

SECTION **PG**

**POWER SUPPLY, GROUND & CIRCUIT ELEMENTS**

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# PRECAUTIONS

< SERVICE INFORMATION >

## SERVICE INFORMATION

### PRECAUTIONS

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

INFOID:000000006708546

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

#### **WARNING:**

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

#### PRECAUTIONS 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

INFOID:000000006708547

#### **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-III 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

### < SERVICE INFORMATION >

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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-III.

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O

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# POWER SUPPLY ROUTING CIRCUIT

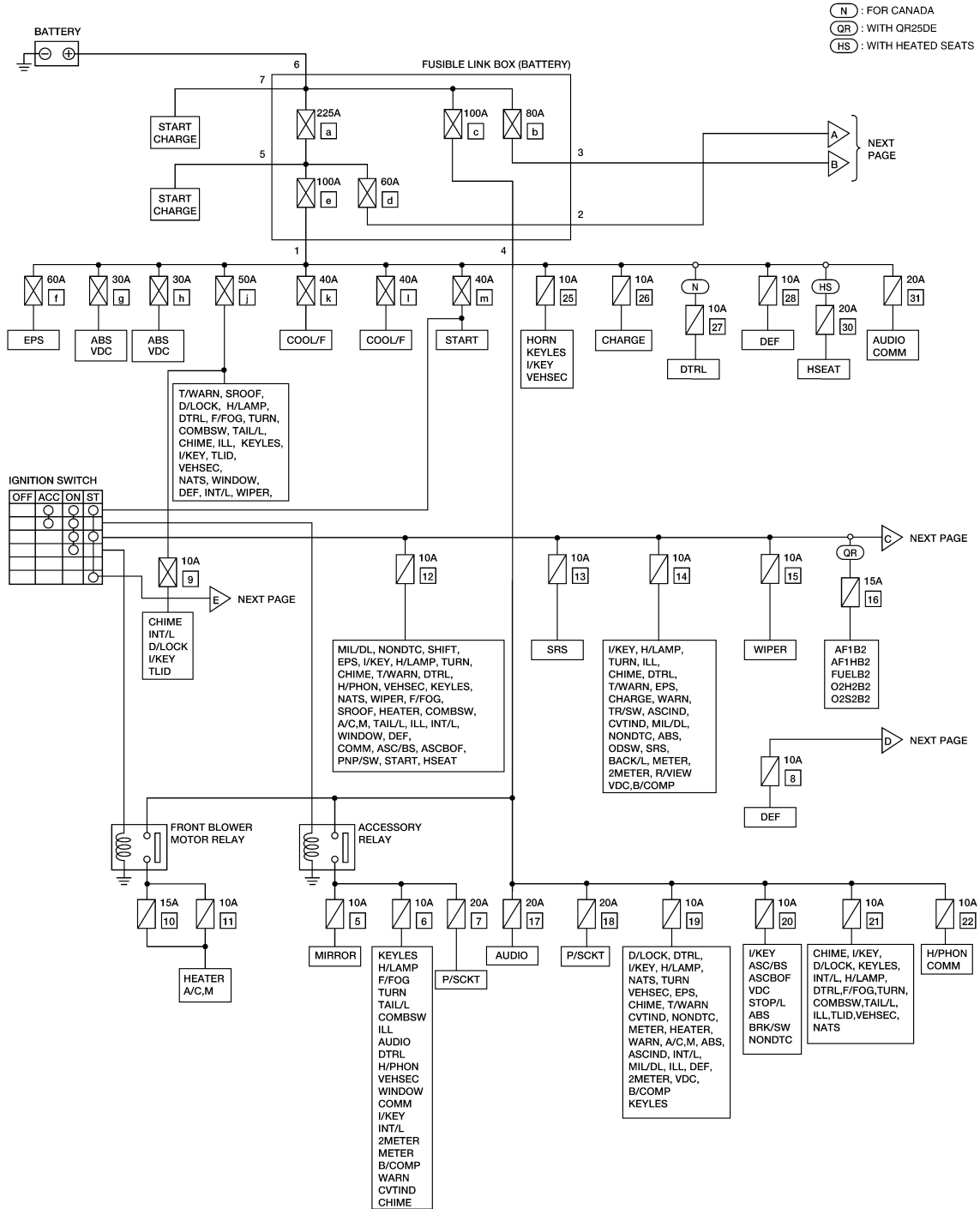
< SERVICE INFORMATION >

## POWER SUPPLY ROUTING CIRCUIT

### Schematic

INFOID:000000006151953

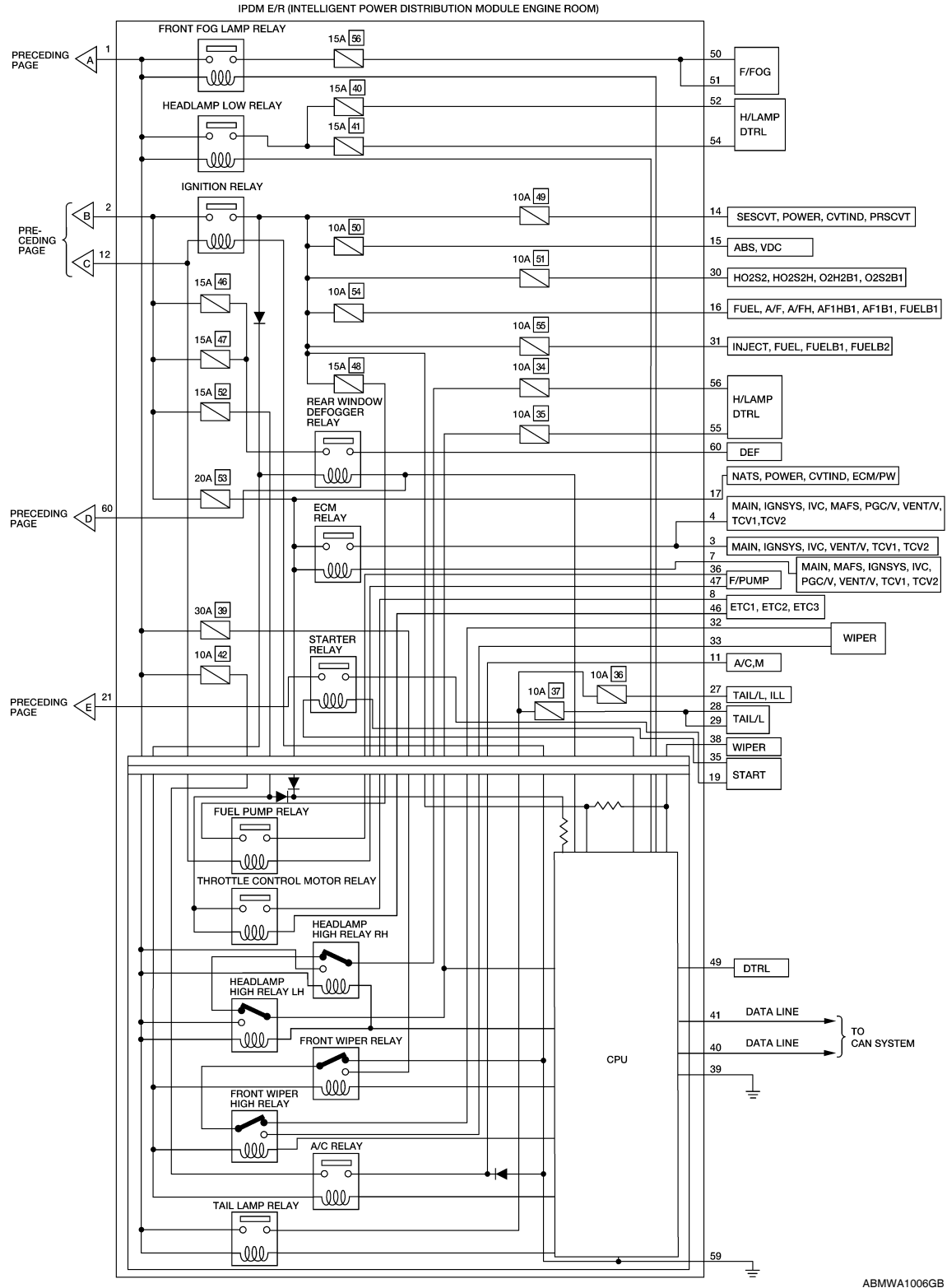
For detailed ground distribution, refer to [PG-30, "Ground Distribution"](#).



ABMWA1005GB

# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >



A  
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# POWER SUPPLY ROUTING CIRCUIT

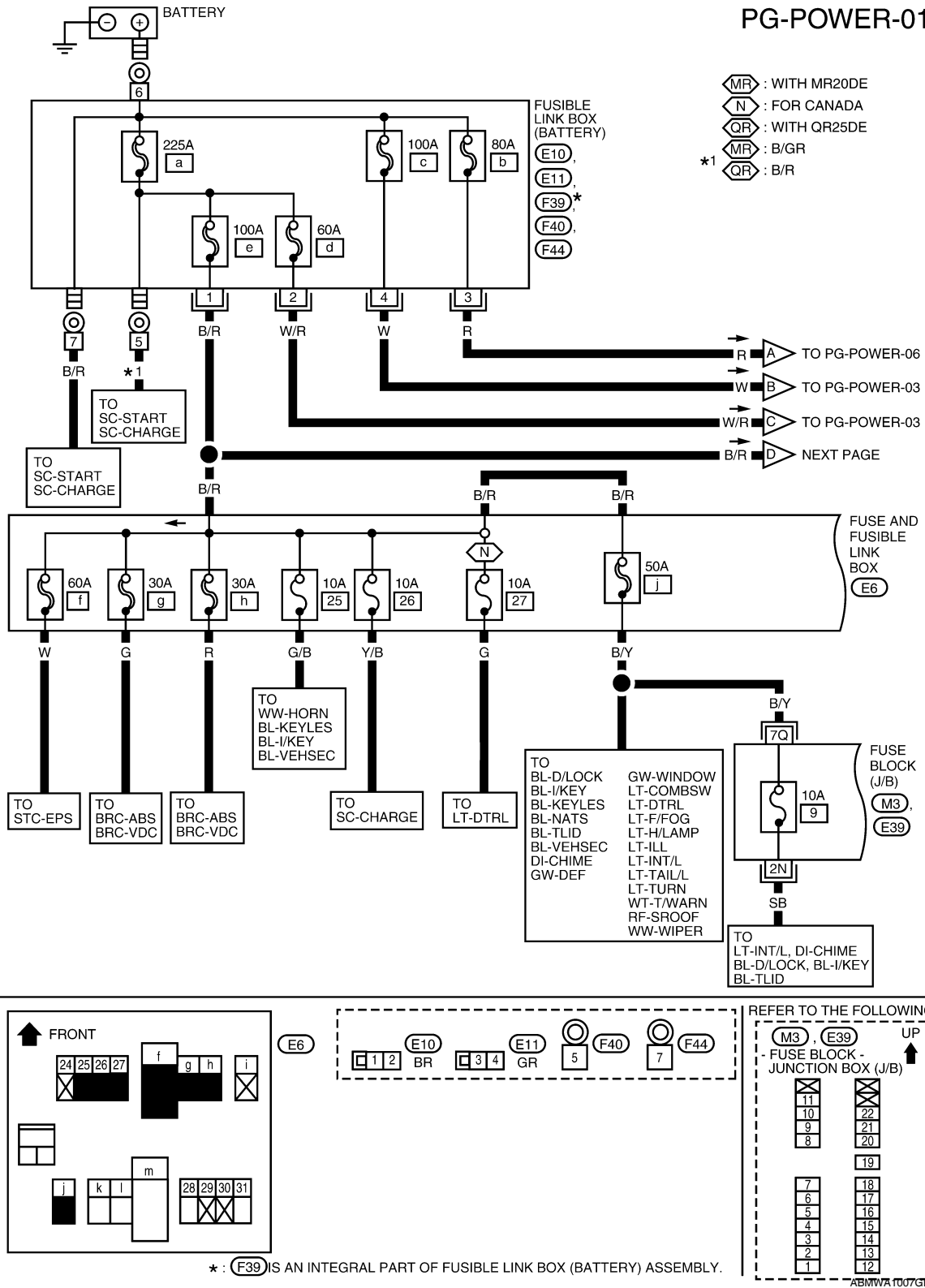
< SERVICE INFORMATION >

## Wiring Diagram - POWER -

INFOID:000000006151954

### BATTERY POWER SUPPLY — IGNITION SWITCH IN ANY POSITION

### PG-POWER-01

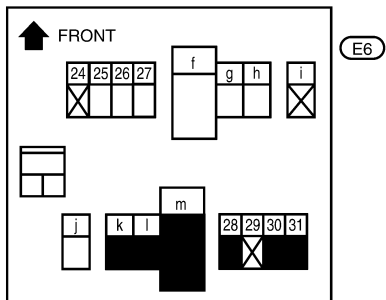
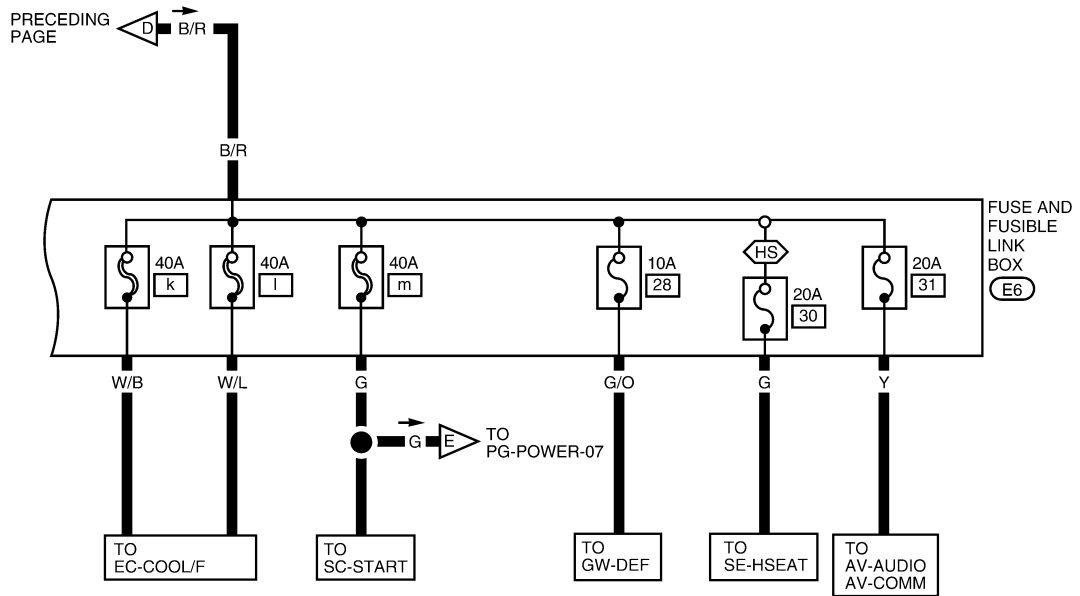


# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-02

HS : WITH HEATED SEATS



ABMWA1008GB

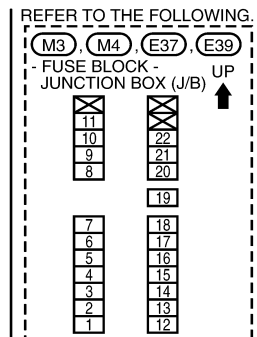
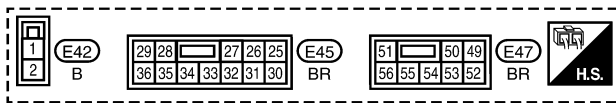
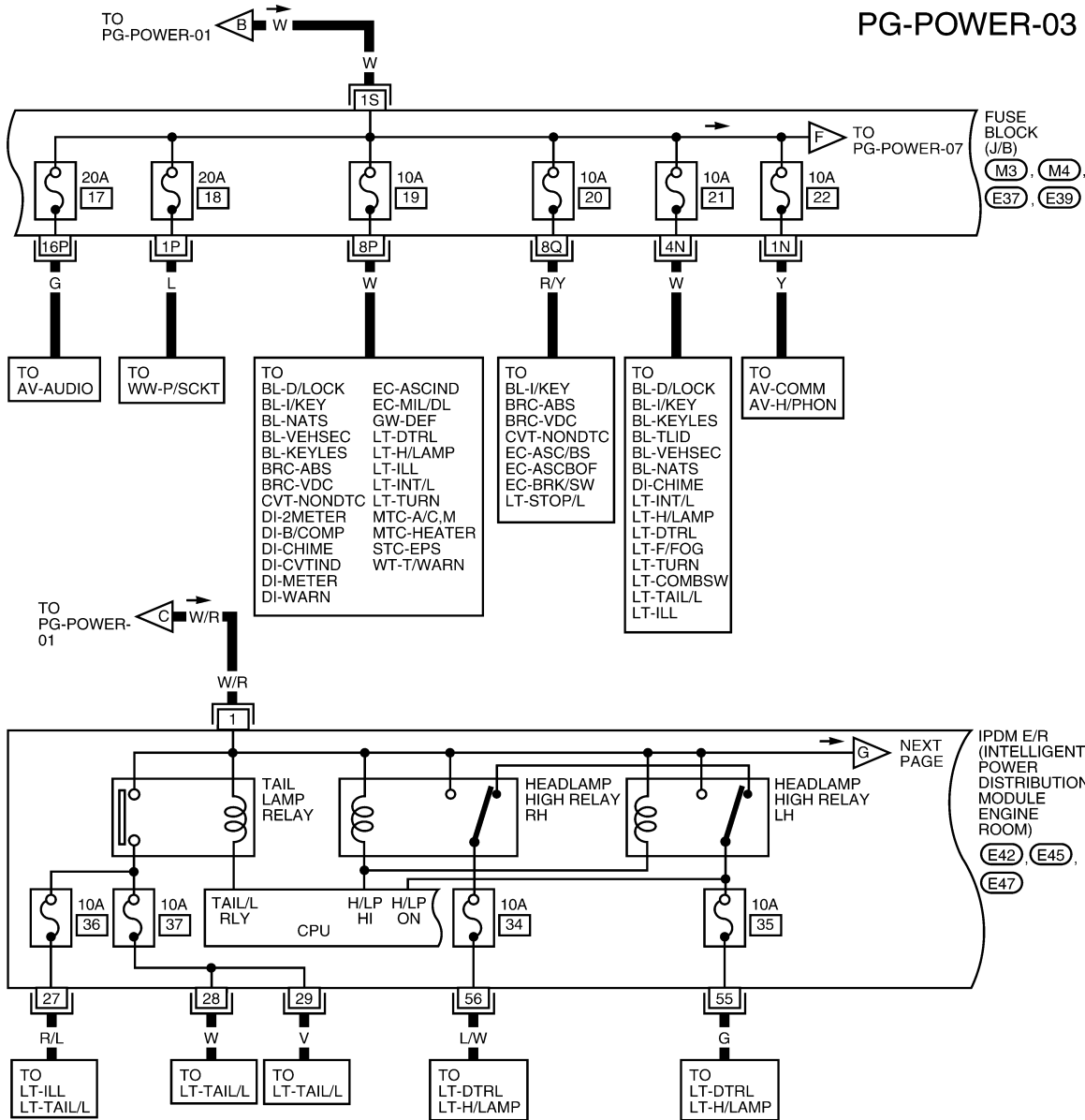
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# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-03



ABMWA1009GB

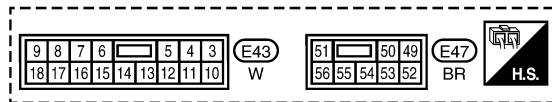
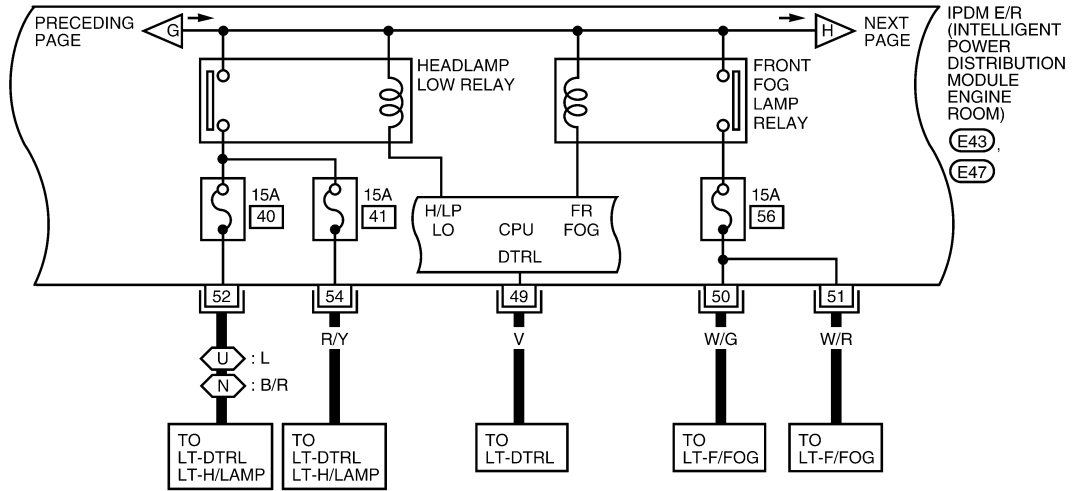


# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

## PG-POWER-04

U : USA  
N : FOR CANADA



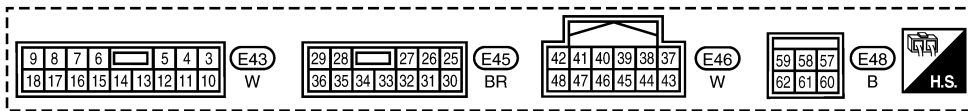
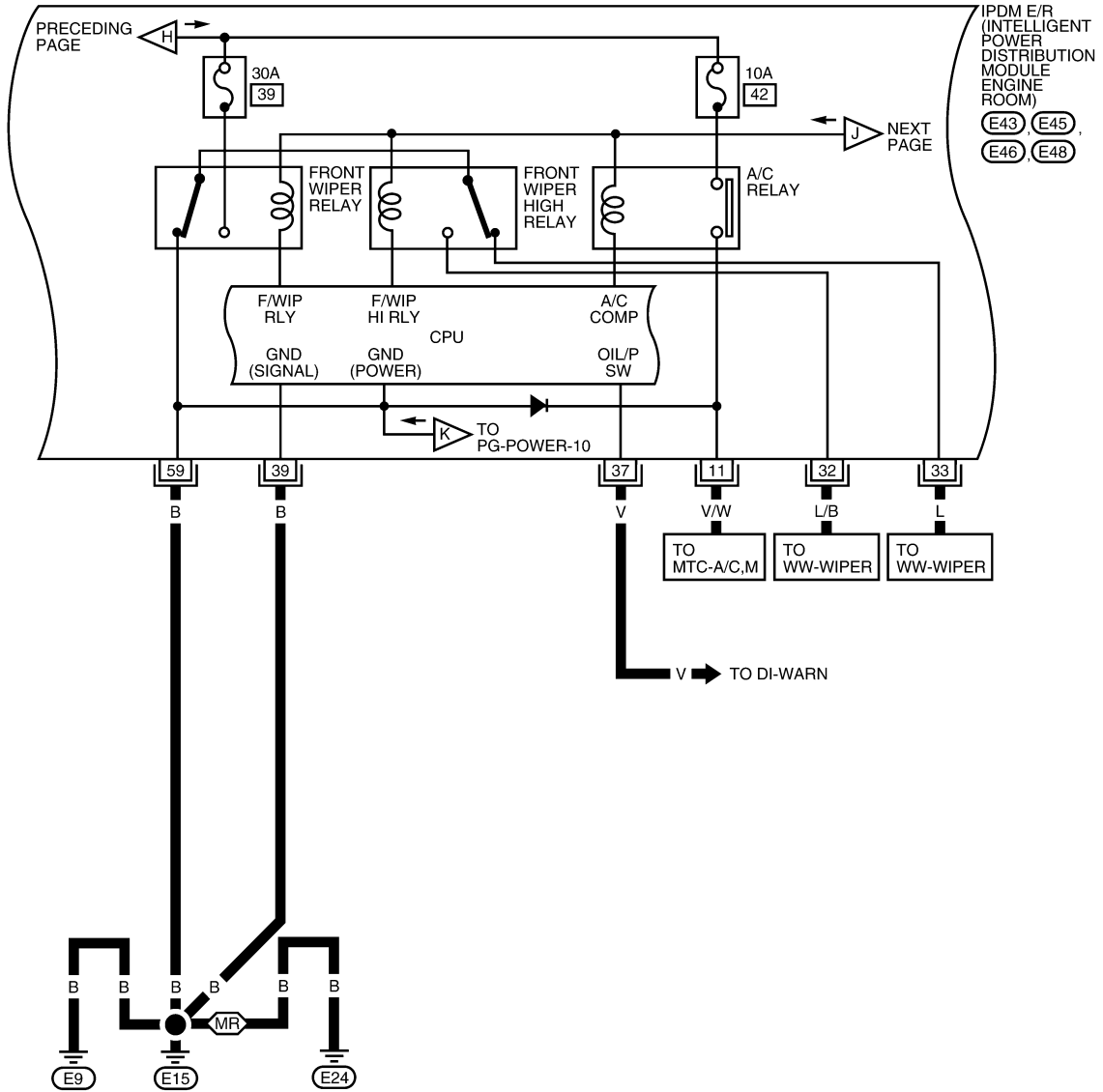
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# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-05

MR : WITH MR20DE



WKWA5907E

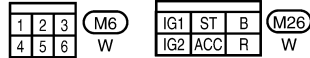
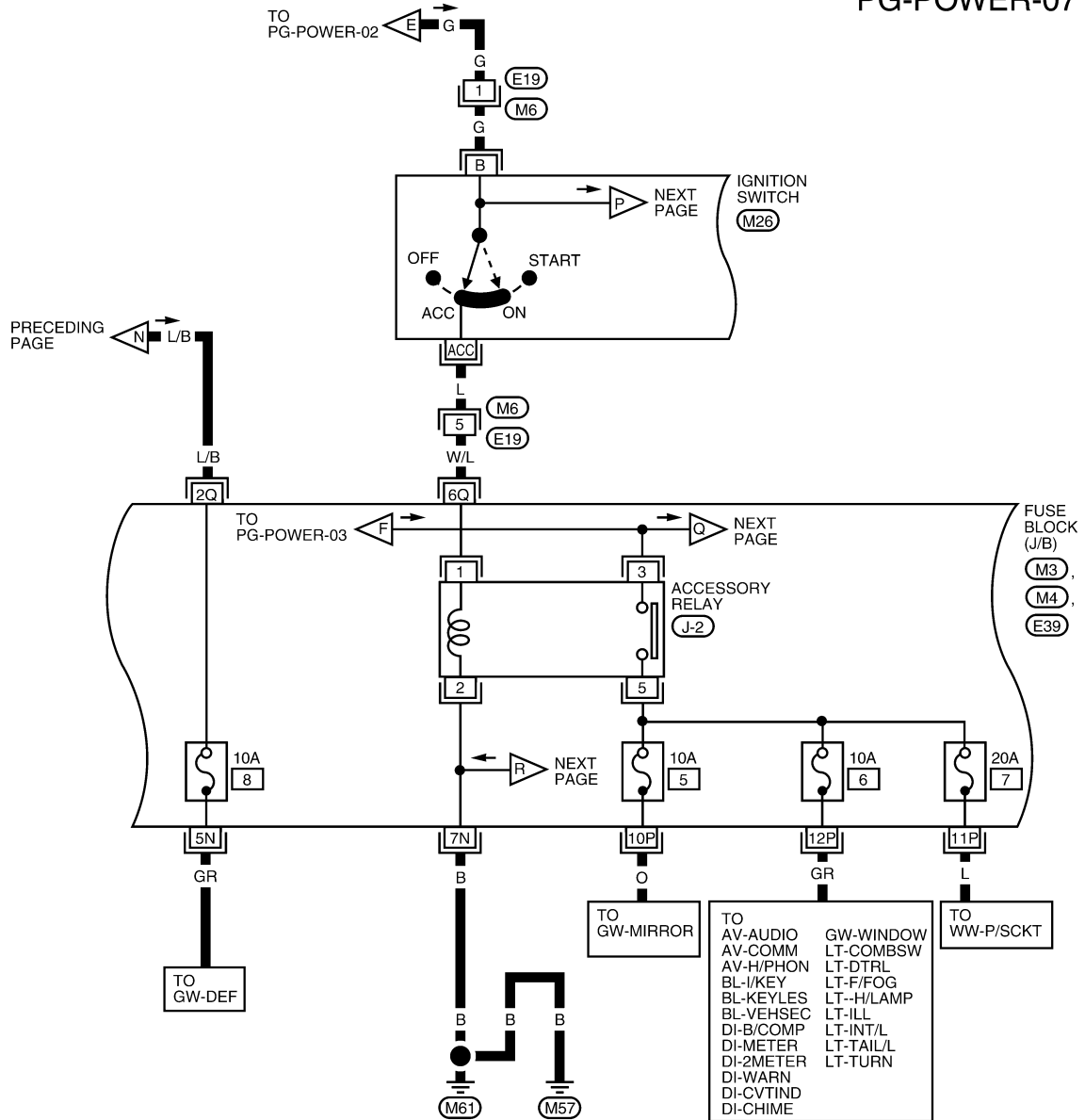


# POWER SUPPLY ROUTING CIRCUIT

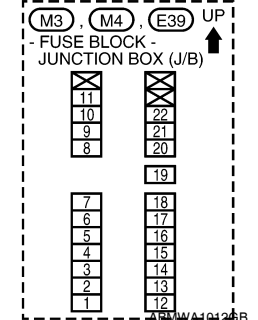
< SERVICE INFORMATION >

ACCESSORY POWER SUPPLY — IGNITION SWITCH IN ACC AND/OR ON

PG-POWER-07



REFER TO THE FOLLOWING.

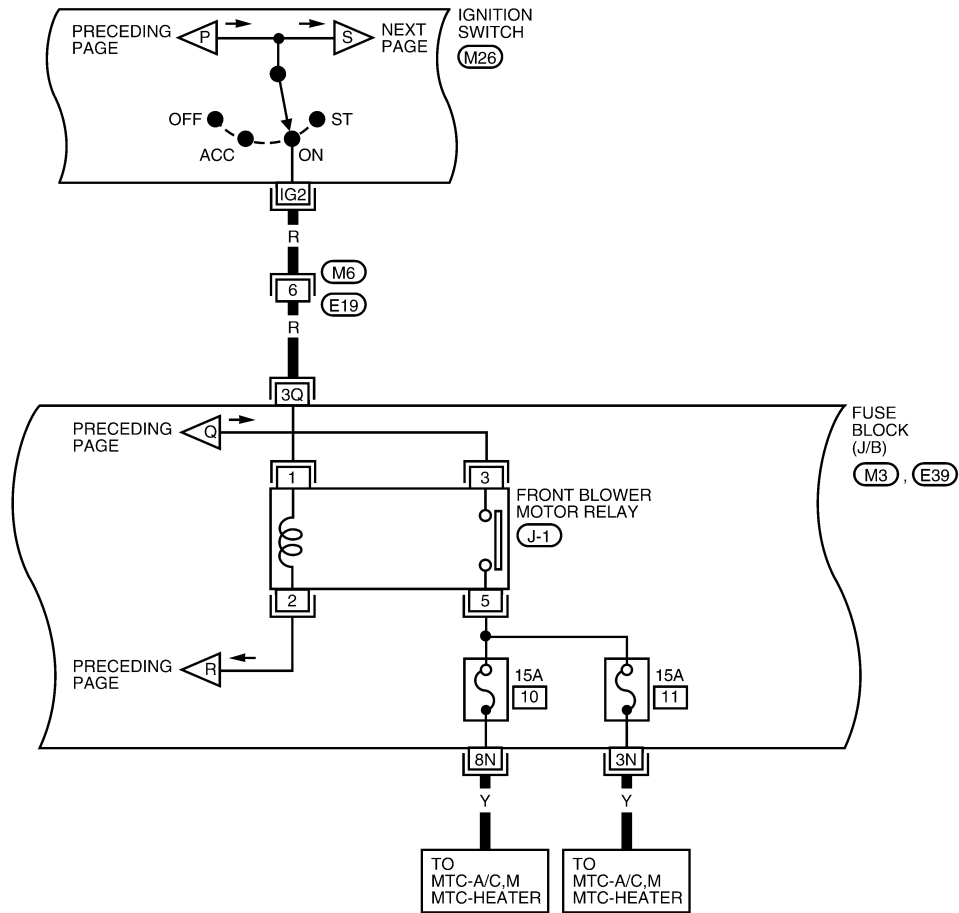


# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

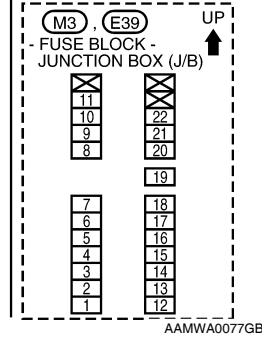
IGNITION POWER SUPPLY — IGNITION SWITCH IN ON

PG-POWER-08



1	2	3	M6	IG1	ST	B	M26
4	5	6	W	IG2	ACC	R	W

REFER TO THE FOLLOWING.



