve (bank 2)	O	
C2	F32	W/16	: To E2	D4	F76	GR/2	: EVAP canister purge volume control solenoid valve	P	
C3	F33	W/16	: To E19	B4	F78	B/3	: Power steering pressure sensor		
E3	F34	B/1	: Starter motor	B2	F79	B/81	: ECM		
B2	F35	W/2	: To E52	Knock sensor sub-harness					
D4	F38	B/6	: To F275	D2	F213	GR/2	: Engine coolant temperature sensor		
D4	F41	GR/2	: Fuel injector No. 3	D3	F253	B/2	: Knock sensor (bank 1)		
D4	F42	GR/2	: Fuel injector No. 5	C3	F254	B/2	: Knock sensor (bank 2)		
E4	F43	GR/3	: Ignition coil No. 7 (with power transistor)	C5	F275	B/6	: To F38		

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

CHASIS HARNESS



ABMIA3958GB

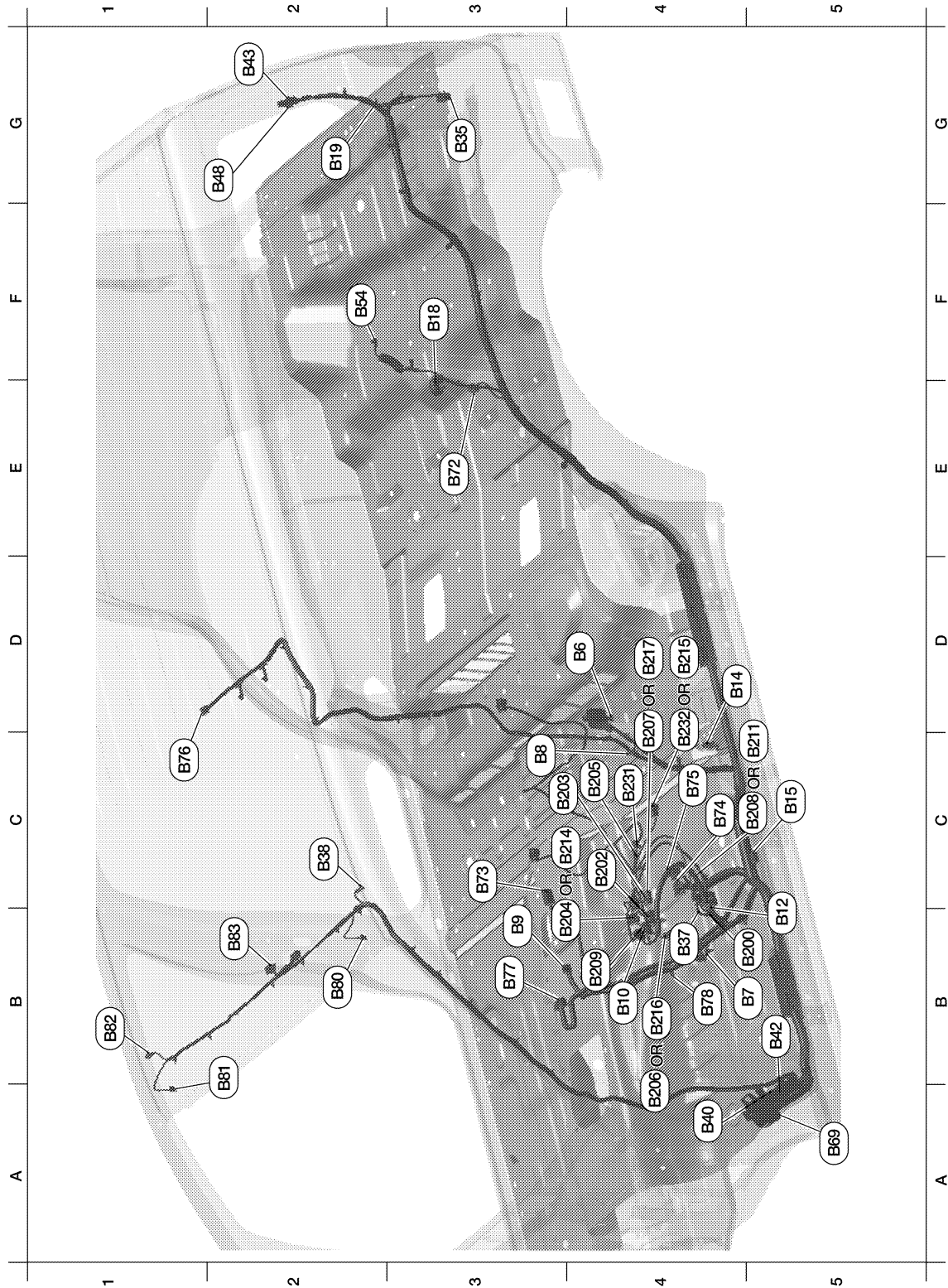
F2	C1	SMJ	: To E41	Trailer sub-harness			
D2	C5	GR/5	: Fuel level sensor unit and fuel pump	A4	C124	GR/8	: To C50
A3	C6	B/2	: EVAP canister vent control valve	B4	C125	GR/8	: To C51
A3	C7	GR/3	: EVAP control system pressure sensor	B4	C126	B/7	: Trailer (trailer tow 7 pin)
C4	C13	GR/4	: Rear wheel sensor assembly	A4	C127	GR/2	: Rear bumper antenna

HARNESSES

< DTC/CIRCUIT DIAGNOSIS >

B3	C50	GR/8	: To C124	B4	C128	B/4	: Trailer (trailer tow 4 pin)
B4	C51	GR/8	: To C125	B5	C129	B/7	: Trailer receptacle
A4	C52	B/2	: To C150	A4	C150	B/2	: To C52

BODY HARNESS



ABMIA0349GB

D4	B6	W/12	: To D201	B3	B77	W/18	: To M210
B5	B7	—	: Body ground	B4	B78	Y/2	: To B157

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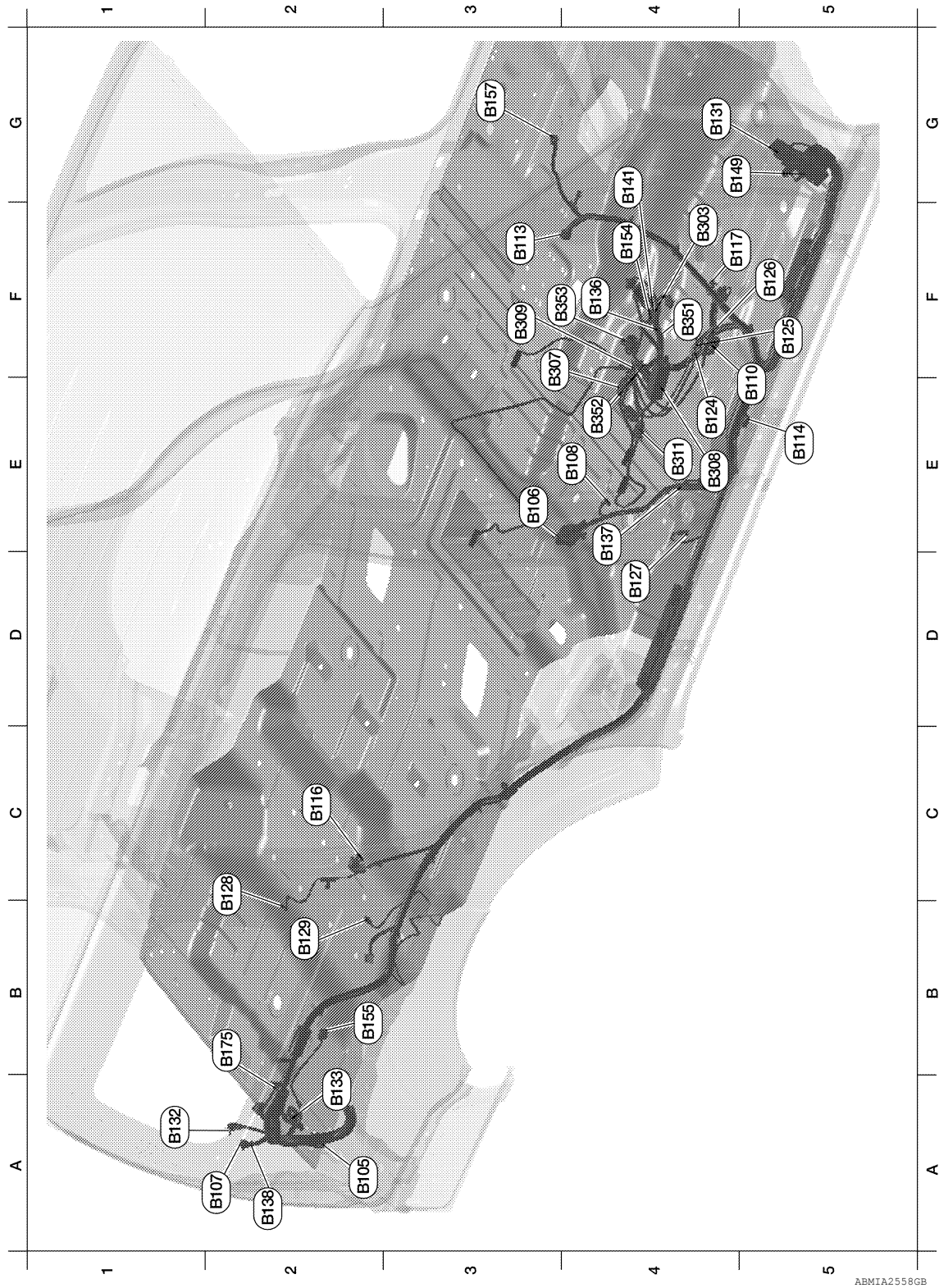
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C3	B8	W/3	: Front door switch LH	B2	B80	W/2	: Vanity lamp LH
B3	B9	Y/22	: Air bag diagnosis sensor unit	B2	B81	W/2	: Vanity lamp RH
B4	B10	Y/2	: Front LH side air bag module	B1	B82	Y/2	: RH side front curtain air bag module
B5	B12	W/4	: Seat belt buckle switch LH	B2	B83	GR/10	: Sunroof motor assembly
D4	B14	Y/2	: Front LH seat belt pre-tensioner	Front seat LH harness			
C5	B15	Y/2	: LH side air bag (satellite) sensor	B5	B200	W/16	: To B37
F3	B18	W/3	: Rear door switch LH	C4	B202	W/32	: Driver seat control unit
G2	B19	—	: Body ground	C4	B203	W/16	: Driver seat control unit
G3	B35	W/6	: Rear combination lamp LH	C4	B204	GR/5	: Sliding motor LH (with automatic drive positioner)
B4	B37	W/16	: To B200	C4	B205	W/4	: To B231
C2	B38	Y/2	: LH side front curtain air bag module	B4	B206	GR/5	: Lifting motor (front) (with automatic drive positioner)
A4	B40	W/8	: To E34	C4	B207	GR/5	: Lifting motor (rear) (with automatic drive positioner)
B5	B42	W/2	: To E36	C5	B208	W/10	: Power seat switch LH (with automatic drive positioner)
G2	B43	W/8	: To D401	B4	B209	W/3	: Front seat heater LH
G2	B48	W/6	: To D402	C5	B211	W/10	: Power seat switch LH (without automatic drive positioner)
F2	B54	Y/2	: LH side rear curtain air bag module	C4	B214	GR/2	: Sliding motor LH (without automatic drive positioner)
A5	B69	SMJ	: To M40	D4	B215	W/2	: Reclining motor LH (without automatic drive positioner)
E3	B72	W/8	: Subwoofer	B4	B216	GR/2	: Lifting motor (front) (without automatic drive positioner)
C3	B73	B/4	: Yaw rate/side/decel G sensor	D4	B217	GR/2	: Lifting motor (rear) (without automatic drive positioner)
C4	B74	GR/8	: BOSE speaker amp.	C4	B231	W/4	: To B205
C4	B75	B/24	: BOSE speaker amp.	D4	B232	B/4	: Reclining motor LH (with automatic drive positioner)
C1	B76	W/16	: Video monitor				