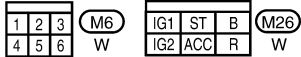
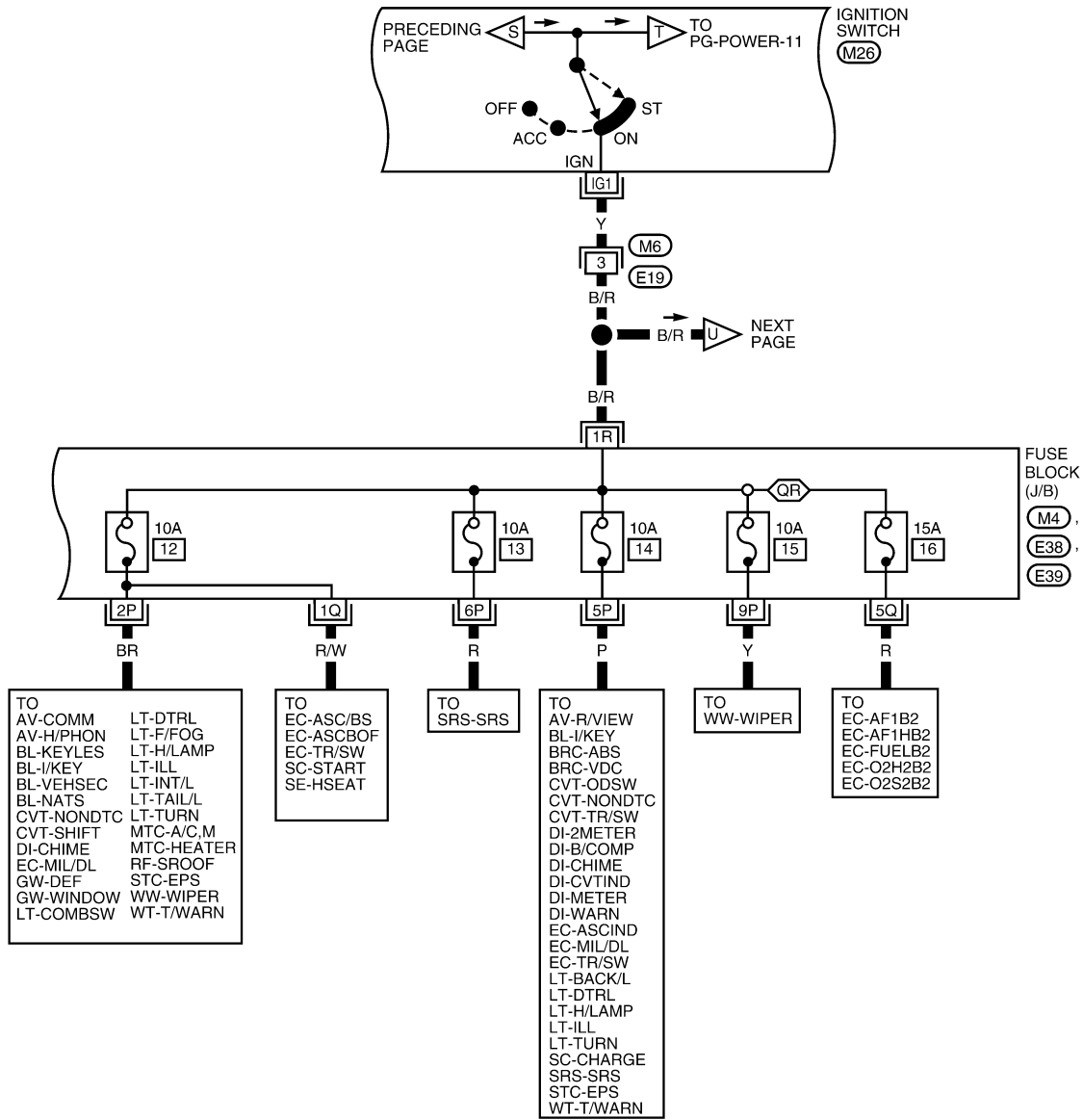
# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

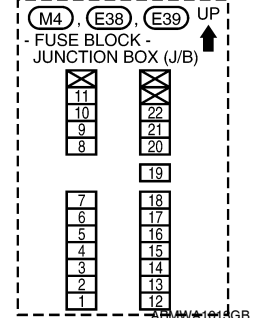
IGNITION POWER SUPPLY — IGNITION SWITCH IN ON AND/OR START.

QR : WITH QR25DE

PG-POWER-09



REFER TO THE FOLLOWING.

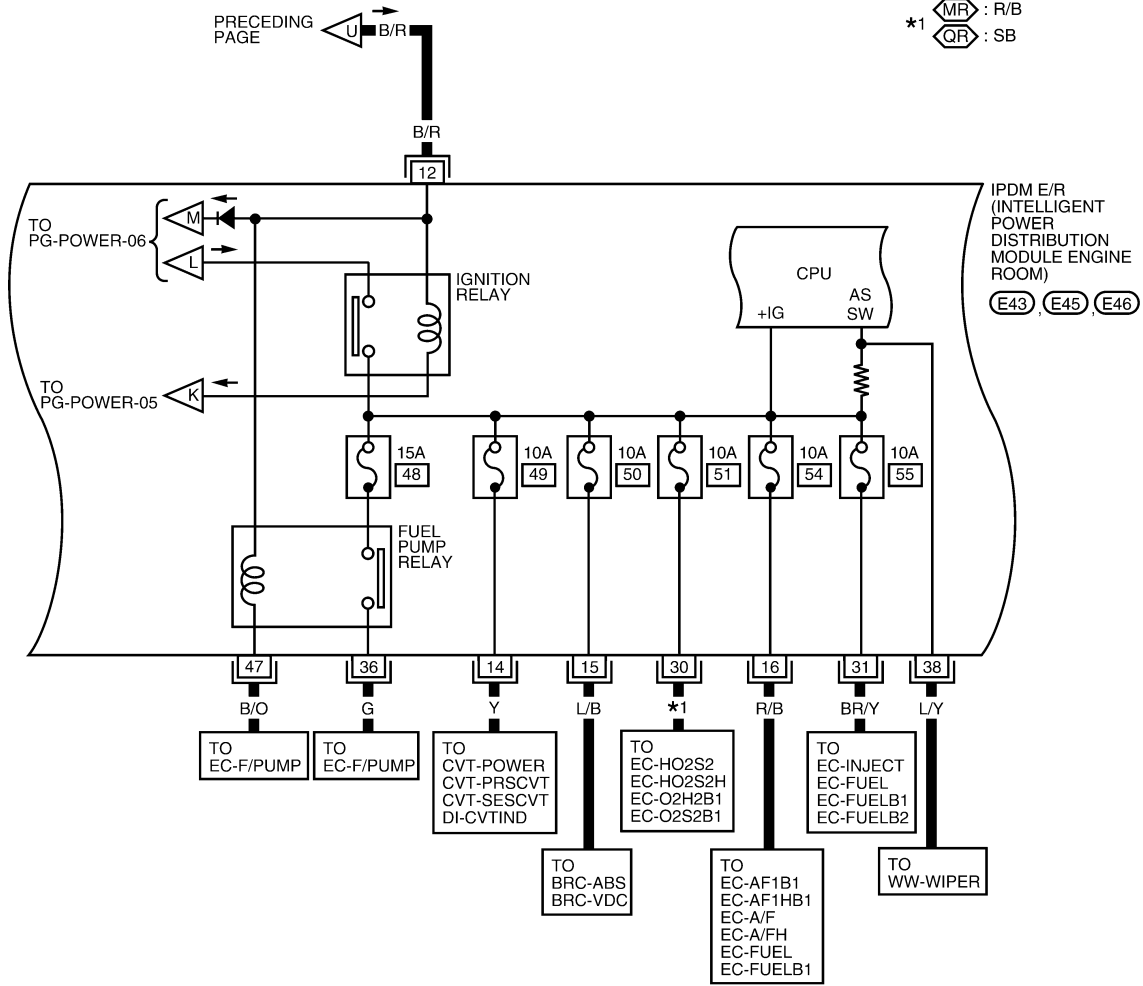


# POWER SUPPLY ROUTING CIRCUIT

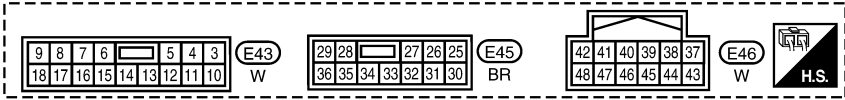
< SERVICE INFORMATION >

## PG-POWER-10

- : WITH MR20DE
- : WITH QR25DE
- : R/B
- \*1 : SB



IPDM E/R  
(INTELLIGENT  
POWER  
DISTRIBUTION  
MODULE ENGINE  
ROOM)  
(E43, E45, E46)



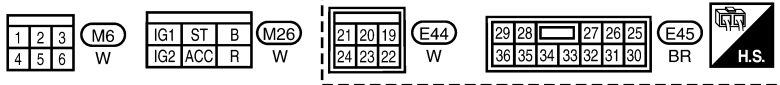
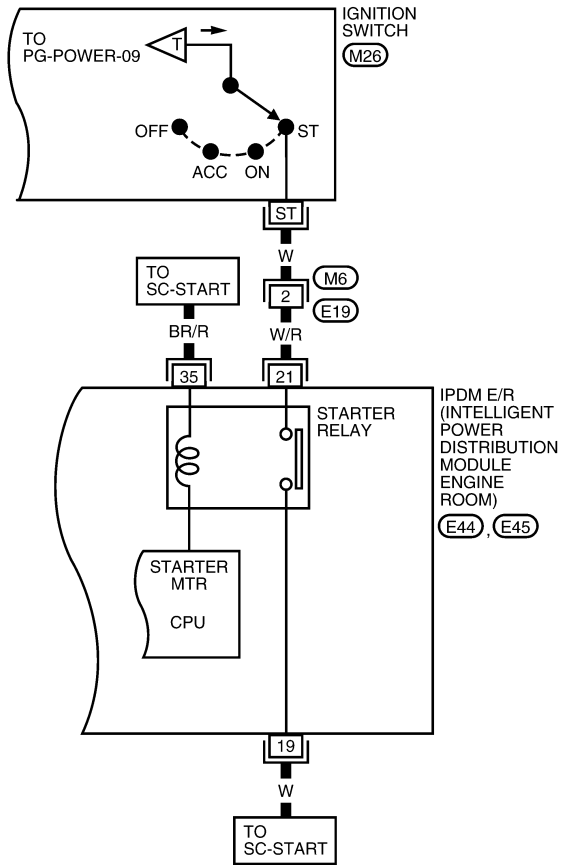
ABMWA1014GB

# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

IGNITION POWER SUPPLY — IGNITION SWITCH IN START

PG-POWER-11



WKWA5541E



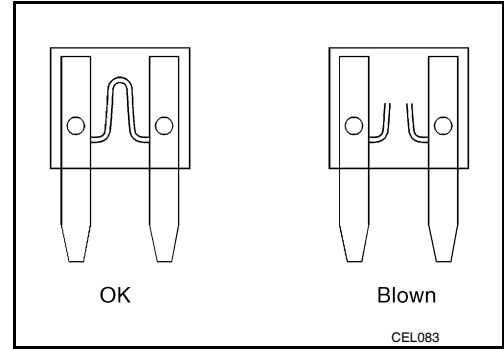
# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

## Fuse

INFOID:000000006151955

- 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.



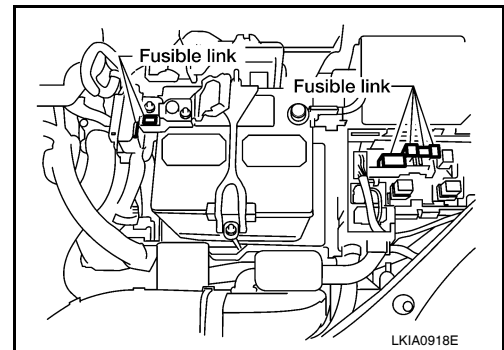
## Fusible Link

INFOID:000000006151956

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.

### 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.



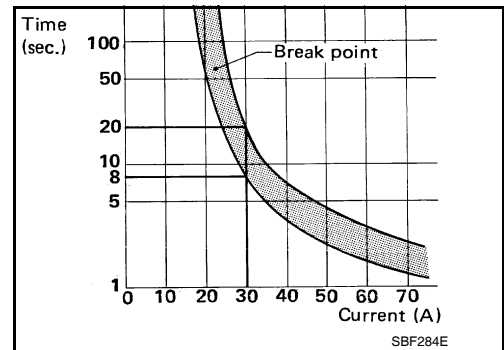
## Circuit Breaker (Built Into BCM)

INFOID:000000006151957

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 sunroof
- Power windows



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

< SERVICE INFORMATION >

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

### System Description

INFOID:000000006151958

- IPDM E/R (Intelligent Power Distribution Module Engine Room) integrates the relay box and fuse block which were originally placed in engine compartment. It controls integrated relays via IPDM E/R control circuits.
- IPDM E/R-integrated control circuits perform ON-OFF operation of relays, CAN communication control, oil pressure switch signal reception, etc.
- It controls operation of each electrical component via ECM, BCM and CAN communication lines.

#### **CAUTION:**

**None of the IPDM E/R integrated relays can be removed.**

### SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control  
Using CAN communication lines, it receives signals from the BCM and controls the following lamps:
  - Headlamps (High, Low)
  - Parking lamps
  - Tail and license plate lamps
  - Front fog lamps
2. Wiper control  
Using CAN communication lines, it receives signals from the BCM and controls the front wipers.
3. Rear window defogger relay control  
Using CAN communication lines, it receives signals from the BCM and controls the rear window defogger relay.
4. A/C compressor control  
Using CAN communication lines, it receives signals from the ECM and controls the A/C compressor (magnet clutch).
5. Starter control  
Using CAN communication lines, it receives signals from the BCM and controls the starter relay.
6. Cooling fan control  
Using CAN communication lines, it receives signals from the ECM and controls the cooling fan relays.
7. Horn control  
Using CAN communication lines, it receives signals from the BCM and controls the horn relay.
8. Daytime light system control (Canada only)  
Using CAN communication lines, it receives signals from the BCM and controls the daytime light relay.

### CAN COMMUNICATION LINE CONTROL

With CAN communication, by connecting each control unit using two communication lines (CAN L-line, CAN H-line), it is possible to transmit a maximum amount of information with minimum wiring. Each control unit can transmit and receive data, and reads necessary information only.

1. Fail-safe control
  - When CAN communication with other control units is impossible, IPDM E/R performs fail-safe control. After CAN communication returns to normal operation, it also returns to normal control.
  - Operation of control parts by IPDM E/R during fail-safe mode is as follows:

Controlled system	Fail-safe mode
Headlamp	<ul style="list-style-type: none"><li>• With the ignition switch ON, headlamp low relay is ON, headlamp high relays are OFF, and daytime light system (Canada only) is OFF.</li><li>• With the ignition switch OFF, the headlamp relays are OFF.</li></ul>
Tail, license plate and parking lamps	<ul style="list-style-type: none"><li>• With the ignition switch ON, the tail lamp relay is ON.</li><li>• With the ignition switch OFF, the tail lamp relay is OFF.</li></ul>
Cooling fan	<ul style="list-style-type: none"><li>• With the ignition switch ON, cooling fan relay-1, relay-2, and relay-3 are ON.</li><li>• With the ignition switch OFF, all cooling fan relays are OFF.</li></ul>
Front wiper	Until the ignition switch is turned off, the front wiper relays remain in the same status they were in just before fail-safe control was initiated.

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

## < SERVICE INFORMATION >

Controlled system	Fail-safe mode
Rear window defogger	Rear window defogger relay OFF
A/C compressor	A/C relay is OFF
Front fog lamps (if equipped)	Front fog lamp relay OFF

### IPDM E/R STATUS CONTROL

In order to save power, IPDM E/R switches status by itself based on each operating condition.

- CAN communication status
  - CAN communication is normally performed with other control units.
  - Individual unit control by IPDM E/R is normally performed.
  - When sleep request signal is received from BCM, mode is switched to sleep waiting status.
- Sleep waiting status
  - Process to stop CAN communication is activated.
  - All systems controlled by IPDM E/R are stopped. When 1 second has elapsed after CAN communication with other control units is stopped, mode switches to sleep status.
- Sleep status
  - IPDM E/R operates in low current-consumption mode.
  - CAN communication is stopped.
  - When a change in CAN communication signal is detected, mode switches to CAN communication status.
  - When a change in ignition switch signal is detected, mode switches to CAN communication status.

### CAN Communication System Description

INFOID:000000006151959

Refer to [LAN-7, "System Description"](#).

### Function of Detecting Ignition Relay Malfunction

INFOID:000000006151960

- When the integrated ignition relay is stuck in a "closed contact" position and cannot be turned OFF, IPDM E/R turns ON tail and parking lamps for 10 minutes to indicate IPDM E/R malfunction.
- When the state of the integrated ignition relay does not agree with the state of the ignition switch signal received via CAN communication, the IPDM E/R activates the tail lamp relay.