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

BODY NO. 2 HARNESS



A2	B105	W/6	: Rear combination lamp RH	F4	B136	W/8	: To B351
E3	B106	W/12	: To D301	E4	B137	W/3	: Belt tension sensor
A2	B107	W/8	: To D450	A2	B138	B/3	: Rear cargo power socket
E4	B108	W/3	: Front door switch RH	G4	B141	W/3	: Front seat heater RH (without front passenger power seat)
E5	B110	W/4	: Seat belt buckle switch RH	G5	B149	SMJ	: To M36

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HARNES

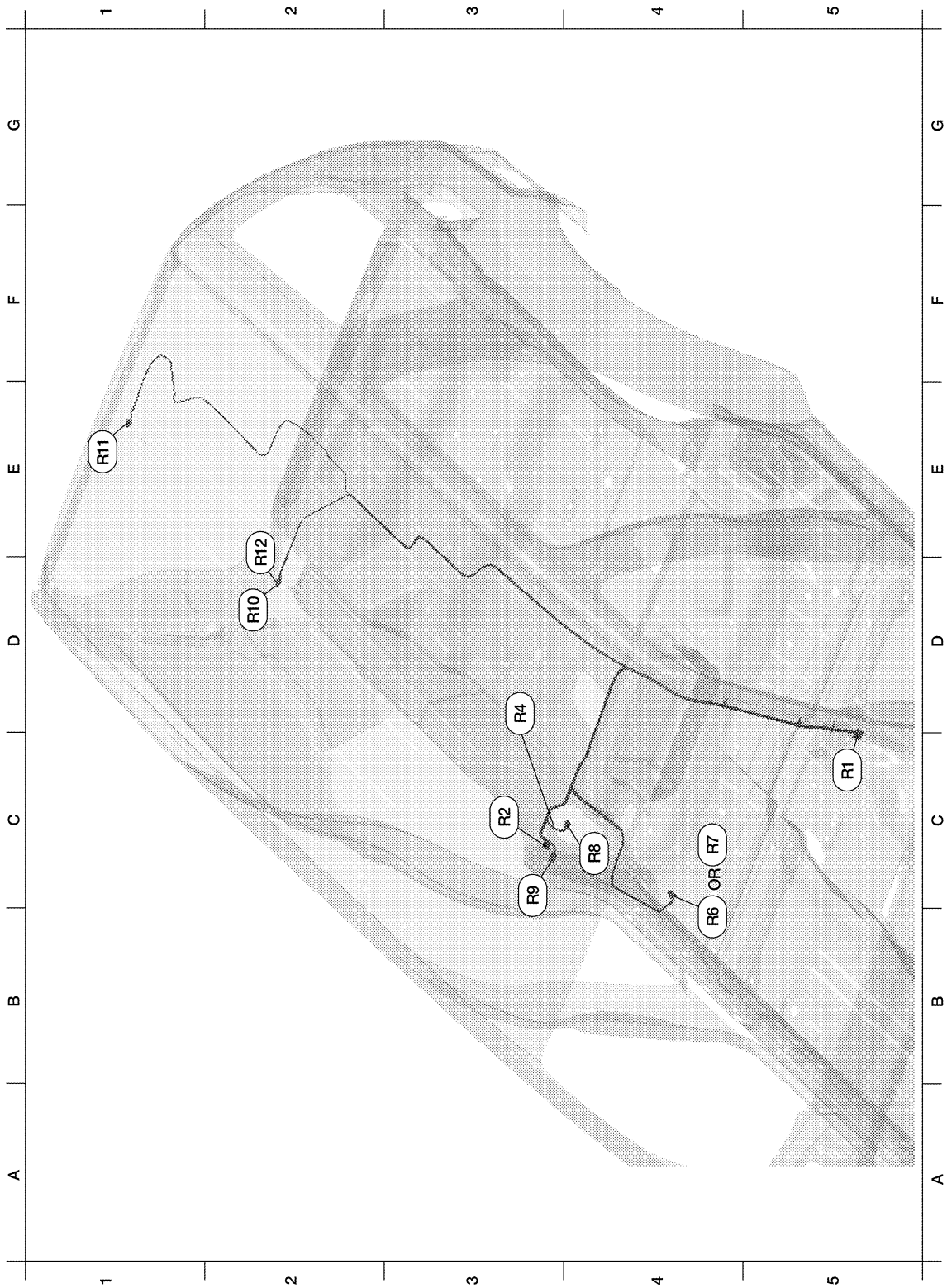
< DTC/CIRCUIT DIAGNOSIS >

F3	B113	Y/22	: Air bag diagnosis sensor unit	F4	B154	W/16	: To B303
E5	B114	Y/2	: RH side air bag (satellite) sensor	B2	B155	B/6	: Air mix door motor (rear)
C2	B116	W/3	: Rear door switch RH	G3	B157	Y/2	: To B78
F5	B117	—	: Body ground	B2	B175	W/2	: To B500
E4	B124	W/32	: Bluetooth control unit	Front seat RH harness			
F5	B125	W/8	: Bluetooth control unit	F4	B303	W/16	: To B154
F5	B126	Y/2	: Front RH side air bag module	F3	B307	W/3	: Front seat heater RH (with front passenger power seat)
D4	B127	Y/2	: Front RH seat belt pre-tensioner	E4	B308	W/6	: Power seat switch RH
B2	B128	Y/2	: RH side rear curtain air bag module	F3	B309	GR/2	: Sliding motor RH
B2	B129	GR/2	: Luggage area antenna	E4	B311	W/2	: Reclining motor RH
G4	B131	W/2	: To M162	F4	B351	W/8	: To B136
A1	B132	—	: Body ground	E4	B352	B/3	: Occupant classification system sensor
A2	B133	W/4	: Variable blower control (rear)	F4	B353	B/18	: Occupant classification system control unit

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

ROOM LAMP HARNESS



ABMIA0351GB

C5	R1	W/24	: To M1	C4	R8	W/4	: Microphone
C3	R2	B/10	: Rear air control (front)	C3	R9	W/3	: Front room/map lamp assembly
D3	R4	W/3	: Sunroof switch	D2	R10	W/3	: Personal lamp 2nd row

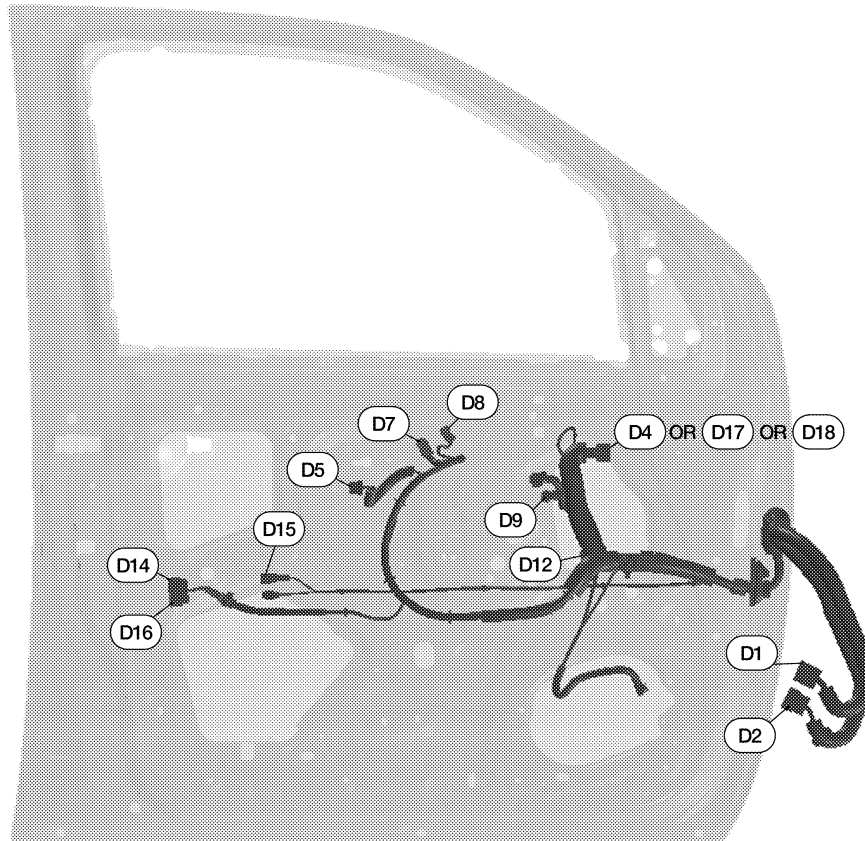
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HARNESS