Ignition switch signal	Ignition relay status	Tail lamp relay
ON	ON	—
OFF	OFF	—
ON	OFF	—
OFF	ON	ON (10 minutes)

#### NOTE:

When the ignition switch is turned ON, the tail lamps are OFF.

### CONSULT-III Function (IPDM E/R)

INFOID:000000006151961

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

IPDM E/R diagnostic Mode	Description
SELF-DIAG RESULTS	Displays IPDM E/R self-diagnosis results.
DATA MONITOR	Displays IPDM E/R input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.

### SELF-DIAGNOSTIC RESULTS

Display Item List

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

## < SERVICE INFORMATION >

Display items	CONSULT-III display code	Malfunction detection	TIME		Possible causes
			CRNT	PAST	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	—	—	—	—	—
CAN COMM CIRC	U1000	<ul style="list-style-type: none"> <li>If CAN communication reception/transmission data has a malfunction, or if any of the control units fail, data reception/transmission cannot be confirmed.</li> <li>When the data in CAN communication is not received before the specified time.</li> </ul>	X	X	Any of items listed below have errors: <ul style="list-style-type: none"> <li>TRANSMIT DIAG</li> <li>ECM</li> <li>BCM/SEC</li> </ul>

### NOTE:

The details for display of the period are as follows:

- CRNT: Error currently detected with IPDM E/R.
- PAST: Error detected in the past and placed in IPDM E/R memory.

### DATA MONITOR

All Signals, Main Signals, Selection From Menu

Item name	CONSULT-III screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
Motor fan request	MOTOR FAN REQ	1/2/3/4	X	X	X	Signal status input from ECM
Compressor request	AC COMP REQ	ON/OFF	X	X	X	Signal status input from ECM
Parking, license, and tail lamp request	TAIL & CLR REQ	ON/OFF	X	X	X	Signal status input from BCM
Headlamp low beam request	HL LO REQ	ON/OFF	X	X	X	Signal status input from BCM
Headlamp high beam request	HL HI REQ	ON/OFF	X	X	X	Signal status input from BCM
Front fog request	FR FOG REQ	ON/OFF	X	X	X	Signal status input from BCM
FR wiper request	FR WIP REQ	STOP/1LO/LO/HI	X	X	X	Signal status input from BCM
Wiper auto stop	WIP AUTO STOP	ACT P/STOP P	X	X	X	Output status of IPDM E/R
Wiper protection	WIP PROT	OFF/LS/HS/Block	X	X	X	Control status of IPDM E/R
Starter request	ST RLY REQ	ON/OFF	X		X	Status of input signal (*1)
Ignition relay status	IGN RLY	ON/OFF	X	X	X	Ignition relay status monitored with IPDM E/R
Rear defogger request	RR DEF REQ	ON/OFF	X	X	X	Signal status input from BCM
Oil pressure switch	OIL P SW	OPEN/CLOSE	X		X	Signal status input from IPDM E/R
Theft warning horn request	THFT HRN REQ	ON/OFF	X		X	Signal status input from BCM
Horn chirp	HORN CHIRP	ON/OFF	X		X	Output status of IPDM E/R
Daytime light request	DTRL REQ	ON/OFF	X		X	Signal status input from BCM

\*1 Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is in ACC position, display may not be correct.

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

< SERVICE INFORMATION >

CAN DIAG SUPPORT MNTR

Refer to [LAN-7, "System Description"](#).

## ACTIVE TEST

Display Item List

Test name	CONSULT-III screen display	Description
Head, tail, fog lamp output	EXTERNAL LAMPS	With a certain ON-OFF operation (OFF, TAIL, LO, HI, FOG), the front fog lamp, headlamp low, headlamp high RH, headlamp high LH, and tail lamp relays can be operated.
Rear defogger output	REAR DEFOGGER	With a certain ON-OFF operation, the rear defogger relay can be operated.
Front wiper (HI, LO) output	FRONT WIPER	With a certain operation (OFF, HI, LO), the front wiper relays (Lo, Hi) can be operated.
Cooling fan output	MOTOR FAN	With a certain operation (1, 2, 3, 4), the cooling fan relays can be operated.
Horn output	HORN	With a certain ON operation, the horn relay can be operated.

## Auto Active Test

INFOID:000000006151962

### DESCRIPTION

- In auto active test mode, operation inspection can be performed when IPDM E/R sends a drive signal to the following systems:
  - Rear window defogger
  - Front wipers
  - Tail, license and parking lamps
  - Daytime lamp system (Canada only)
  - Front fog lamps (if equipped)
  - Headlamps (High, Low)
  - A/C compressor (magnet clutch)
  - Cooling fan

### OPERATION PROCEDURE

1. Close front door RH and hood. Lift wiper arms away from windshield (to prevent glass damage by wiper operation).

**NOTE:**

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

2. Turn ignition switch OFF.
3. Turn ignition switch ON and, within 20 seconds, press front door switch LH 20 times. Then turn ignition switch OFF.
4. Turn ignition switch ON within 10 seconds after ignition switch OFF.
5. When auto active test mode is actuated, horn chirps once.
6. After a series of operations is repeated three times, auto active test is completed.

**NOTE:**

When auto active test mode has to be cancelled halfway, turn ignition switch OFF.

**CAUTION:**

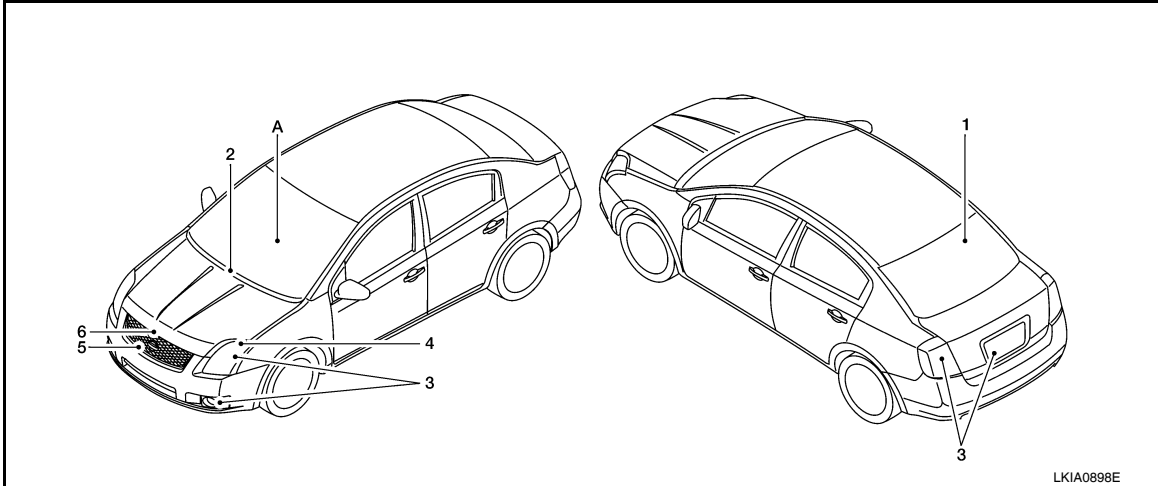
Be sure to perform [BL-37, "Door Switch Check"](#) when the auto active test cannot be performed.

### INSPECTION IN AUTO ACTIVE TEST MODE

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

## < SERVICE INFORMATION >

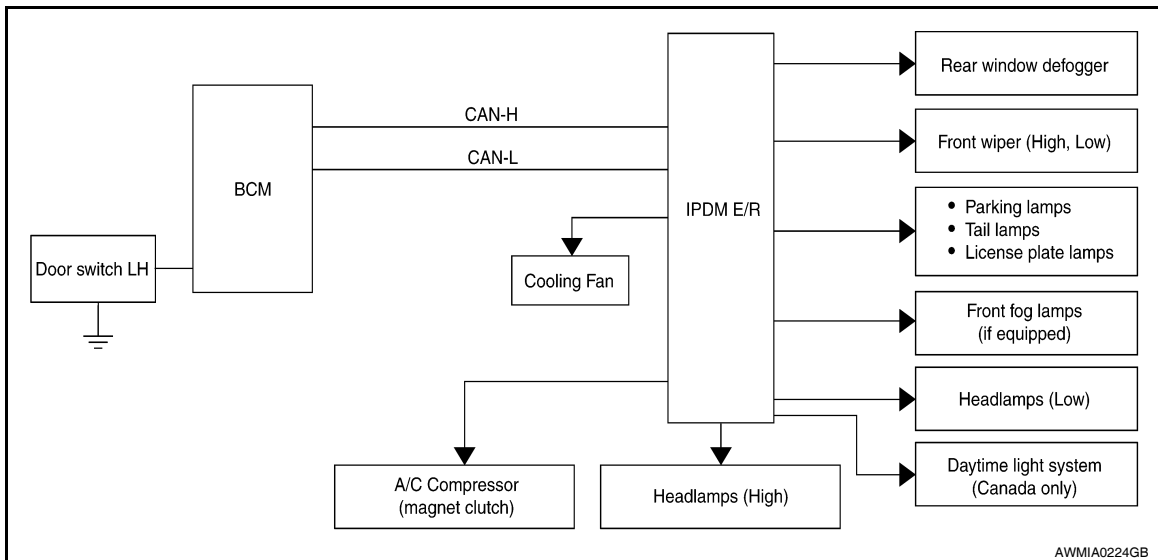
When auto active test mode is actuated, the following six steps are repeated three times.



(A): Oil pressure warning lamp is blinking when the auto active test is operating.

Item Number	Test Item	Operation Time/Frequency
1	Rear window defogger	10 seconds
2	Front wipers	LOW 5 seconds then HIGH 5 seconds
3	Daytime light system (Canada only)	10 seconds
3	Tail, license, and parking lamps	10 seconds
3	Front fog lamps (if equipped)	10 seconds
4	Headlamps (low)	10 seconds
4	Headlamps (high)	ON-OFF 5 times
5	A/C compressor (magnet clutch)	ON-OFF 5 times
6	Cooling fan	LOW 2 seconds, MID 2 seconds, HIGH 2 seconds, MID 2 seconds, LOW 2 seconds

### Concept of Auto Active Test



- IPDM E/R actuates auto active test mode when it receives door switch signal from BCM via CAN communication line. Therefore, when auto active test mode is activated successfully, CAN communication between IPDM E/R and BCM is normal.
- If any of the systems controlled by IPDM E/R cannot be operated, possible cause can be easily diagnosed using auto active test.

Diagnosis chart in auto active test mode

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

## < SERVICE INFORMATION >

Symptom	Inspection contents	Possible cause		
Rear window defogger does not operate.	Perform auto active test. Does rear window defogger operate?	YES	• BCM signal input circuit	A
		NO	• Rear window defogger relay • Open circuit of rear window defogger • IPDM E/R malfunction • Harness or connector malfunction between IPDM E/R and rear window defogger	B
Any of front wipers, tail and parking lamps, front fog lamps (if equipped), daytime light system (Canada only), and headlamps (High, Low) do not operate.	Perform auto active test. Does system in question operate?	YES	• BCM signal input system	C
		NO	• Lamp/wiper motor malfunction • Lamp/wiper motor ground circuit malfunction • Harness/connector malfunction between IPDM E/R and system in question • IPDM E/R (integrated relay) malfunction	D
A/C compressor does not operate.	Perform auto active test. Does magnet clutch operate?	YES	• BCM signal input circuit • CAN communication signal between BCM and ECM • CAN communication signal between ECM and IPDM E/R	E
		NO	• Magnet clutch malfunction • Harness/connector malfunction between IPDM E/R and magnet clutch • IPDM E/R (integrated relay) malfunction	F
Cooling fan does not operate.	Perform auto active test. Does cooling fan operate?	YES	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R	G
		NO	• Cooling fan motor malfunction • Harness/connector malfunction between IPDM E/R and cooling fan motor • IPDM E/R (integrated relay) malfunction • Cooling fan relay-4 or relay-5 malfunction	H
Oil pressure warning lamp does not operate.	Perform auto active test. Does oil pressure warning lamp blink?	YES	• Harness/connector malfunction between IPDM E/R and oil pressure switch • Oil pressure switch malfunction • IPDM E/R	I
		NO	• CAN communication signal between BCM and combination meter • Combination meter	J

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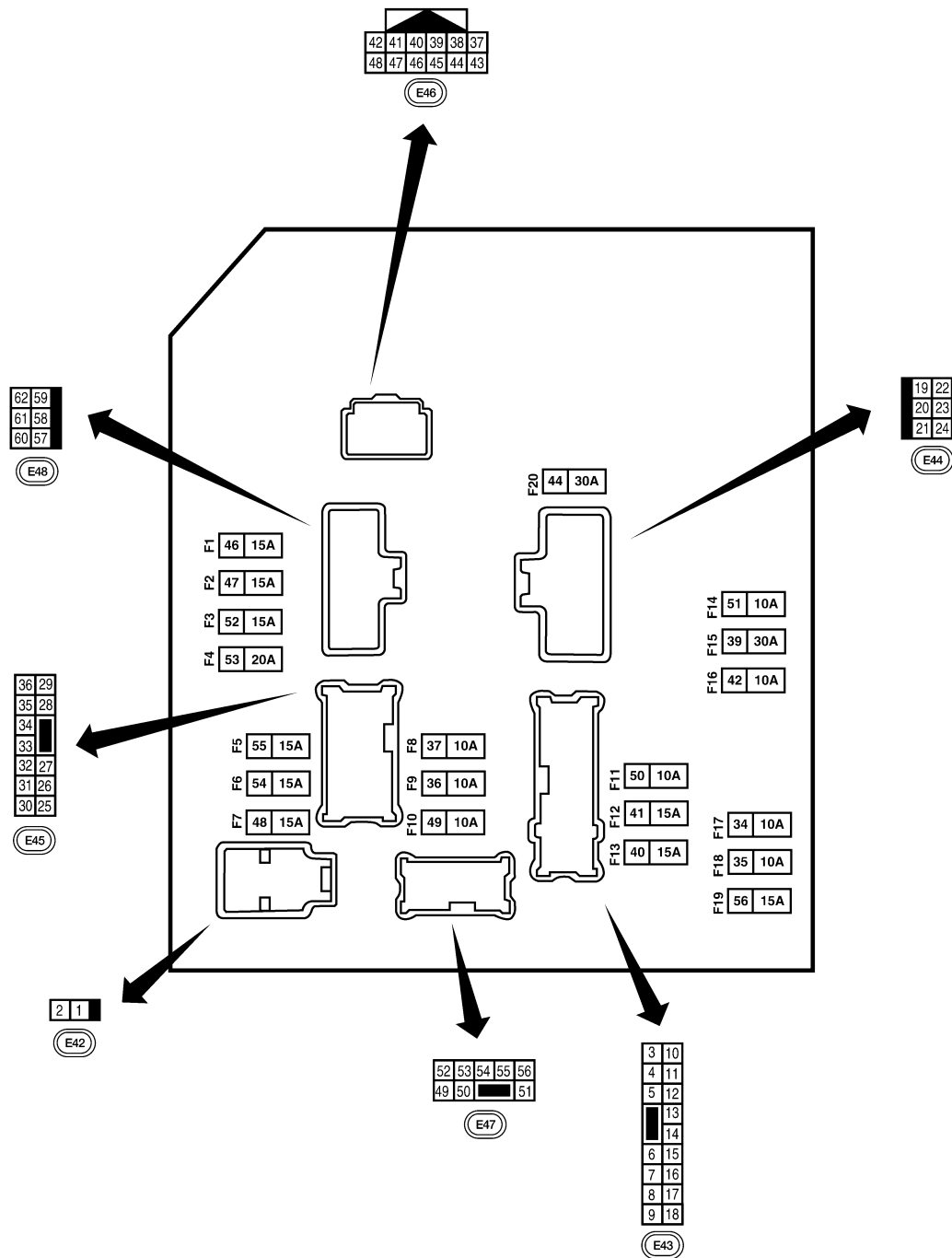
P

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

< SERVICE INFORMATION >

## IPDM E/R Terminal Arrangement

INFOID:000000006151963



**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

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

< SERVICE INFORMATION >

## Terminal and Reference Value for IPDM E/R

INFOID:000000006151964

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)
				Ignition switch	Operation or condition	
1	W/R	Battery power supply	Input	OFF	—	Battery voltage
2	R	Battery power supply	Input	OFF	—	Battery voltage
3	L/W	ECM Relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
4	G	ECM relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
6	L	Cooling fan relay-5	Input	—	Conditions correct for cooling fan high operation	0V
					Conditions not correct for cooling fan high operation	Battery voltage
7	R/G	ECM relay control	Input	—	Ignition switch ON or START	0V
					Ignition switch OFF or ACC	Battery voltage
8	Y/B	Throttle control motor relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
11	V/W	A/C compressor	Output	ON or START	A/C switch ON or defrost switch on	Battery voltage
					A/C switch OFF and defrost switch OFF	0V
12	B/R	Ignition switch supplied power	Input	—	OFF or ACC	0V
					ON or START	Battery voltage
13	G/W	Horn relay control	Input	—	Horn switch PUSHED, alarm activated or door lock/unlock is confirmed when operating lock system via the keyfob	0V
					Horn switch released, alarm not active, keyfob not active	Battery voltage
14	Y	Fuse 49	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
15	L/B	Fuse 50	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
16	R/B	Fuse 54	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
17	Y/R	Battery power supply	Output	—	—	Battery voltage
19	W	Starter motor	Output	START	—	Battery voltage
20	L	Cooling fan relay-1	Output	—	Conditions correct for cooling fan low operation.	Battery voltage
					Conditions not correct for cooling fan low operation.	0V
21	W/R	START	Input	START	Ignition switch in START	Battery voltage
					Ignition switch in other than START	0V
22	W/L	Battery power supply	Input	—	—	Battery voltage