< DTC/CIRCUIT DIAGNOSIS >

B4	R6	W/7	: Auto anti-dazzling inside mirror (without HOMELINK® universal transceiver)	E1	R11	W/2	: Cargo lamp
C4	R7	B/10	: Auto anti-dazzling inside mirror (with HOMELINK® universal transceiver)	E2	R12	W/2	: Room lamp 2nd row

FRONT DOOR LH HARNESS



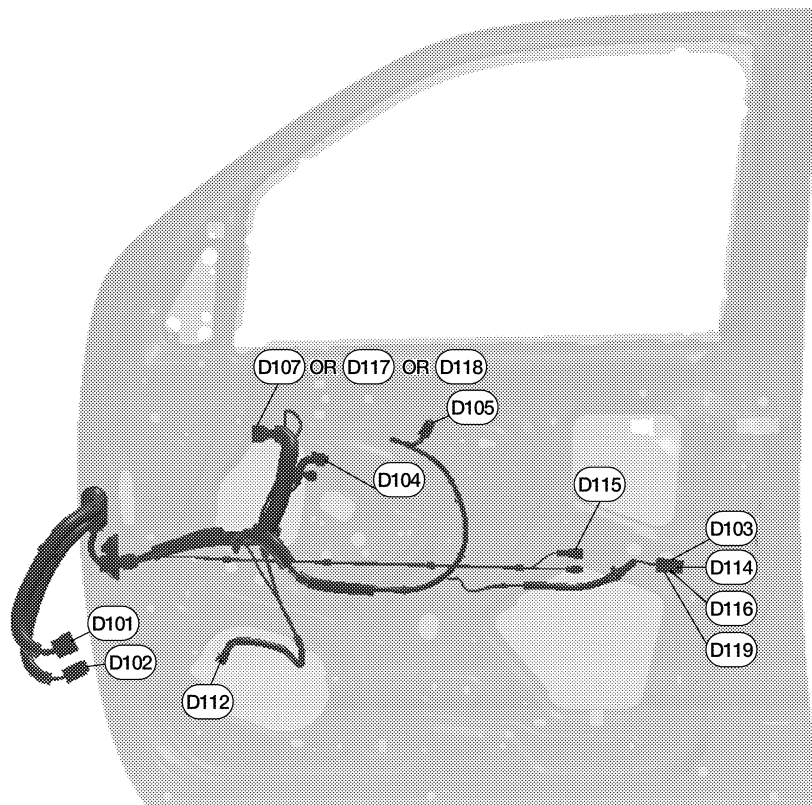
ABMIA0352GB

D1	W/24	: To M9	D12	W/2	: Front door speaker LH
D2	BR/12	: To M8	D14	GR/6	: Front door lock assembly LH
D4	B/10	: Door mirror LH (with heated mirrors)	D15	GR/2	: Front outside antenna LH
D5	W/8	: Seat memory switch	D16	GR/2	: Front door request switch LH
D7	W/16	: Main power window and door lock/unlock switch	D17	B/3	: Door mirror LH (without heated mirrors)
D8	W/3	: Main power window and door lock/unlock switch	D18	B/10	: Door mirror LH (with automatic drive positioner)
D9	B/6	: Front power window motor LH			

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

FRONT DOOR RH HARNESS



ABMIA0353GB

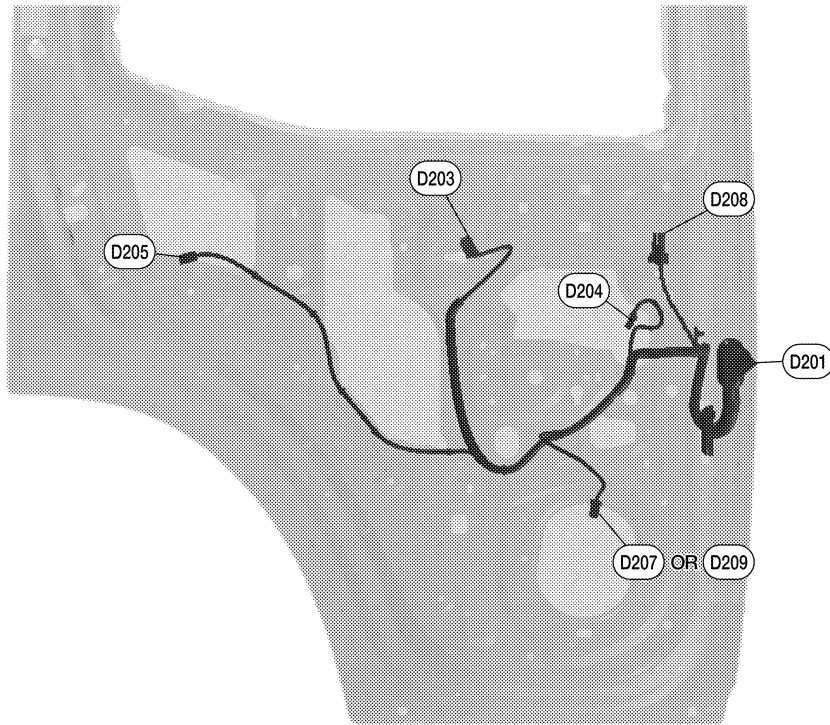
D101	W/12	: To M75	D114	W/2	: Front door lock actuator RH
D102	W/16	: To M74	D115	GR/2	: Front outside antenna RH
D103	B/3	: Front door lock assembly RH (door unlock sensor)	D116	GR/2	: Front door request switch RH
D104	B/6	: Front power window motor RH	D117	B/3	: Door mirror RH (without heated mirrors)
D105	W/16	: Power window and door lock/unlock switch RH	D118	B/10	: Door mirror RH (with automatic drive positioner)
D107	B/10	: Door mirror RH (with heated mirrors)	D119	W/2	: Front door lock assembly RH (door lock actuator)
D112	W/2	: Front door speaker RH			

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HARNESS

< DTC/CIRCUIT DIAGNOSIS >

REAR DOOR LH HARNESS



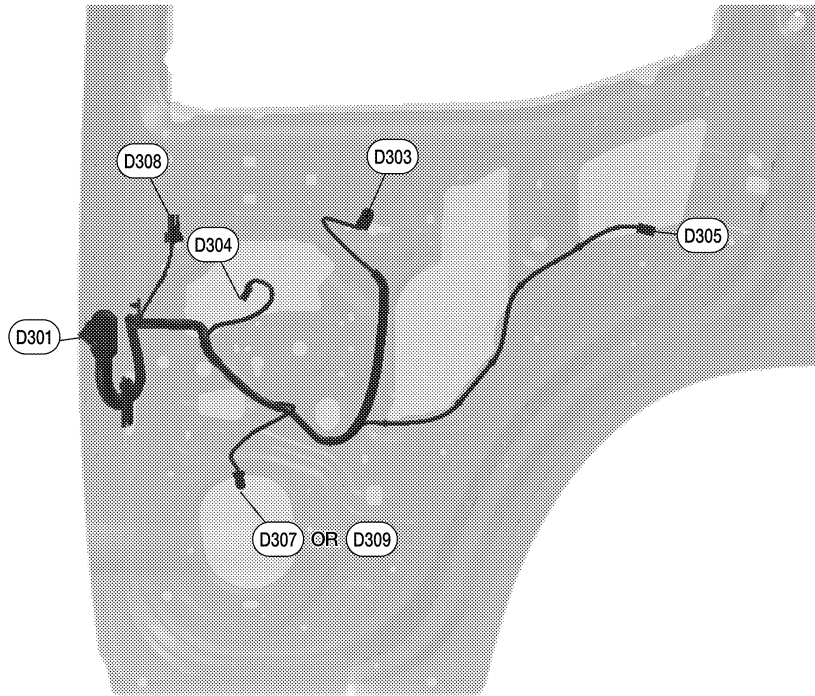
ABMIA1379GB

D201	W/12	: To B6	D207	BR/2	: Rear door speaker LH (with BOSE audio system)
D203	W/8	: Rear power window switch LH	D208	BR/2	: Rear tweeter LH
D204	B/2	: Rear power window motor LH	D209	W/2	: Rear door speaker LH (without BOSE audio system)
D205	W/2	: Rear door lock actuator LH			

HARNESS

< DTC/CIRCUIT DIAGNOSIS >

REAR DOOR RH HARNESS



ABMIA1380GB

D301	W/12	: To B106	D307	BR/2	: Rear door speaker RH (with BOSE audio system)
D303	W/8	: Rear power window switch RH	D308	BR/2	: Rear tweeter RH
D304	B/2	: Rear power window motor RH	D309	W/2	: Rear door speaker RH (without BOSE audio system)
D305	W/2	: Rear door lock actuator RH			

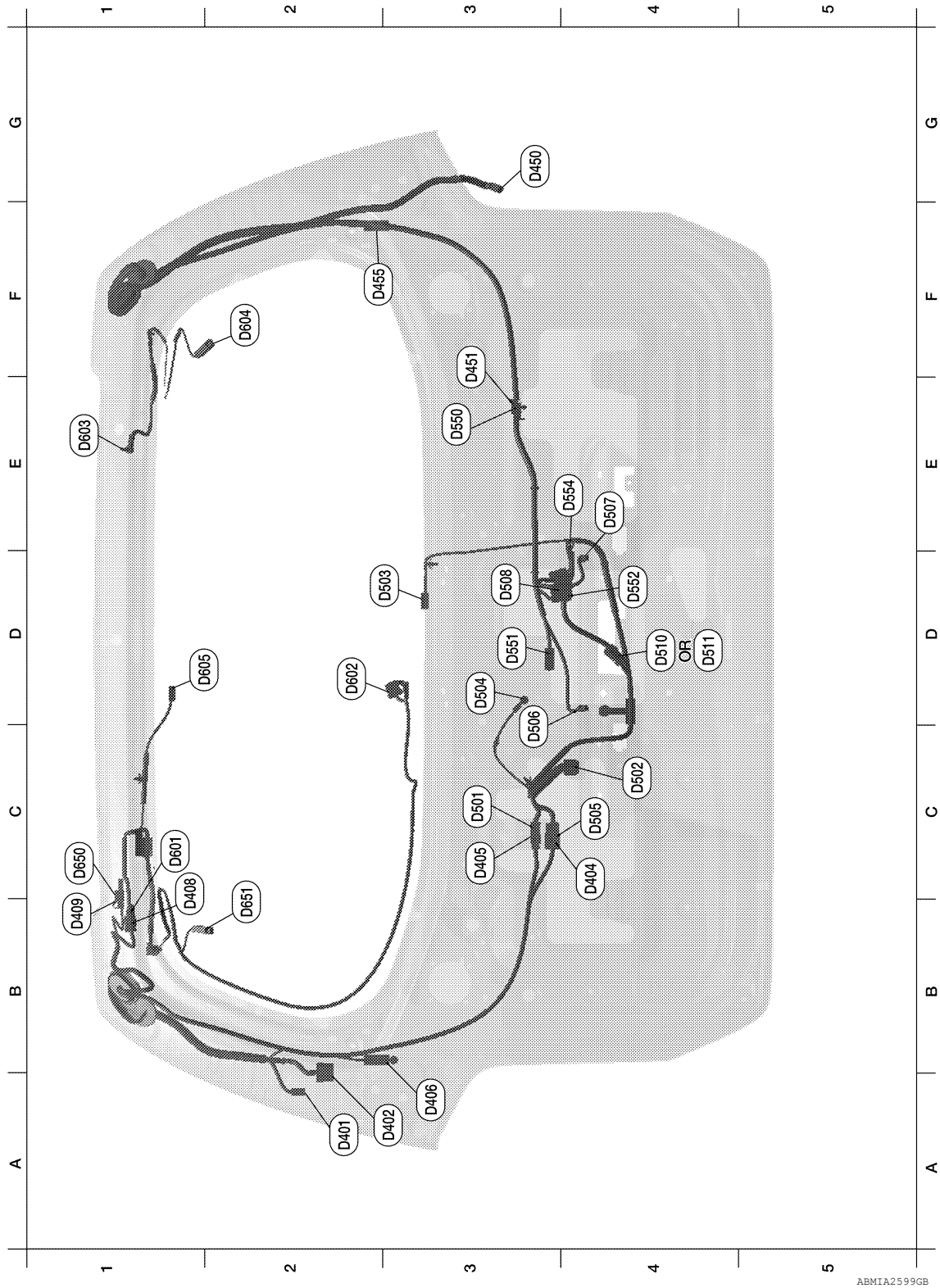
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< DTC/CIRCUIT DIAGNOSIS >

BACK DOOR HARNESS



ABMIA2599GB

Back door No. 2 harness				E4	D507	BR/2	: License plate lamp RH
A2	D401	W/8	: To B43	D3	D508	W/4	: Glass hatch lock actuator
A2	D402	W/6	: To B48	D4	D510	BR/2	: Back door opener switch (without Intelligent Key system)
C4	D404	W/4	: To D505	D4	D511	BR/2	: Back door opener switch (with Intelligent Key system)

HARNESSES

< DTC/CIRCUIT DIAGNOSIS >

C3	D405	W/8	: To D501	Back door RH harness			
A3	D406	—	: Body ground	D3	D550	W/8	: To D451
B1	D408	W/4	: To D601	D3	D551	W/8	: Rear view camera
C1	D409	W/1	: To D650	D4	D552	GR/2	: Back door request switch
Back door No. 2 RH harness				E4	D554	—	: Body ground
F3	D450	W/8	: To B107	Rear window sub-harness			
E3	D451	W/8	: To D550	C1	D601	W/4	: To D408
E3	D455	—	: Body ground	D2	D602	W/4	: Rear wiper motor
Back door harness				E1	D603	—	: Body ground
C3	D501	W/8	: To D405	F2	D604	B/1	: Rear window defogger
C4	D502	W/4	: Back door latch	D1	D605	W/2	: High-mounted stop lamp
D2	D503	B/1	: Glass hatch ajar switch	Rear window defogger harness			
D3	D504	—	: Body ground	B1	D650	W/1	: To D409
C4	D505	W/4	: To D404	B2	D651	B/1	: Rear window defogger
D4	D506	BR/2	: License plate lamp LH				

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ELECTRICAL UNITS LOCATION

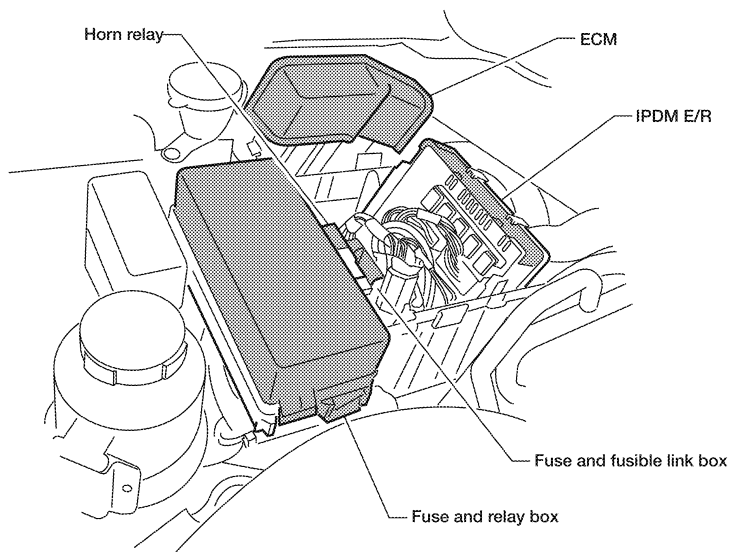
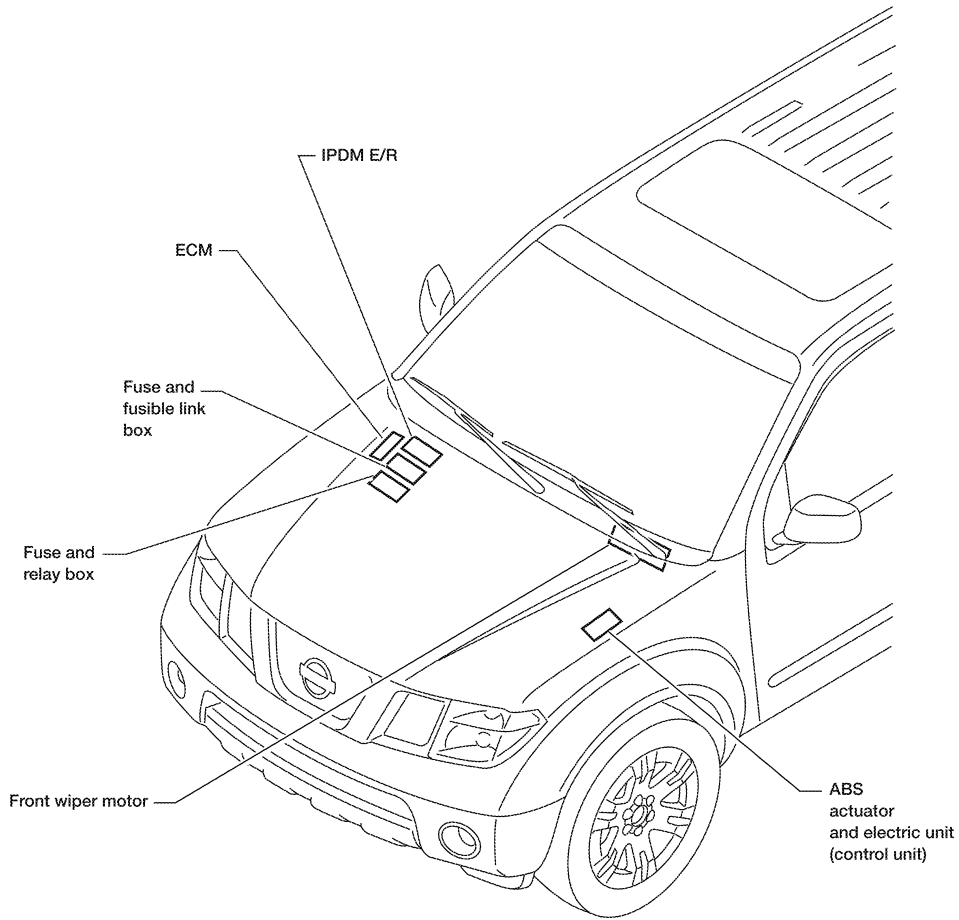
< DTC/CIRCUIT DIAGNOSIS >