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

## < SERVICE INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)	
				Ignition switch	Operation or condition		
23	L/B	Cooling fan relay-3	Input	—	Conditions correct for cooling fan high operation	0V	
					Conditions not correct for cooling fan high operation	Battery voltage	
24	W/B	Cooling fan relay-2	Output	—	Conditions correct for cooling fan high operation	Battery voltage	
					Conditions not correct for cooling fan high operation	0V	
27	R/L	Tail lamp relay (parking lamps)	Output	—	Lighting switch in 1st or 2nd position	Battery voltage	
28	W	Tail lamp relay (parking lamps)	Output	—	Lighting switch in 1st or 2nd position	Battery voltage	
29	V	Tail lamp relay (parking lamps)	Output	—	Lighting switch in 1st or 2nd position	Battery voltage	
30	R/B (MR20DE) SB (QR25DE)	Fuse 51	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
31	BR/Y	Fuse 55	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
32	L/B	Wiper high speed signal	Output	ON or START	Wiper switch	OFF, LO, INT	0V
						HI	Battery voltage
33	L	Wiper low speed signal	Output	ON or START	Wiper switch	OFF	0V
						LO or INT	Battery voltage
35	BR/R	Starter relay (inhibit switch)	Input	ON or START	Selector lever in "P" or "N" (CVT) or clutch pedal depressed (M/T)	Battery voltage	
					Selector lever any other position (CVT) or clutch pedal released (M/T)	0V	
36	G	Fuel pump relay	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
37	V	Oil pressure switch	Input	ON or START	Engine running and oil pressure within specification	Battery voltage	
					Engine not running or oil pressure below specification	0V	
38	L/Y	Wiper auto stop signal	Input	ON or START	Wipers not in park position	Battery voltage	
					Wipers in park position	0V	
39	B	Ground	Input	—	—	0V	
40	P	CAN-L	—	ON	—	—	
41	L	CAN-H	—	ON	—	—	
45	L/R	Cooling fan relay-4	Input	—	Conditions correct for cooling fan high operation	Battery voltage	
					Conditions not correct for cooling fan high operation	0V	
46	G/Y	Throttle control motor relay control	Input	—	Ignition switch ON or START	0V	
					Ignition switch OFF or ACC	Battery voltage	

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

## < SERVICE INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)		
				Ignition switch	Operation or condition			
47	B/O	Fuel pump relay control	Input	—	Ignition switch ON or START	0V	A	
					Ignition switch OFF or ACC	Battery voltage	B	
49	V	Daytime light relay 1 control	Input	ON	Daytime light system active.	Less than battery voltage		
					Daytime light system inactive.	Battery voltage	C	
50	W/G	Front fog lamp (LH)	Output	ON or START	Lighting switch must be in the 2ND position (LOW beam is ON) and the front fog lamp switch in ON	OFF	0V	D
						ON	Battery voltage	E
51	W/R	Front fog lamp (RH)	Output	ON or START	Lighting switch must be in the 2ND position (LOW beam is ON) and the front fog lamp switch is ON	OFF	0V	F
						ON	Battery voltage	G
52	L (USA) B/R (for Canada)	LH Low beam head-lamp	Output	—	Lighting switch in 2nd position		Battery voltage	H
54	R/Y	RH Low beam head-lamp	Output	—	Lighting switch in 2nd position		Battery voltage	I
55	G	LH High beam head-lamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	J
56	L/W	RH High beam head-lamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	PG
59	B	Ground	Input	—	—		0V	L
60	L/B	Rear window defogger relay	Output	ON or START	Rear defogger Switch ON		Battery voltage	
					Rear defogger Switch OFF		0V	

## IPDM E/R Power/Ground Circuit Inspection

INFOID:000000006151965

### 1. FUSE AND FUSIBLE LINK INSPECTION

Check that the following fusible links or IPDM E/R fuses are not blown.

Terminal No.	Signal name	Fuse, fusible link No.
1, 2	Battery power	a, b, d

#### OK or NG

- OK >> GO TO 2.
- NG >> Replace fuse or fusible link.

### 2. POWER CIRCUIT INSPECTION

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector E42.
3. Check voltage between IPDM E/R harness connector E42 terminals 1, 2 and ground.

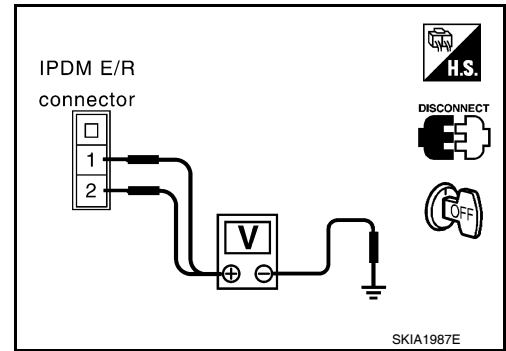
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

## < SERVICE INFORMATION >

**Battery voltage should exist.**

### OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace IPDM E/R power circuit harness.



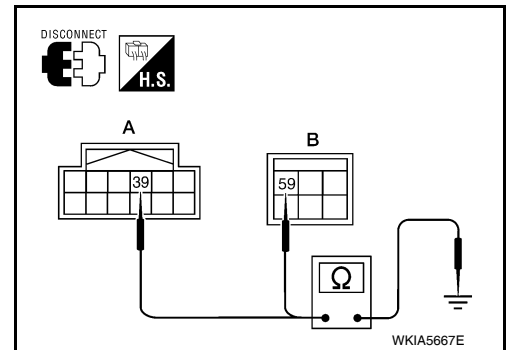
## 3. GROUND CIRCUIT INSPECTION

1. Disconnect IPDM E/R harness connectors E46 and E48.
2. Check continuity between IPDM E/R harness connector E46 (A) terminal 39, E48 (B) terminal 59 and ground.

**Continuity should exist.**

### OK or NG

- OK >> Inspection End.
- NG >> Repair or replace IPDM E/R ground circuit harness.



## Inspection with CONSULT-III (Self-Diagnosis)

### 1. SELF-DIAGNOSIS RESULT CHECK

1. Connect CONSULT-III and select "IPDM E/R".
2. Select "SELF-DIAG RESULTS".
3. Check display content in self-diagnosis results.

CONSULT-III Display	CONSULT-III display code	TIME		Details of diagnosis result
		CRNT	PAST	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	—	—	—	No malfunction
CAN COMM CIRC	U1000	X	X	Any of items listed below have errors: • TRANSMIT DIAG • ECM • BCM/SEC

#### NOTE:

The Details for Display for the Period are as follows:

- CRNT: Error currently detected by IPDM E/R.
- PAST: Error detected in the past and stored in IPDM E/R memory.

#### Contents displayed

NO DTC DETECTED. FURTHER TESTING MAY BE REQUIRED.>>Inspection End.

CAN COMM CIRC>>Refer to [LAN-8. "CAN Communication Control Circuit"](#).

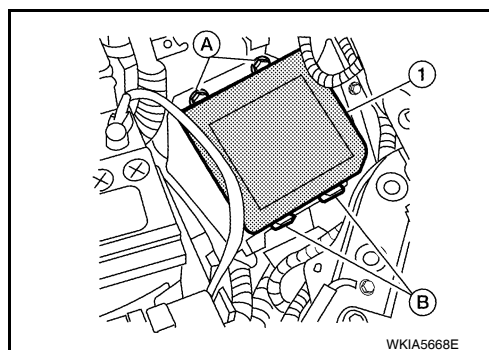
## Removal and Installation of IPDM E/R

### REMOVAL

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

## < SERVICE INFORMATION >

1. Disconnect negative battery cable.
2. Remove the air cleaner and air duct, refer to [EM-133, "Removal and Installation"](#) (QR25DE only).
3. Lift up the IPDM E/R (1) while pushing and opening pawls (A) or (B), and remove the IPDM E/R while pushing and opening the other side pawls.
4. Disconnect harness connector.



## INSTALLATION

Installation is the reverse order of removal.

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# GROUND CIRCUIT

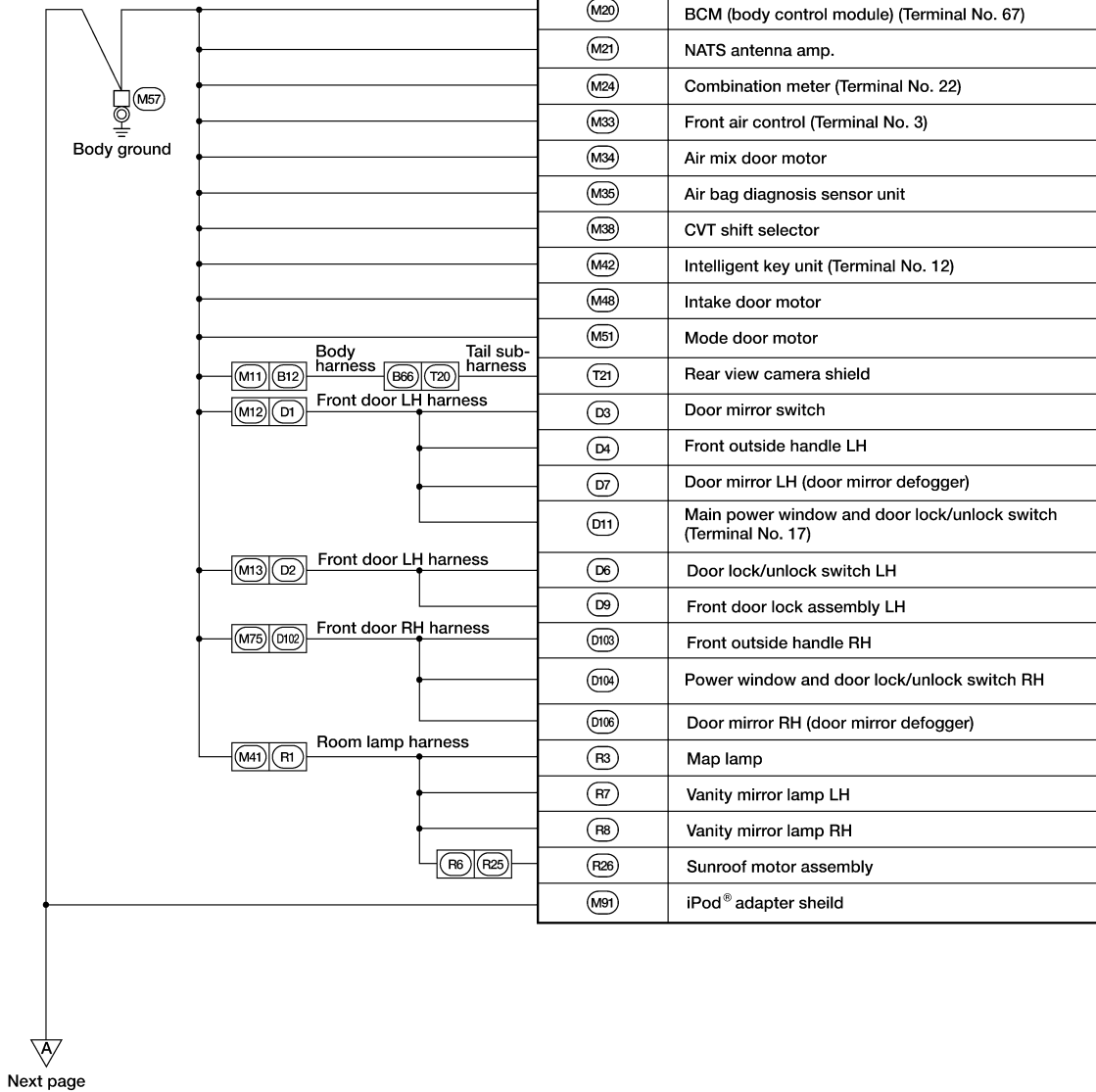
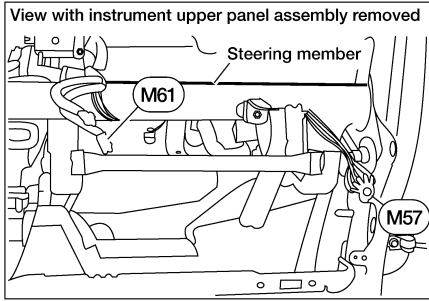
< SERVICE INFORMATION >

## GROUND CIRCUIT

### Ground Distribution

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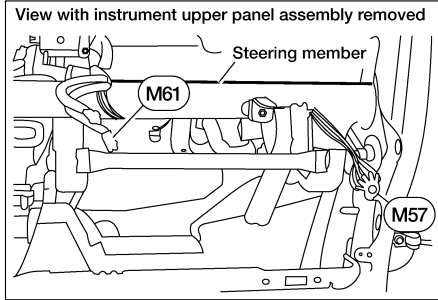
### MAIN HARNESS



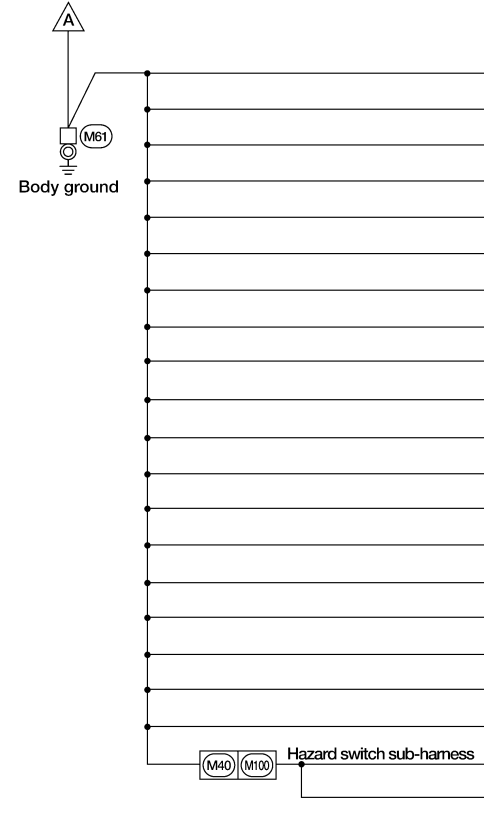
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# GROUND CIRCUIT

< SERVICE INFORMATION >



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CONNECTOR NUMBER	CONNECT TO
M3	Fuse block (J/B)
M16	Front passenger air bag off indicator
M22	Data link connector (Terminal No. 4)
M22	Data link connector (Terminal No. 5)
M24	Combination meter (Terminal No. 3)
M24	Combination meter (Terminal No. 21)
M43	Audio unit (Terminal No. 20)
M52	Fan control amp.
M53	Audio unit (Terminal No. 28)
M56	Console power socket
M63	Steering angle sensor
M64	VDC off switch
M89	Double meter (Terminal No. 9) (QR25DE)
M89	Double meter (Terminal No. 10) (QR25DE)
M92	AV control unit (Terminal No. 20)
M93	AV control unit (without navigation) (Terminal No. 27)
M93	AV control unit (without navigation) (Terminal No. 47)
M99	AV control unit (with navigation) (Terminal No. 31)
M99	AV control unit (with navigation) (Terminal No. 32)
M102	Hazard switch
M103	Manual mode select switch (QR25DE)

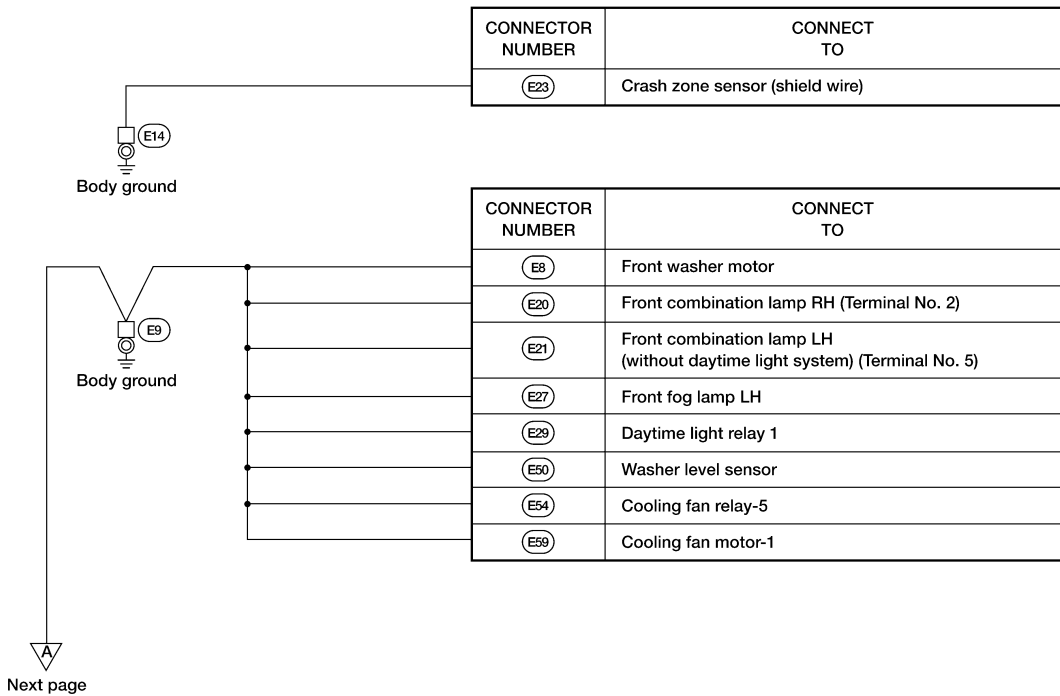
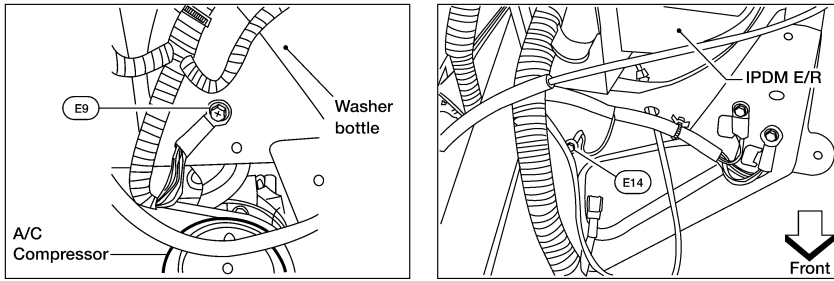
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# GROUND CIRCUIT

## < SERVICE INFORMATION > ENGINE ROOM HARNESS

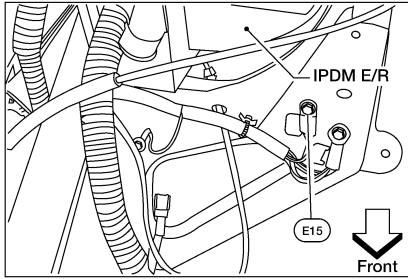


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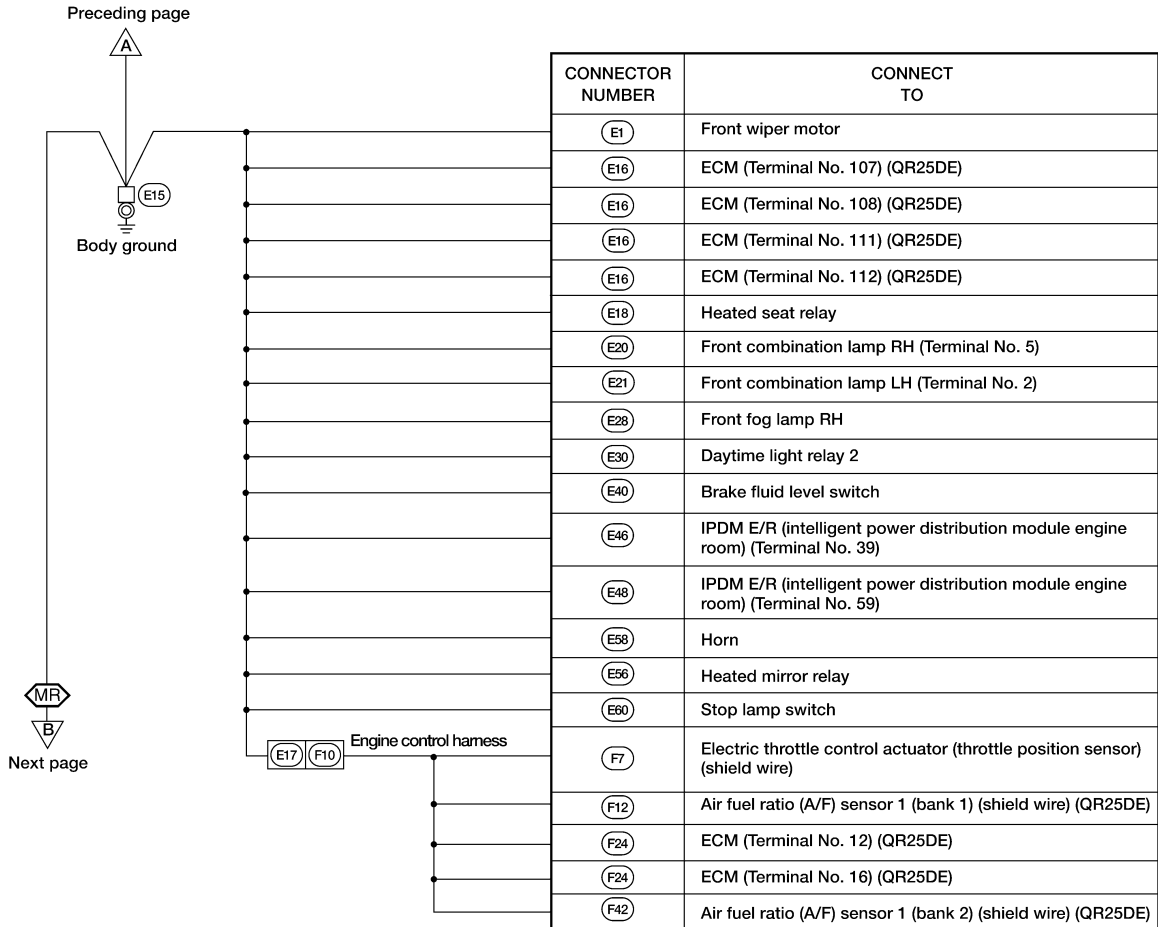


# GROUND CIRCUIT

< SERVICE INFORMATION >



MR : WITH MR20DE

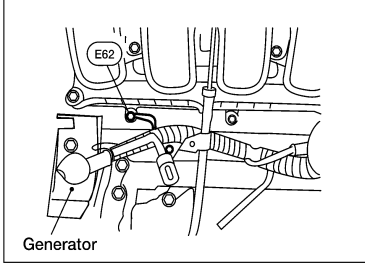
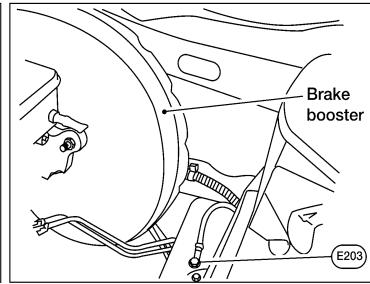
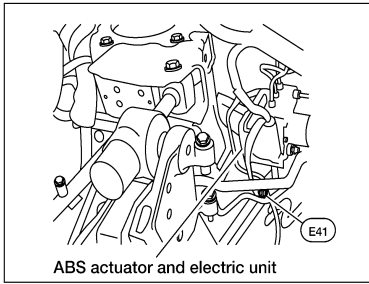
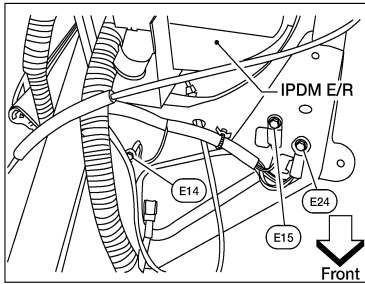


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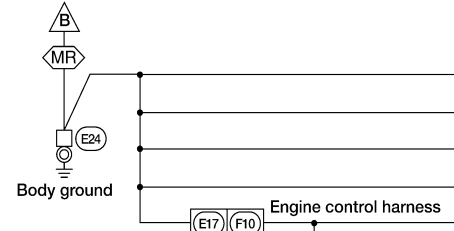
# GROUND CIRCUIT

< SERVICE INFORMATION >

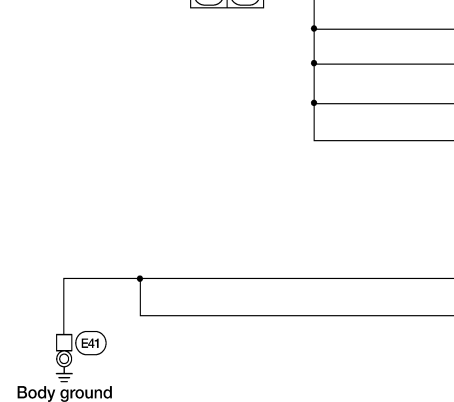


MR : WITH MR20DE

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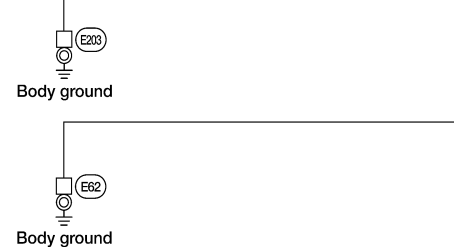
CONNECTOR NUMBER	CONNECT TO
E16	ECM (Terminal No. 107)
E16	ECM (Terminal No. 108)
E16	ECM (Terminal No. 109)
E16	ECM (Terminal No. 112)
F7	Electric throttle control actuator (throttle position sensor) shield
F12	Air fuel ratio (A/F) sensor 1 (shield wire)
F22	Crankshaft position sensor (POS) shield
F24	ECM (Terminal No. 11)
F49	Tumble control valve actuator shield (for California)



CONNECTOR NUMBER	CONNECT TO
E33	ABS actuator and electric unit (control unit) (Terminal No. 1)
E33	ABS actuator and electric unit (control unit) (Terminal No. 4)



CONNECTOR NUMBER	CONNECT TO
E202	EPS control unit (Terminal No. 2)

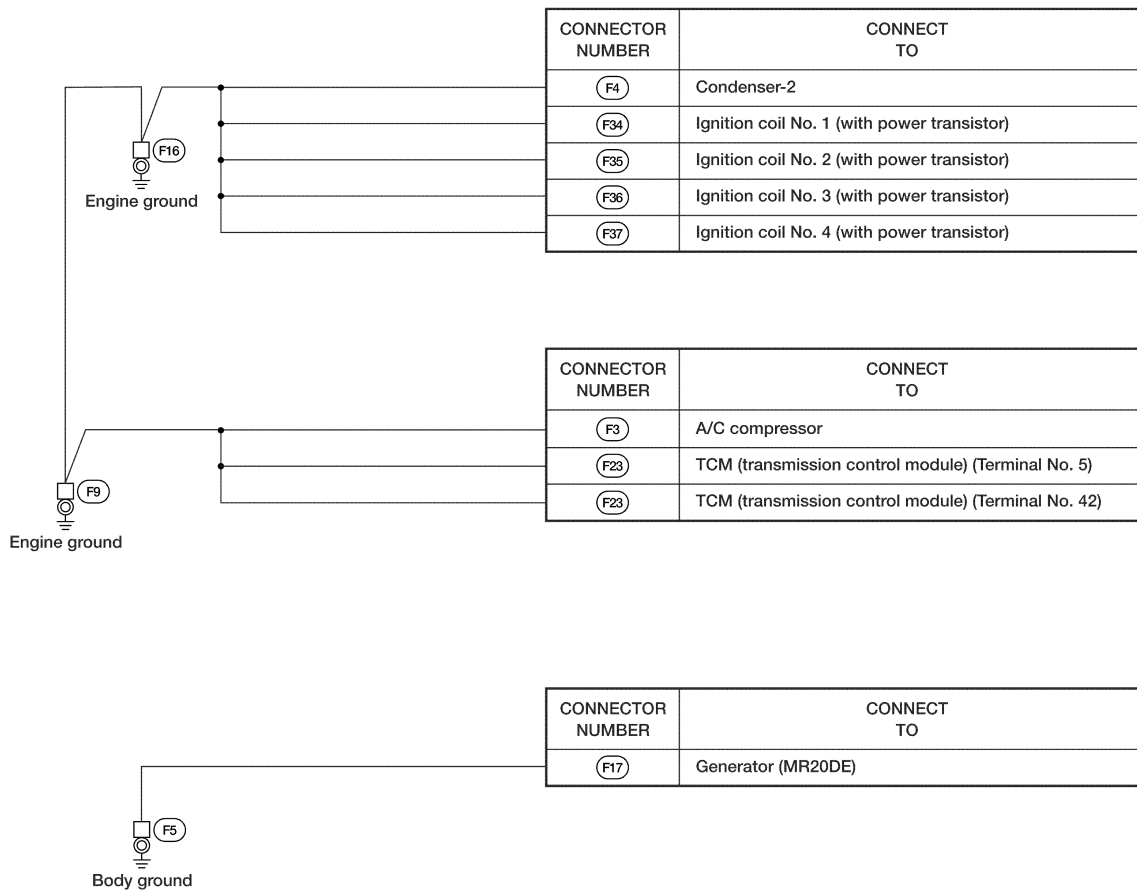
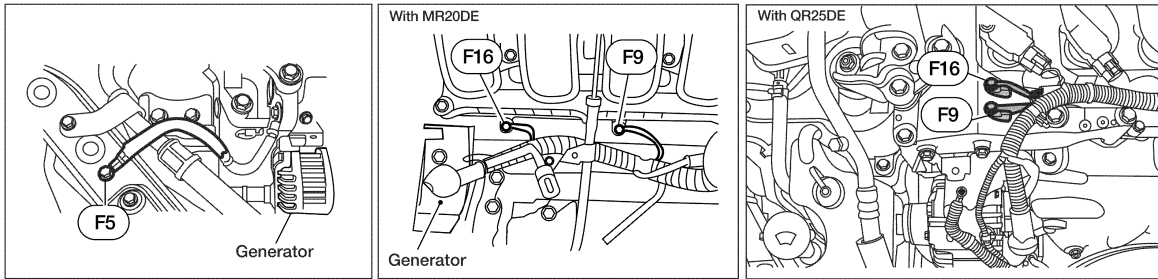


CONNECTOR NUMBER	CONNECT TO
E18	Generator (QR25DE)

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# GROUND CIRCUIT

## < SERVICE INFORMATION > ENGINE CONTROL HARNESS



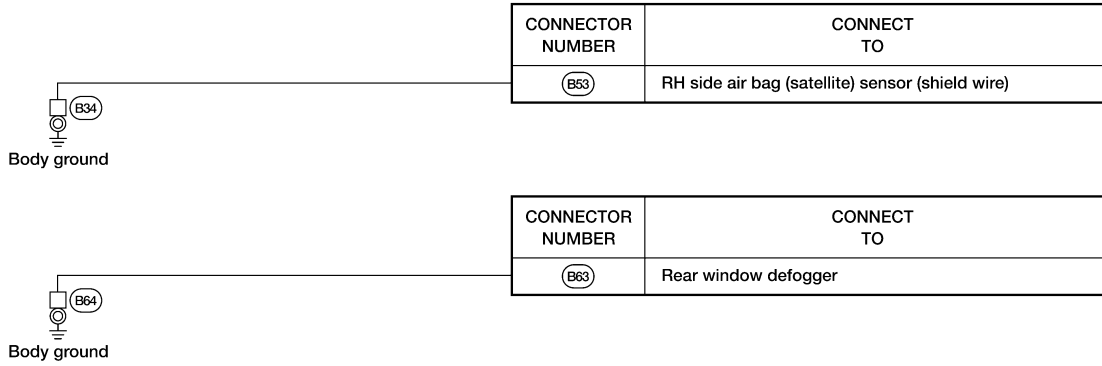
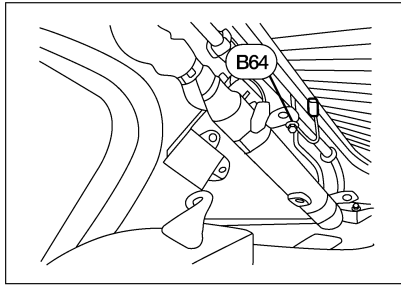
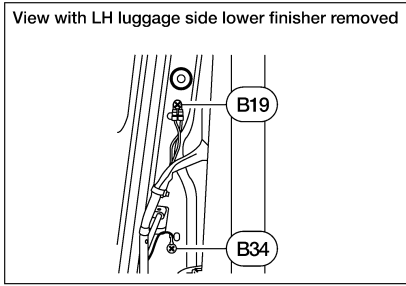
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# GROUND CIRCUIT