ELECTRICAL UNITS LOCATION

Electrical Units Location

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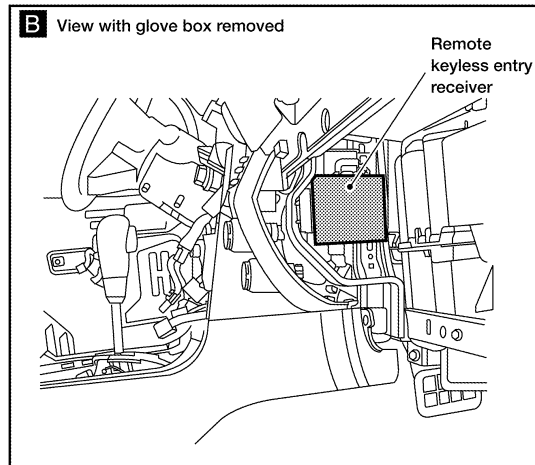
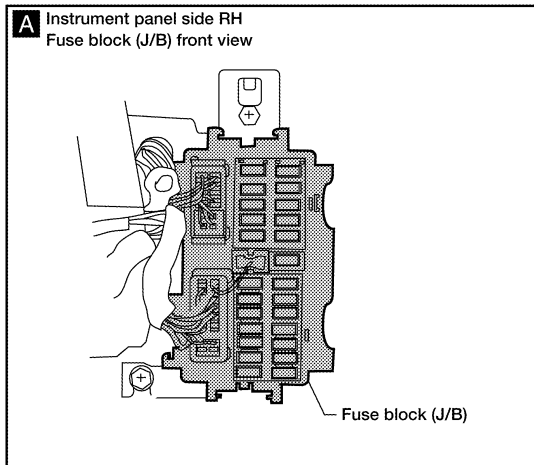
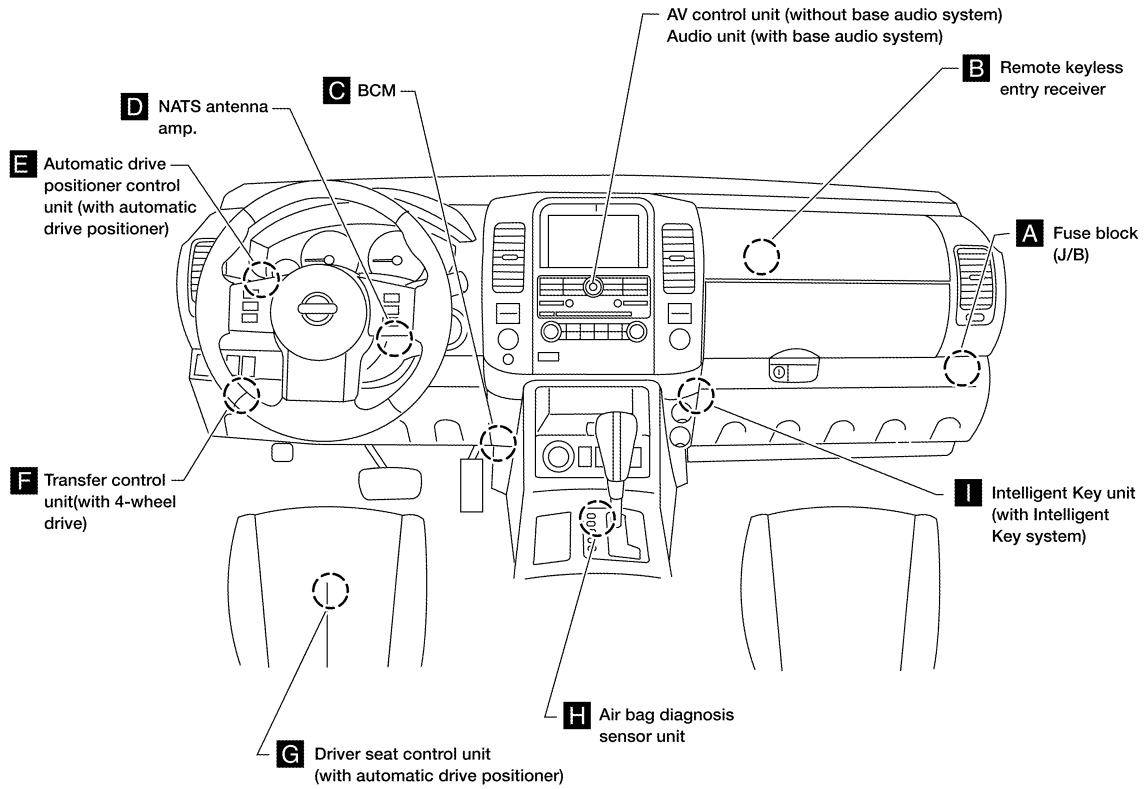
ENGINE COMPARTMENT



ABMIA0309GB

ELECTRICAL UNITS LOCATION

< DTC/CIRCUIT DIAGNOSIS > PASSENGER COMPARTMENT

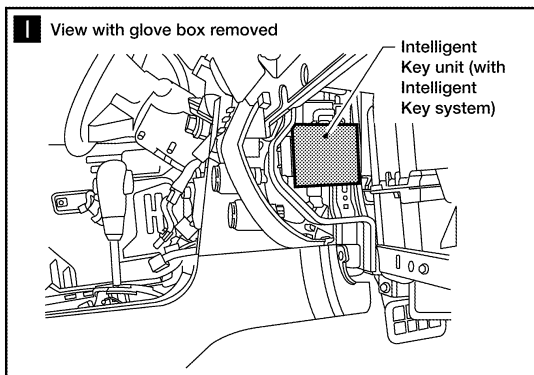
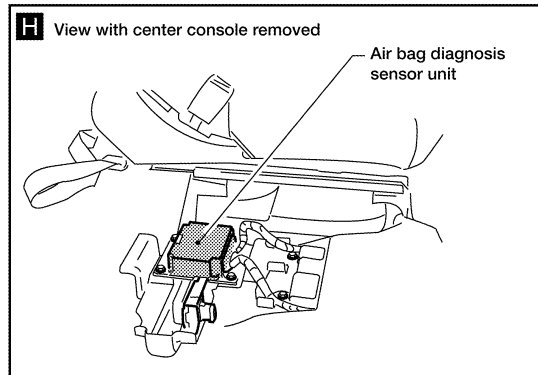
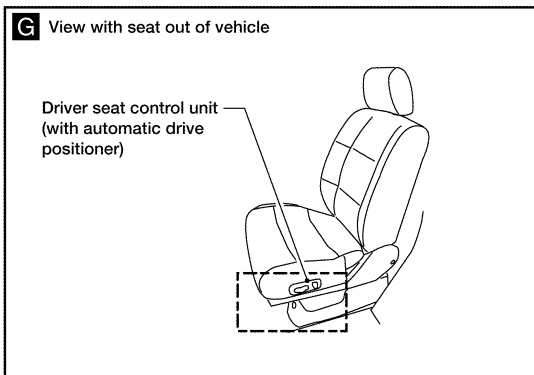
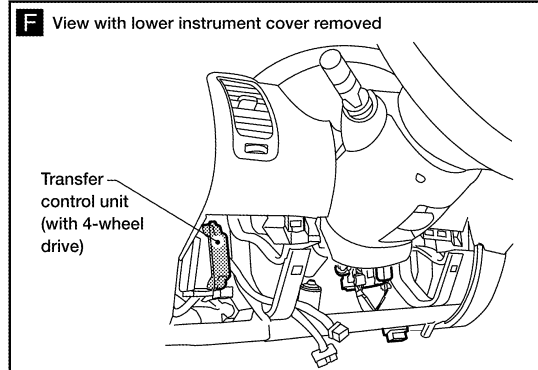
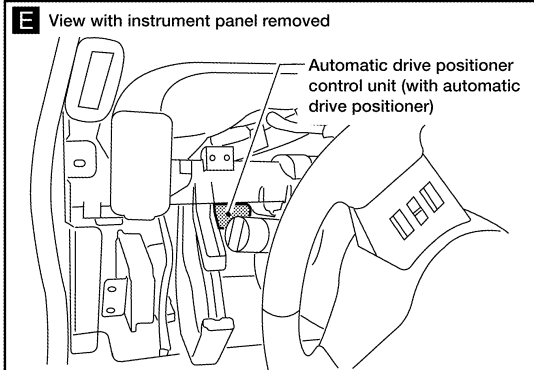
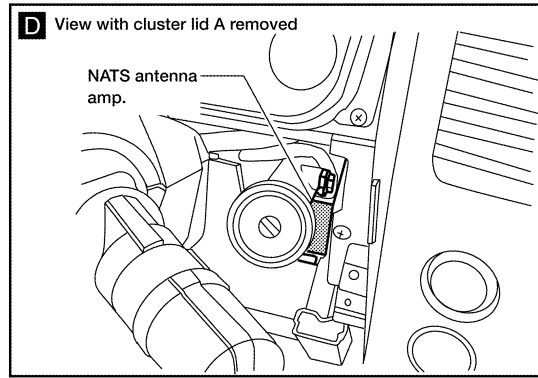
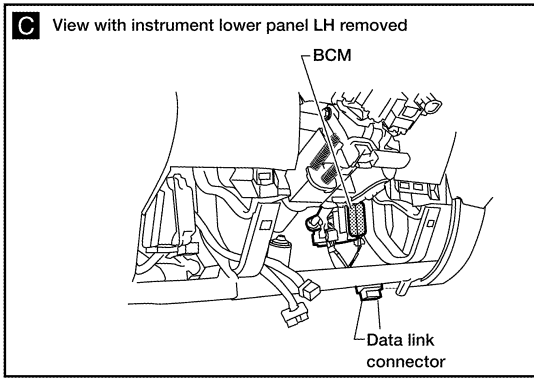


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ELECTRICAL UNITS LOCATION

< DTC/CIRCUIT DIAGNOSIS >



ABMIA3522GB

HARNESS CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

HARNESS CONNECTOR

Description

INFOID:000000007355080

HARNESS CONNECTOR (TAB-LOCKING TYPE)

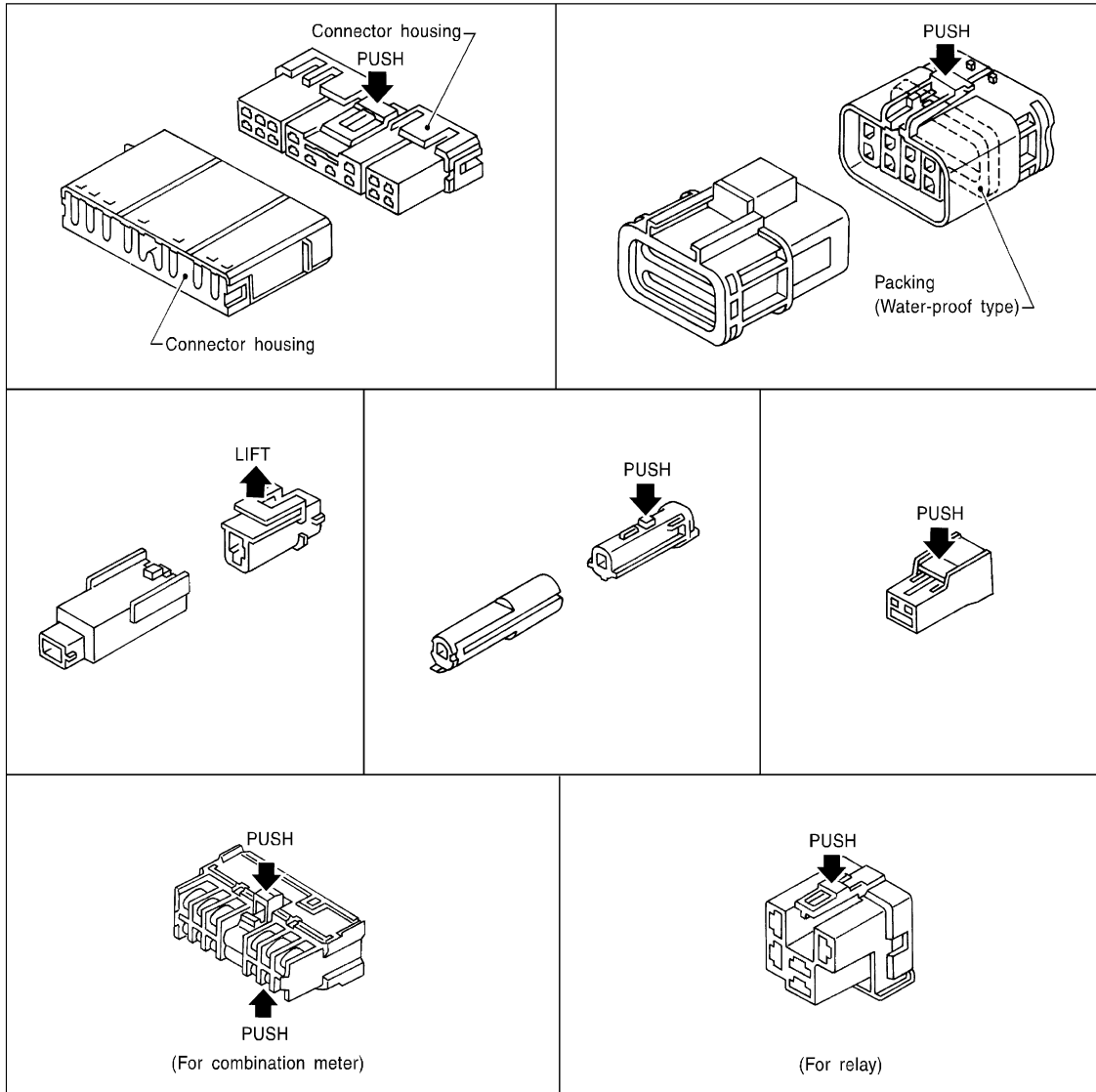
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

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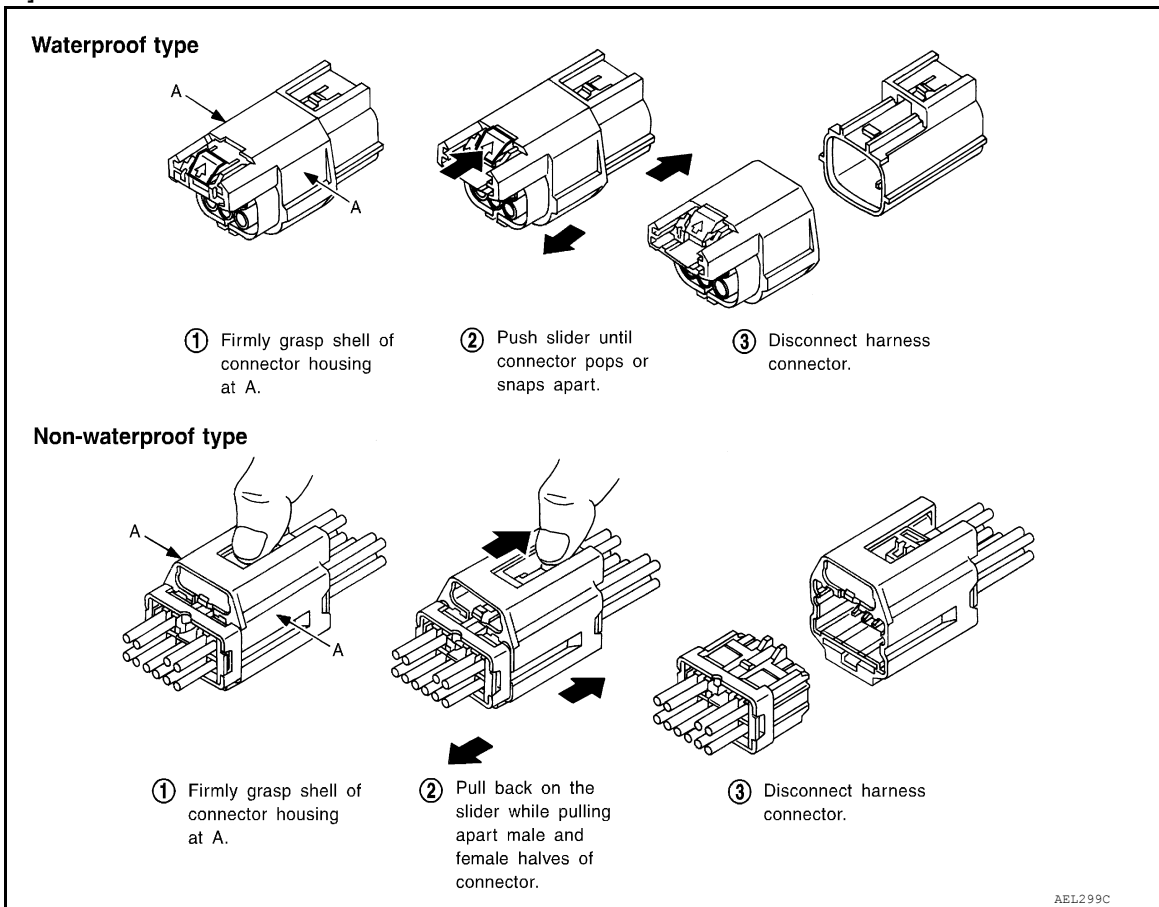
HARNESS CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

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)

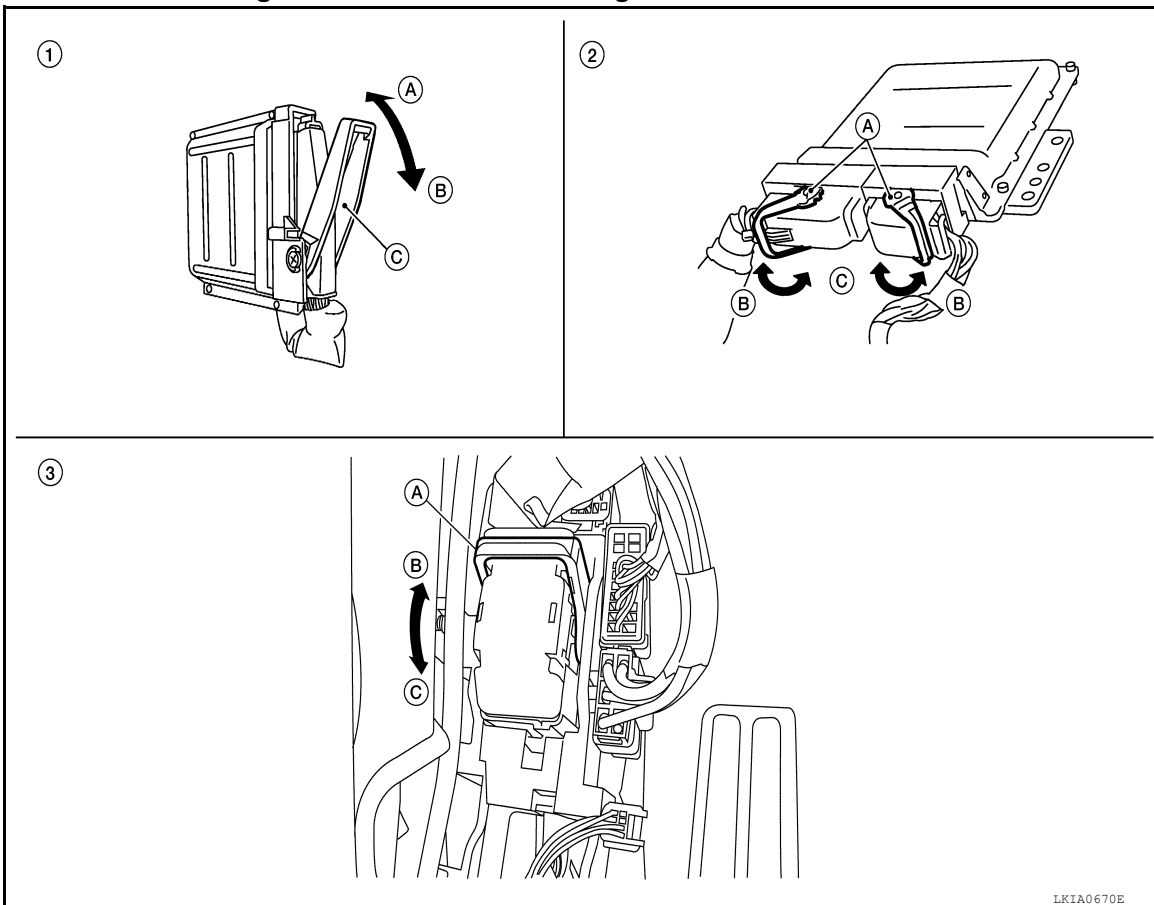
- Lever locking type harness connectors are used on certain control units and control modules such as ECM, ABS actuator and electric unit (control unit), etc.
- Lever locking type harness connectors are also used on super multiple junction (SMJ) connectors.
- Always confirm the lever is fully locked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

CAUTION:

HARNES CONNECTOR

< DTC/CIRCUIT 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.



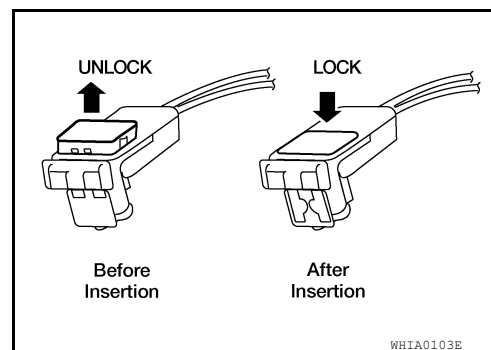
- | | | |
|---|---|--|
| <p>1. Control unit with single lever</p> <ul style="list-style-type: none"> A. Fasten B. Loosen C. Lever | <p>2. Control unit with dual levers</p> <ul style="list-style-type: none"> A. Levers B. Fasten C. Loosen | <p>3. SMJ connector</p> <ul style="list-style-type: none"> A. Lever B. Fasten C. Loosen |
|---|---|--|

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 component.
- Always push down to lock black locking tab after installing connector to SRS component. 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.