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# HARNESS

< SERVICE INFORMATION >

## HARNESS

### Harness Layout

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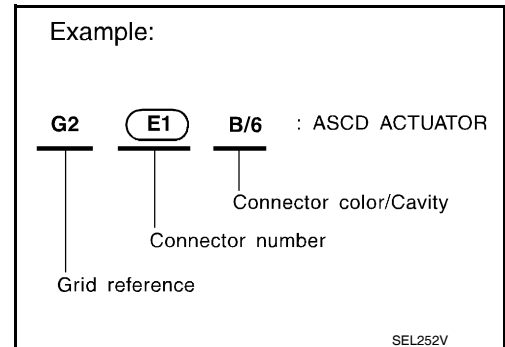
#### HOW TO READ HARNESS LAYOUT

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

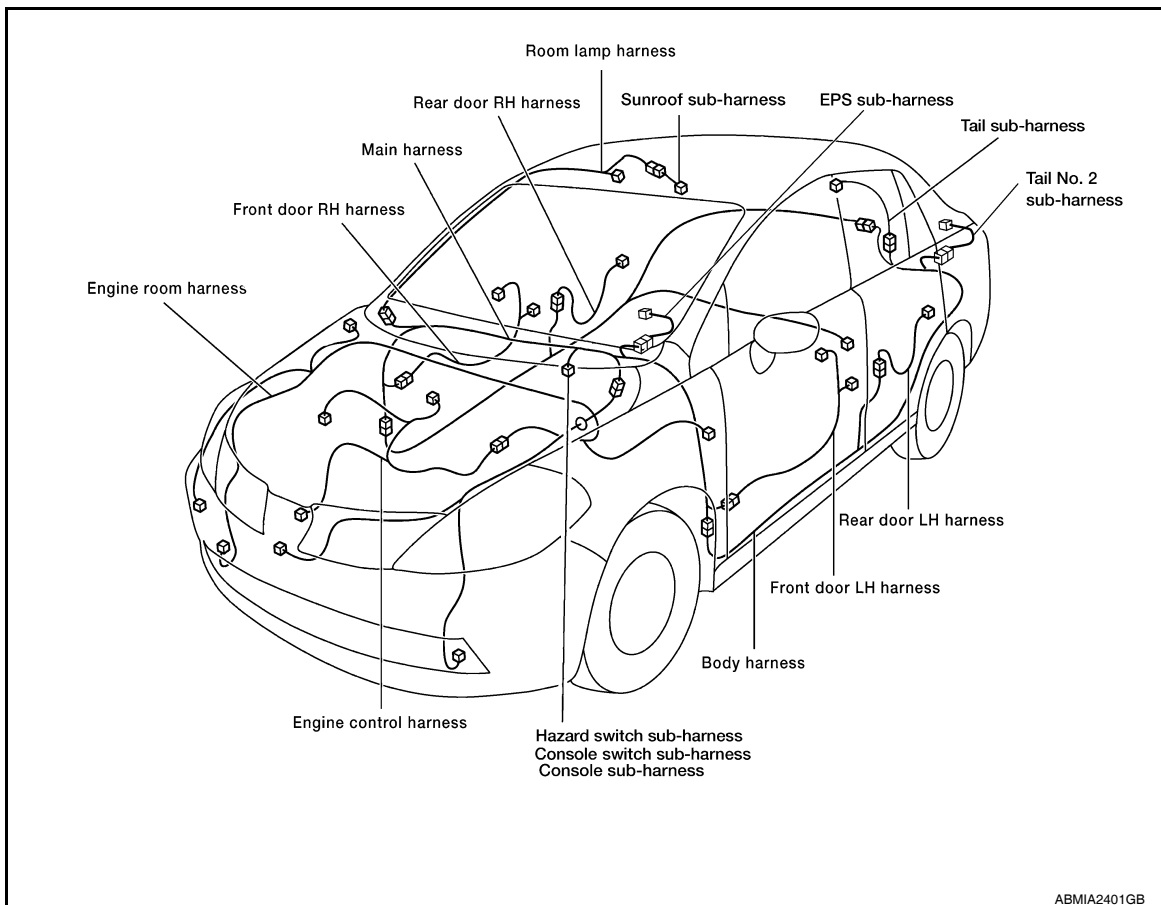
- Main Harness, Hazard Switch Sub-harness, Console Switch Sub-harness and Console Sub-harness
- Engine Room Harness
- Engine Room Harness Passenger Compartment and EPS Sub-harness
- Engine Control Harness (MR20DE) and Engine Control Harness (QR25DE)
- Body Harness, Tail Sub-harness and Tail No. 2 Sub-harness
- Room Lamp Harness and Sunroof Sub-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.



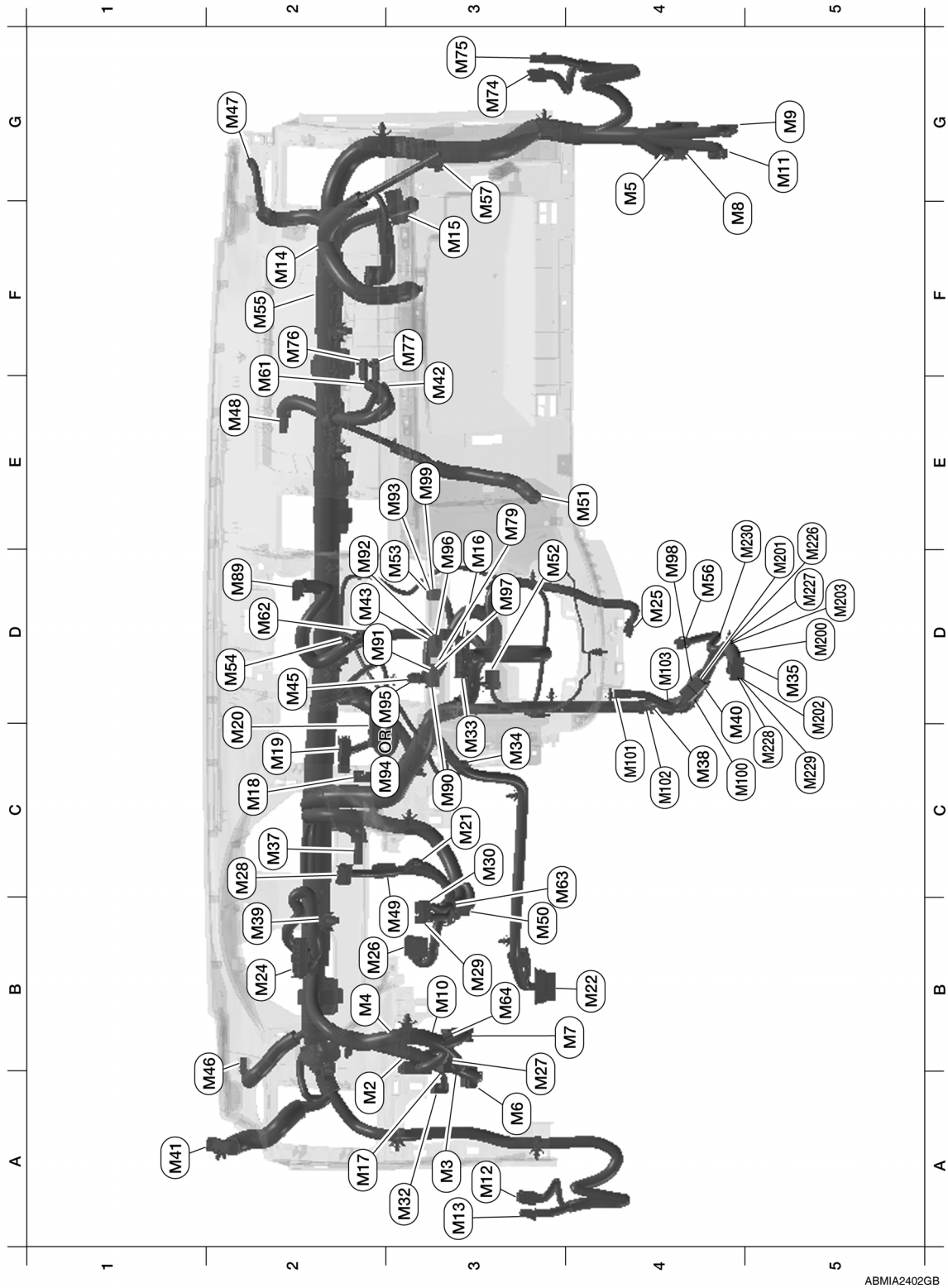
#### OUTLINE



# HARNESS

< SERVICE INFORMATION >

## MAIN HARNESS



A2	M2	W/32	: To E4	D3	M53	W/16	: Audio unit
A3	M3	W/8	: Fuse block (J/B)	D2	M54	B/2	: Resistor-1
B2	M4	W/16	: Fuse block (J/B)	F2	M55	Y/4	: Front passenger air bag module (service replacement)
G4	M5	GR/16	: To B4	D4	M56	B/3	: Console power socket
A3	M6	W/6	: To E19	F3	M57	—	: Body ground

# HARNESS

## < SERVICE INFORMATION >

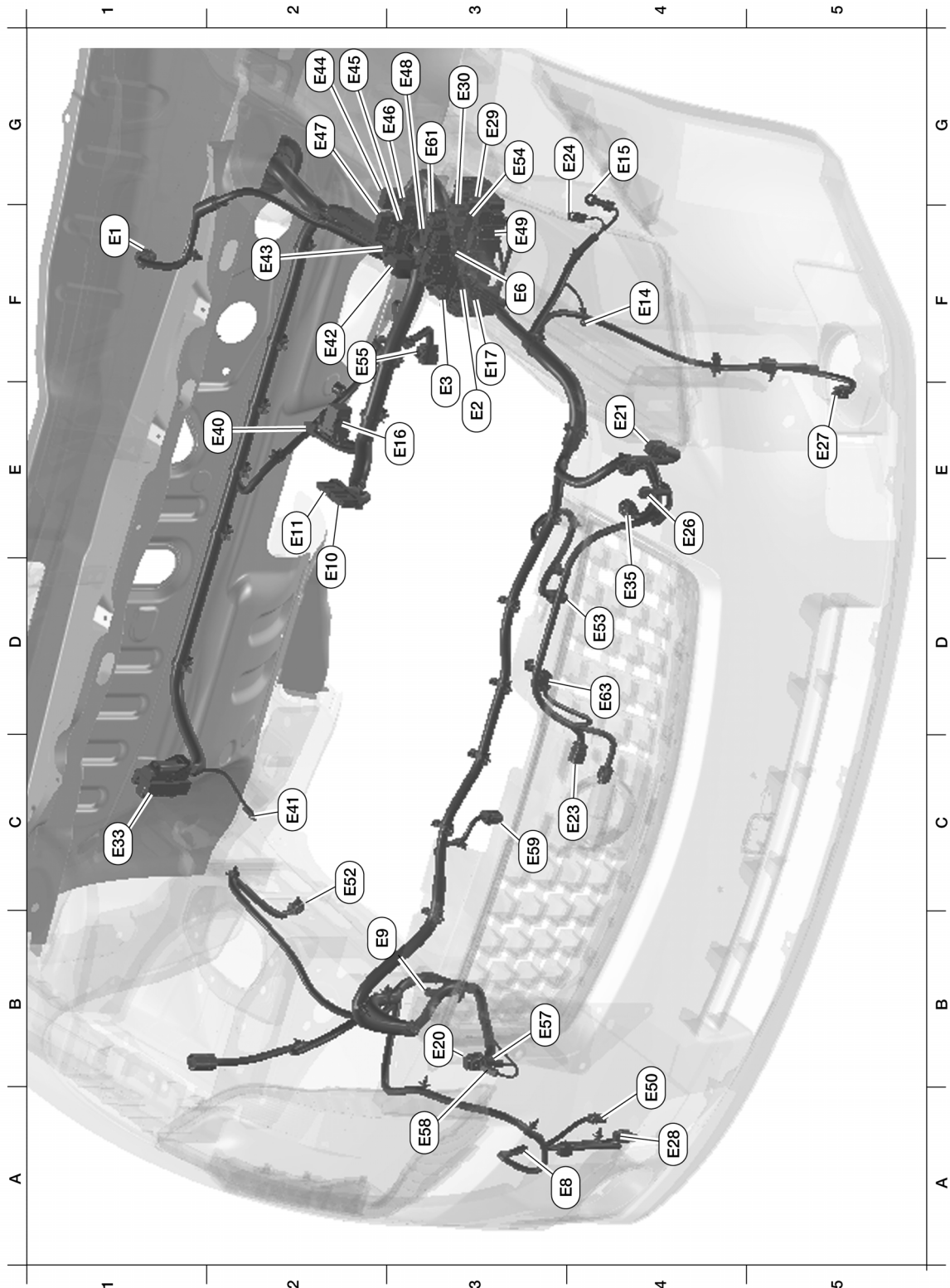
B4	M7	GR/16	: To B2	E2	M61	—	: Body ground
F4	M8	W/16	: To B8	D2	M62	W/2	: Front blower motor
G5	M9	W/8	: To B10	C3	M63	W/8	: Steering angle sensor
B3	M10	W/24	: To B11	B3	M64	GR/6	: VDC off switch
G5	M11	W/24	: To B12	G3	M74	W/8	: To D101
A3	M12	W/16	: To D1	G3	M75	W/12	: To D102
A3	M13	W/12	: To D2	F2	M76	Y/2	: Front passenger air bag module
F2	M14	B/5	: Passenger select unlock relay	F3	M77	O/2	: Front passenger air bag module
F3	M15	W/4	: Remote keyless entry receiver	D2	M79	W/9	: AV control unit (with navigation)
D3	M16	W/3	: Front passenger air bag OFF indicator	C2	M87	W/4	: EPS control unit
A2	M17	W/3	: To E25	D2	M89	W/12	: Double meter (QR25DE)
C2	M18	W/40	: BCM (body control module)	C3	M90	W/8	: Audio unit
C2	M19	W/15	: BCM (body control module)	D2	M91	W/24	: iPod ® adapter
C2	M20	B/15	: BCM (body control module)	D2	M92	W/20	: AV control unit
C3	M21	W/4	: NATS antenna amp.	E3	M93	W/32	: AV control unit
B4	M22	W/16	: Data link connector	D2	M94	W/12	: AV control unit
B2	M24	W/40	: Combination meter	D2	M95	GR/11	: To B72
D4	M25	GR/2	: Instrument panel antenna	D3	M96	W/12	: AV control unit
B2	M26	W/6	: Ignition switch	D3	M97	G/5	: AV control unit
A3	M27	W/4	: Steering lock solenoid	D4	M98	GR/7	: To B68
C2	M28	W/16	: Combination switch	E3	M99	W/24	: AV control unit
B3	M29	Y/6	: Combination switch (spiral cable)	Hazard switch sub-harness			
C3	M30	GR/8	: Combination switch (spiral cable)	C5	M100	W/12	: To M40
A3	M32	Y/4	: To E31	C4	M101	BR/2	: CVT shift selector
C3	M33	W/40	: Front air control	C4	M102	W/4	: Hazard switch
C3	M34	W/3	: Air mix door motor	D4	M103	GR/6	: Manual mode select switch (QR25DE)
D5	M35	Y/28	: Air bag diagnosis sensor unit	Console switch sub-harness			
C2	M37	W/8	: EPS control unit	D5	M200	B/3	: Front console power socket
C4	M38	W/4	: CVT shift selector (without intelligent key system)	E5	M201	W/16	: To B1
C4	M38	W/8	: CVT shift selector (with intelligent key system)	C5	M202	W/6	: Heated seat switch LH
B2	M39	W/2	: Tire pressure warning check connector	D5	M203	BR/6	: Heated seat switch RH
C5	M40	W/12	: To M100	Console sub-harness			
A1	M41	W/12	: To R1	E5	M226	GR/16	: iPod ® connector
E3	M42	W/40	: Intelligent key unit	D5	M227	GR/7	: To B67
D2	M43	W/20	: Audio unit	C5	M228	B/5	: USB interface (without navigation)
D2	M45	W/12	: Audio unit	C5	M228	B/5	: USB interface and aux jack (with navigation)
A2	M46	BR/2	: Front tweeter LH	C5	M229	B/4	: USB interface and aux jack
G2	M47	BR/2	: Front tweeter RH	E4	M230	GR/11	: To B91
E2	M48	W/3	: Intake door motor				
B3	M49	GR/6	: Key switch and ignition knob switch				
B3	M50	BR/2	: Key switch				
E4	M51	W/3	: Mode door motor				
E3	M52	W/4	: Fan control amp.				



# HARNESS

< SERVICE INFORMATION >

## ENGINE ROOM HARNESS



Refer to "PASSENGER COMPARTMENT" for continuation of engine room harness.