STANDARDIZED RELAY

< DTC/CIRCUIT DIAGNOSIS >

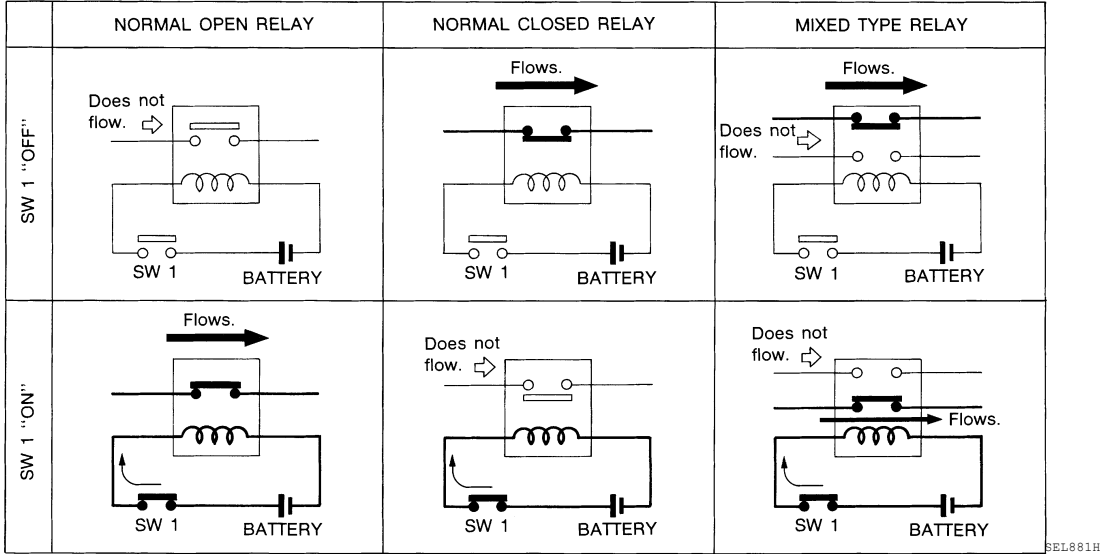
STANDARDIZED RELAY

Description

INFOID:000000007355081

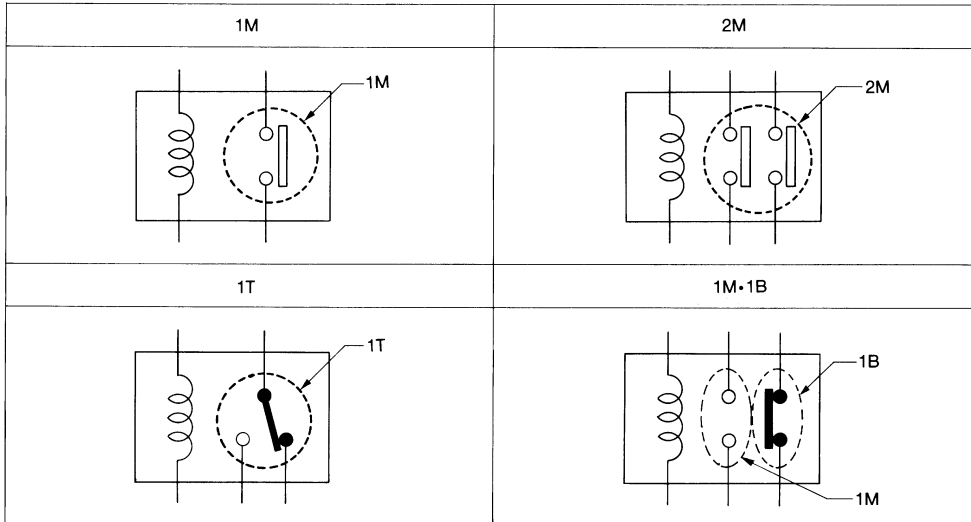
NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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



SEL881H

TYPE OF STANDARDIZED RELAYS

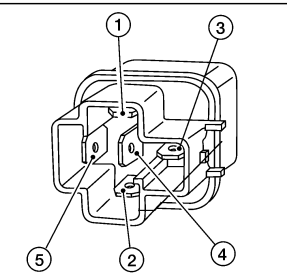
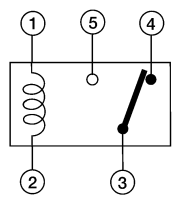
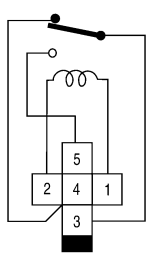
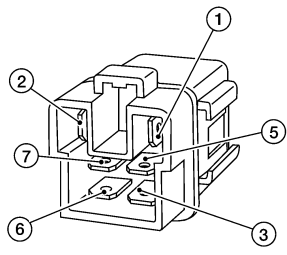
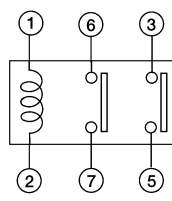
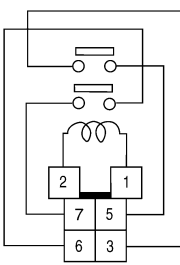
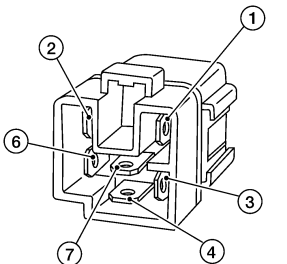
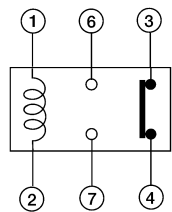
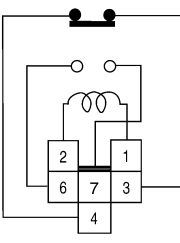
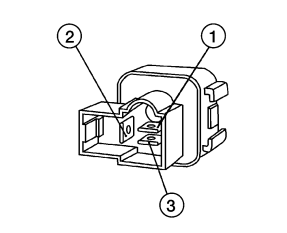
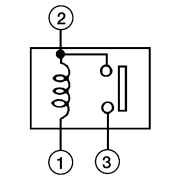
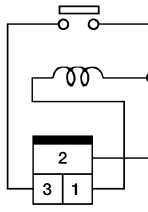
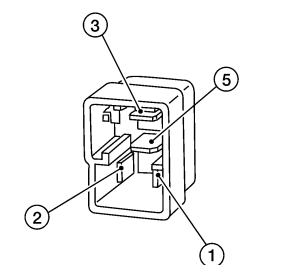
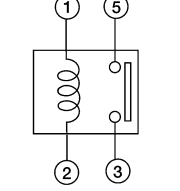
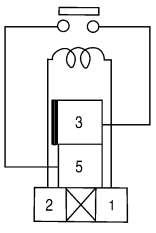


SEL882H

1M	1 Make	2M	2 Make
1T	1 Transfer	1M·1B	1 Make 1 Break

STANDARDIZED RELAY

< DTC/CIRCUIT 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.

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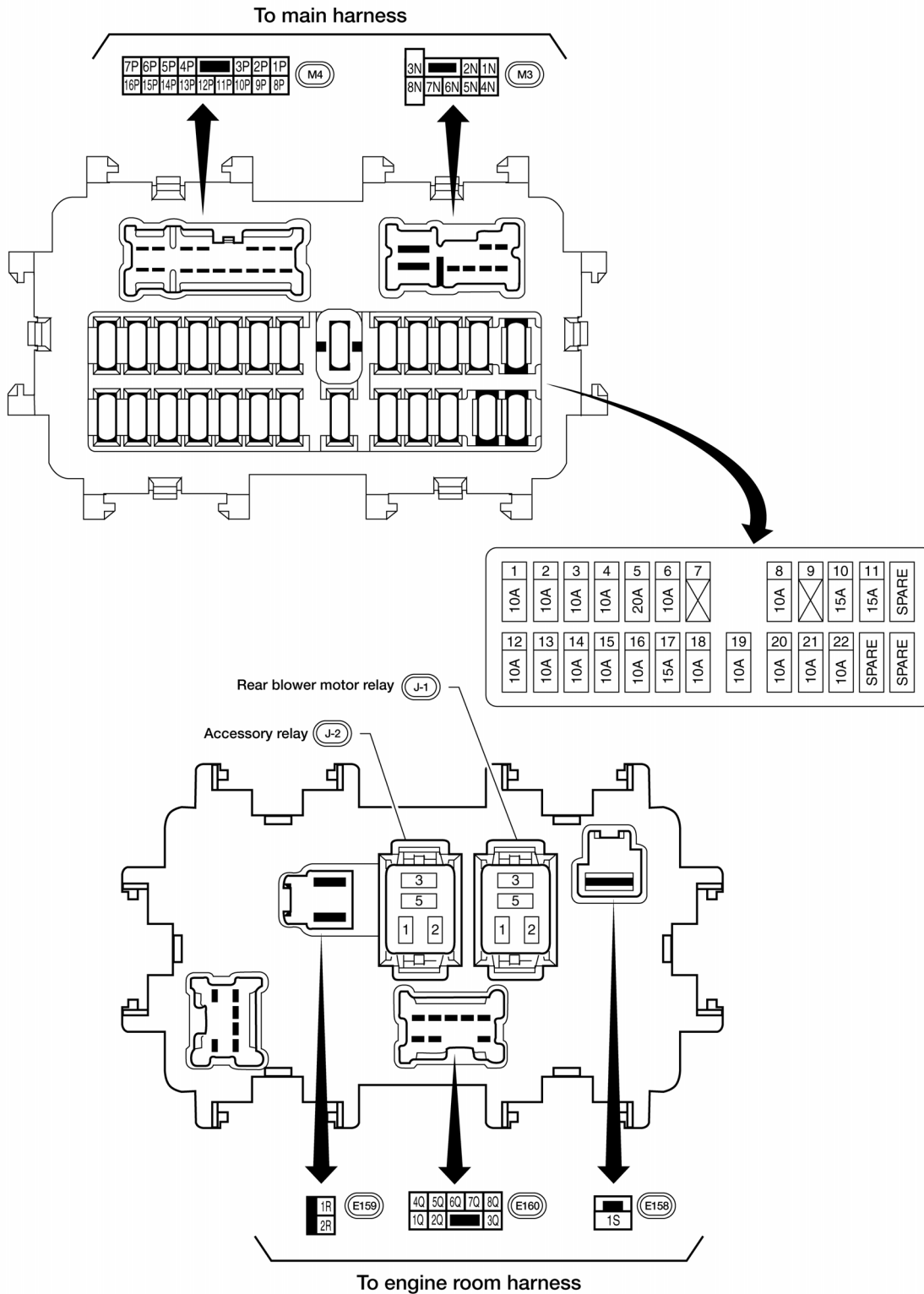
FUSE BLOCK-JUNCTION BOX (J/B)

< DTC/CIRCUIT DIAGNOSIS >

FUSE BLOCK-JUNCTION BOX (J/B)

Terminal Arrangement

INFOID:000000007355082



ABMIA3523GB

FUSE AND RELAY BOX

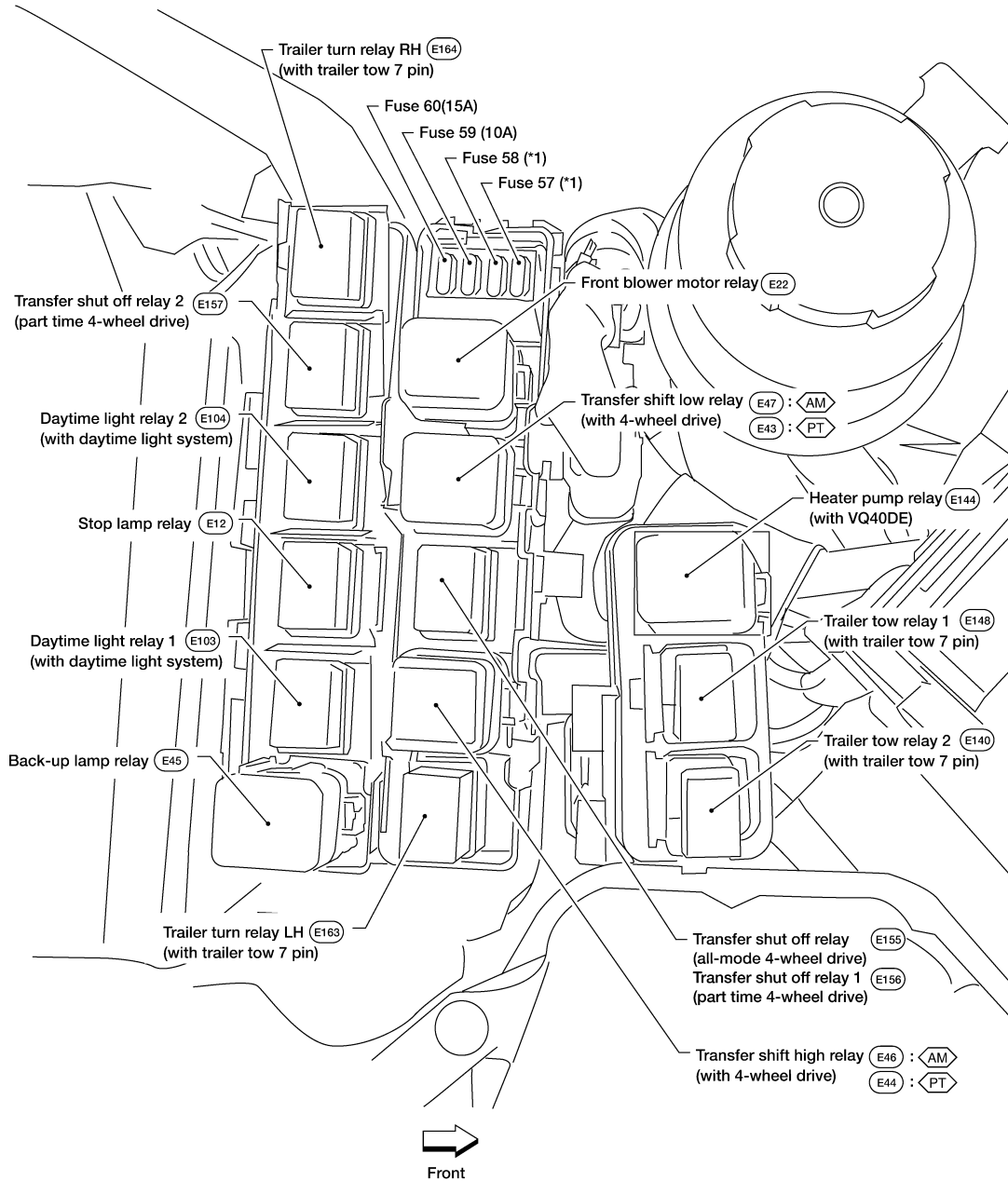
< DTC/CIRCUIT DIAGNOSIS >

FUSE AND RELAY BOX

Terminal Arrangement

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- AM : ALL-MODE 4WD SYSTEM
- PT : PART TIME 4WD SYSTEM
- AM : 20A
- *1 PT : 10A



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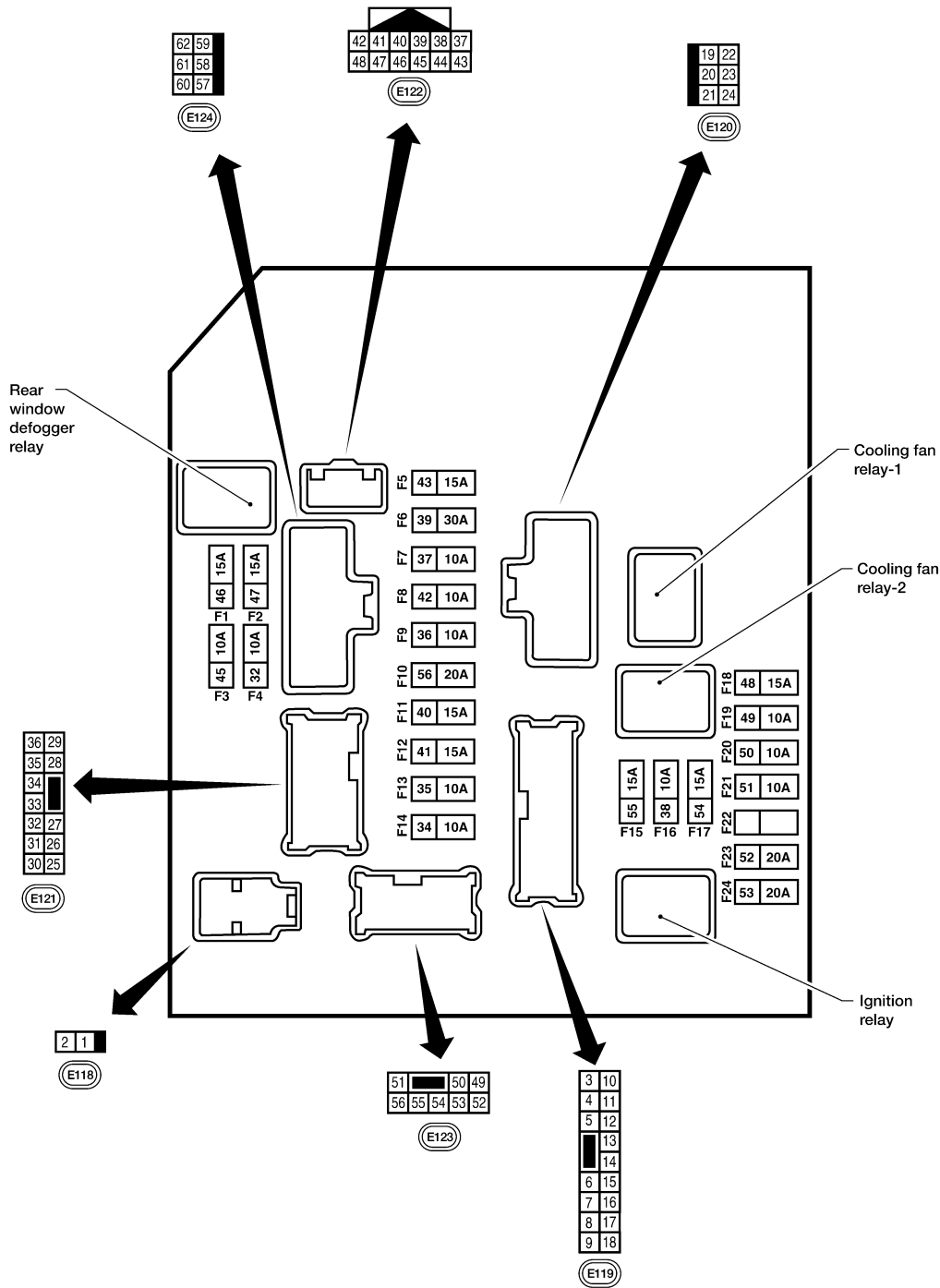
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R Terminal Arrangement

INFOID:000000007355085



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.

ABMIA2561GB

BATTERY

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

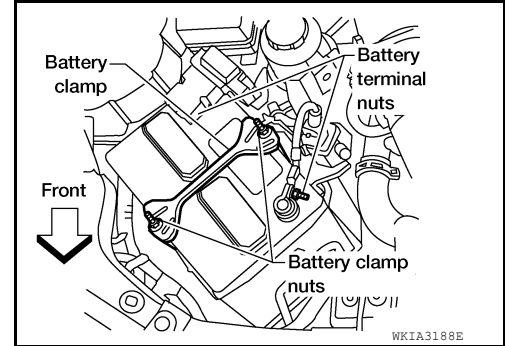
BATTERY

Removal and Installation

INFOID:000000007355086

REMOVAL

1. Disconnect both negative and positive battery terminals.
CAUTION:
 - Before servicing, turn the ignition switch off and wait at least three minutes.
 - Disconnect negative battery terminal first.
2. Remove battery clamp nuts and battery clamp.
3. Remove battery cover.
4. Remove battery.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When connecting battery terminals, 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-8. "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

BATTERY

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

BATTERY

Battery

INFOID:000000007355087

Application	VQ40DE	VK56DE
Type*	GR35	GR24F
Capacity (20 HR) minimum V-AH	12-60	12-70
Cold cranking current A [For reference value at -18°C (0°F)]	550	650

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

A

B

C

D

E

F

G

H

I

J

K

L

PG

N

O

P