ABMIA2403GB

F1	E1	GR/5	: Front wiper motor	D4	E35	B/3	: Refrigerant pressure sensor
E3	E2	W/2	: To F1	E2	E40	GR/2	: Brake fluid level switch
E3	E3	W/24	: To F2	C2	E41	—	: Body ground

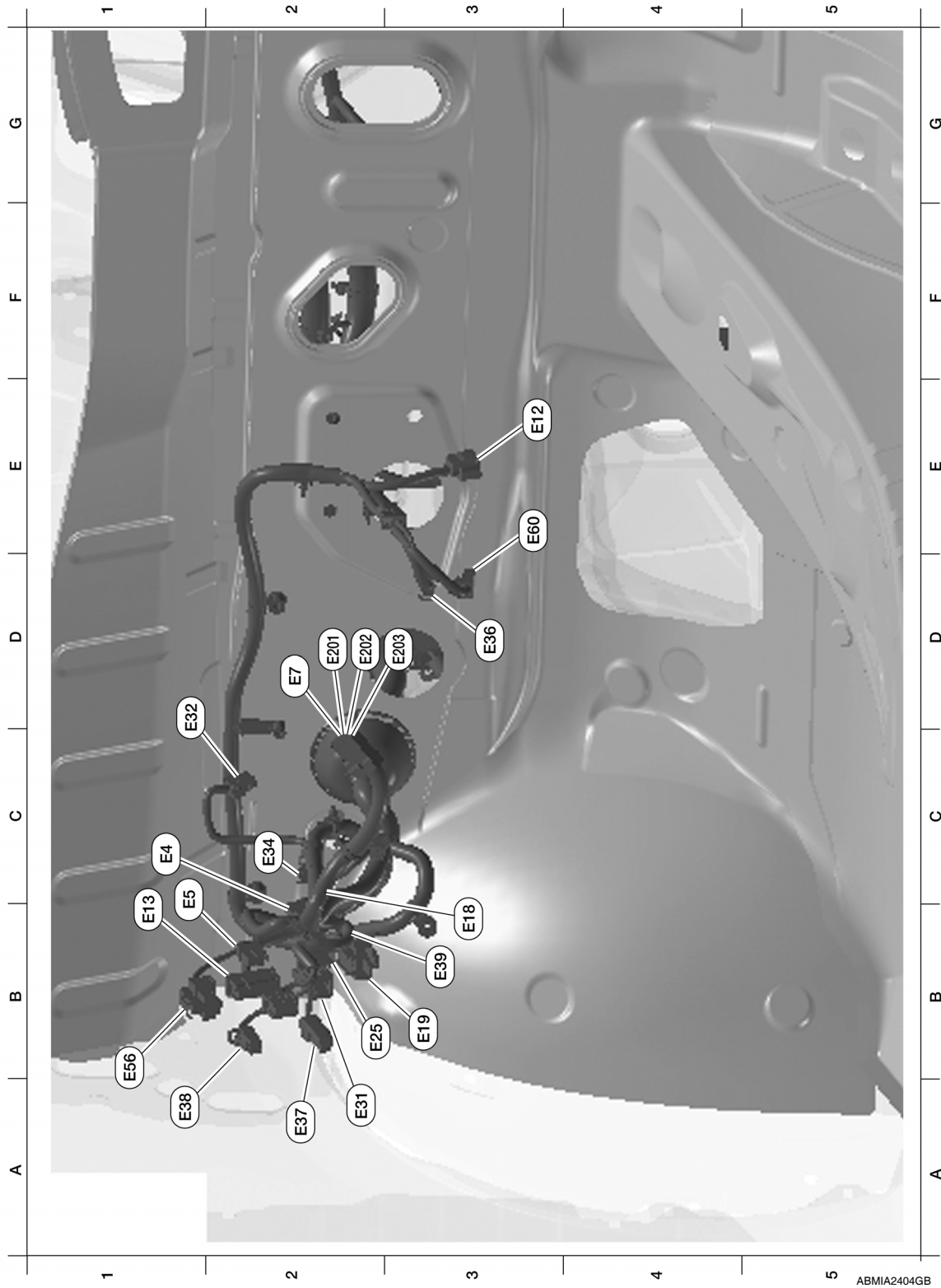
# HARNES

## < SERVICE INFORMATION >

F3	E6	—	: Fuse and fusible link box	F2	E42	B/2	: IPDM E/R (intelligent power distribution module engine room)
A3	E8	W/2	: Front washer motor	F2	E42	B/2	: IPDM E/R (intelligent power distribution module engine room)
B2	E9	—	: Engine ground	F2	E43	W/16	: IPDM E/R (intelligent power distribution module engine room)
D2	E10	BR/2	: Fusible link box (battery)	G2	E44	W/6	: IPDM E/R (intelligent power distribution module engine room)
D2	E11	GR/2	: Fusible link box (battery)	G2	E45	BR/12	: IPDM E/R (intelligent power distribution module engine room)
F4	E14	—	: Body ground	G2	E46	W/12	: IPDM E/R (intelligent power distribution module engine room)
G4	E15	—	: Body ground	G2	E47	BR/8	: IPDM E/R (intelligent power distribution module engine room)
E3	E16	B/32	: ECM	G3	E48	B/6	: IPDM E/R (intelligent power distribution module engine room)
F3	E17	W/16	: To F10	F3	E49	L/4	: Cooling fan relay - 4
B3	E20	GR/6	: Front combination lamp RH	A4	E50	BR/2	: Washer fluid level switch
E4	E21	GR/6	: Front combination lamp LH	C2	E52	GR/2	: Front wheel sensor RH
C4	E23	Y/2	: Crash zone sensor	D4	E53	GR/4	: Cooling fan motor - 2
G4	E24	—	: Body ground	G3	E54	L/4	: Cooling fan relay - 5
E4	E26	BR/3	: Intelligent key warning buzzer	F2	E55	B/4	: Heated oxygen sensor 2
E5	E27	B/2	: Front fog lamp LH	B3	E57	B/1	: Horn
A4	E28	B/2	: Front fog lamp RH	A3	E58	B/1	: Horn
G3	E29	B/5	: Daytime light relay 1	C3	E59	W/4	: Cooling fan motor - 1
G3	E30	L/4	: Daytime light relay 2	G3	E61	L/2	: Front wheel sensor LH
C1	E33	B/26	: ABS actuator and electric unit (control unit)	D4	E63	B/2	: Ambient sensor

# HARNESS

< SERVICE INFORMATION >  
PASSENGER COMPARTMENT



Refer to "ENGINE ROOM HARNESS" for continuation of engine room harness.

C1	E4	W/32	: To M2	D3	E36	BR/2	: ASCD brake switch
C1	E5	W/2	: To B3 (without VDC)	A2	E37	B/1	: Fuse block (J/B)
C1	E5	W/6	: To B3 (with VDC)	A1	E38	B/2	: Fuse block (J/B)
D2	E7	B/2	: To E201	B3	E39	W/8	: Fuse block (J/B)
E3	E12	B/6	: Accelerator pedal position sensor	B1	E56	L/4	: Heated mirror relay

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# HARNESS

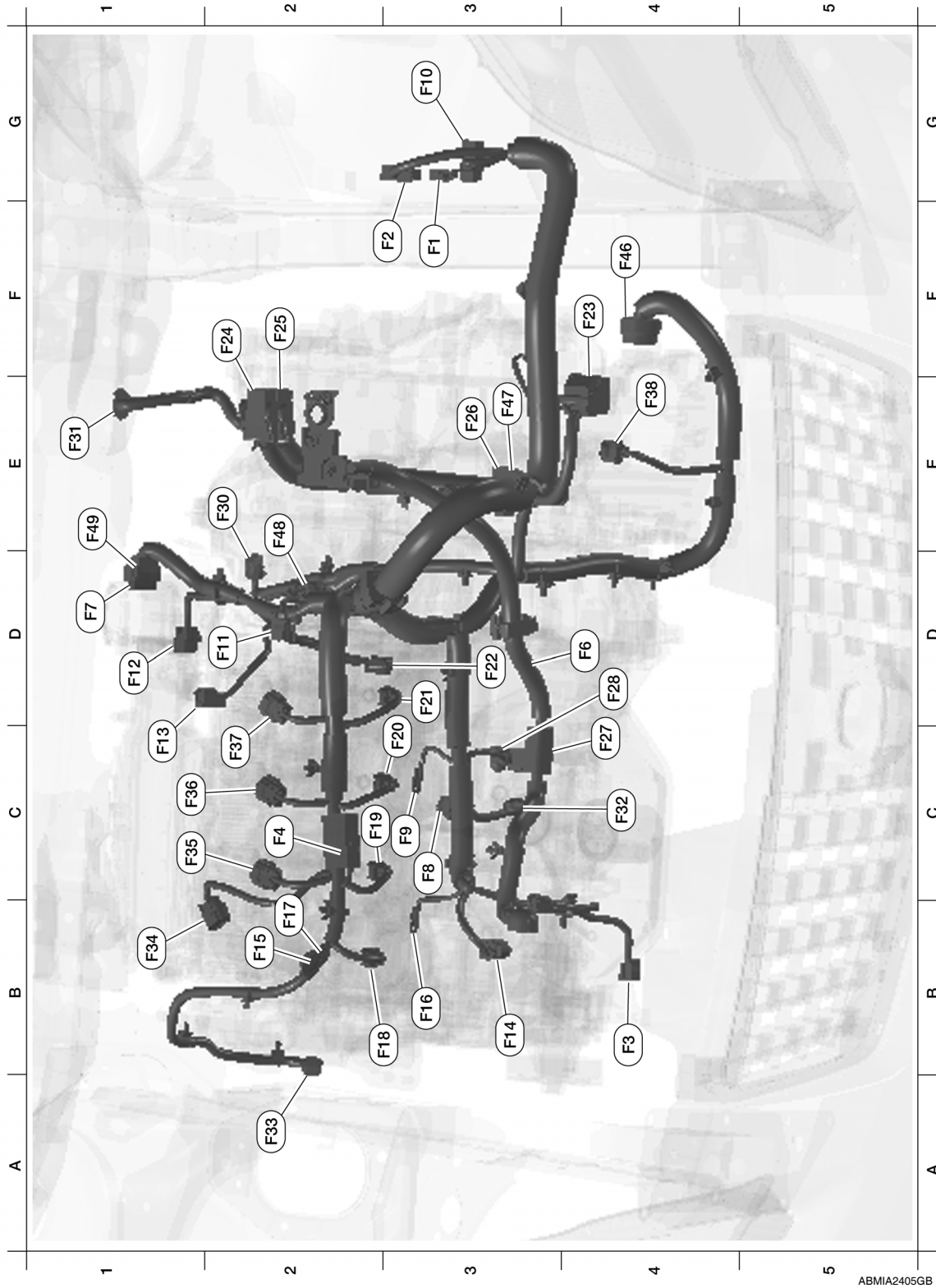
## < SERVICE INFORMATION >

B1	E13	W/16	: To B9	E3	E60	W/4	: Stop lamp switch (without M/T)
B3	E18	BR/6	: Heated seat relay	E3	E60	B/2	: Stop lamp switch (with M/T)
B3	E19	W/6	: To M6	EPS sub-harness			
B2	E25	W/3	: To M17	D2	E201	B/2	: E7
A2	E31	Y/4	: To M32	D2	E202	GR/2	: EPS control unit
D1	E32	BR/2	: ASCD clutch switch	D3	E203	—	: Body ground
C2	E34	BR/2	: Clutch interlock switch (with M/T)				

# HARNESS

< SERVICE INFORMATION >

## ENGINE CONTROL HARNESS (MR20DE)



ABMIA2405GB

F3	F1	W/2	: To E2	D3	F22	B/3	: Crankshaft position sensor (POS)
F3	F2	W/24	: To E3	F4	F23	B/48	: TCM (transmission control module)
B4	F3	B/2	: A/C compressor	F2	F24	GR/32	: ECM
C2	F4	W/2	: Condenser-2	F2	F25	BR/48	: ECM
D3	F6	GR/2	: Engine coolant temperture sensor	E3	F26	G/3	: Park/neutral position (PNP) switch (with M/T)

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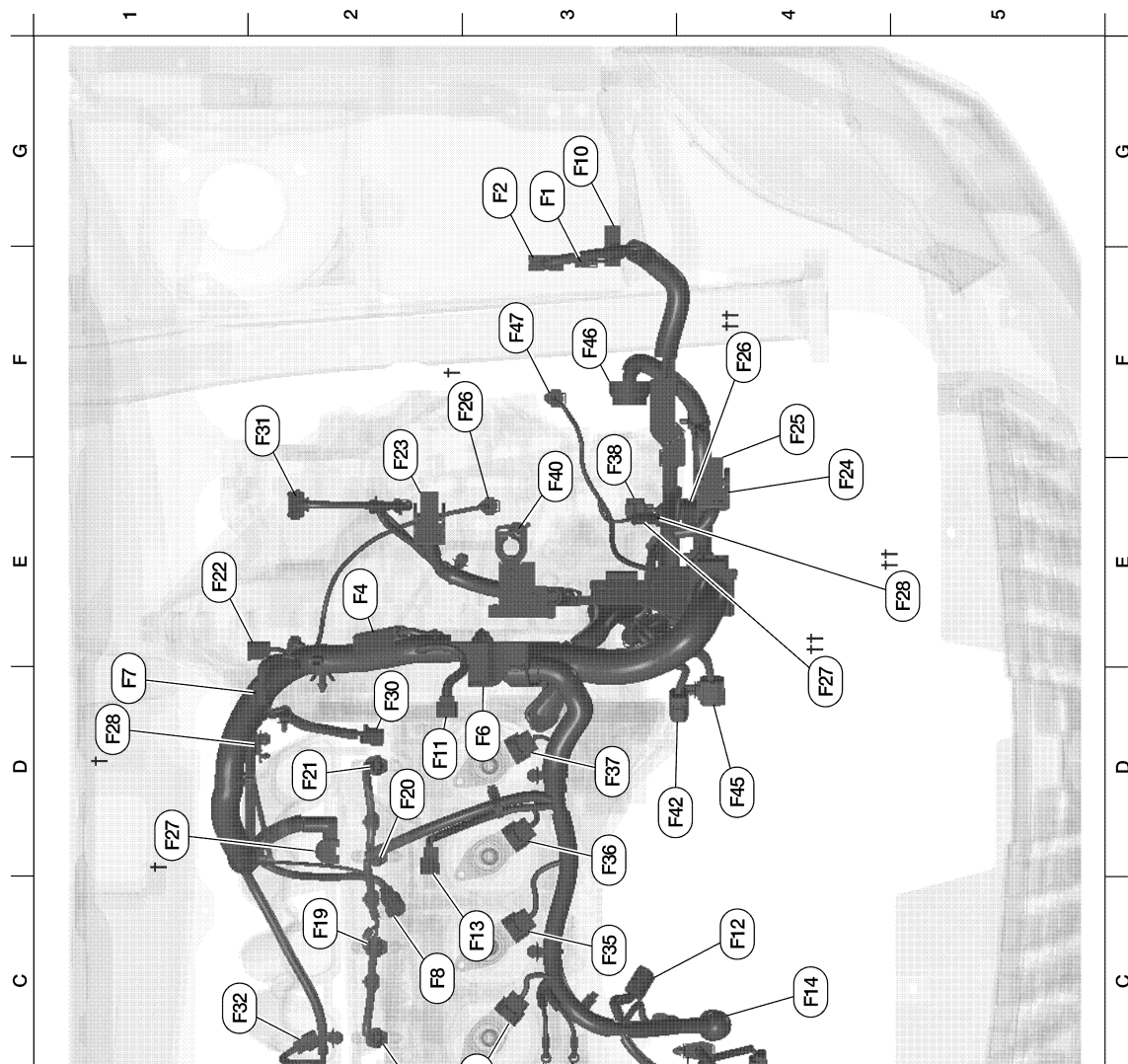
PG

# HARNESS

## < SERVICE INFORMATION >

D1	F7	B/6	: Electric throttle control actuator	E3	F26	G/8	: Transmission range switch (with CVT)
C3	F8	B/2	: Knock sensor	C4	F27	—	: Starter motor
C3	F9	—	: Engine ground	D4	F28	—	: Starter motor
G3	F10	W/16	: To E17	E2	F30	B/3	: Secondary speed sensor
D2	F11	B/3	: Camshaft position sensor (PHASE)	E1	F31	B/6	: Mass air flow sensor
D1	F12	GR/4	: Air fuel ratio (A/F) sensor 1 (except California)	C4	F32	GR/1	: Oil pressure switch
D1	F12	BR/4	: Air fuel ratio (A/F) sensor 1 (for California)	A2	F33	G/2	: Intake valve timing control solenoid valve
C1	F13	L/2	: EVAP canister purge volume control solenoid valve	B1	F34	GR/3	: Ignition coil No. 1 (with power transistor)
B3	F14	B/3	: Generator	C1	F35	GR/3	: Ignition coil No. 2 (with power transistor)
B2	F15	—	: Generator	C1	F36	GR/3	: Ignition coil No. 3 (with power transistor)
B2	F16	—	: Engine ground	C2	F37	GR/3	: Ignition coil No. 4 (with power transistor)
B3	F17	—	: Generator	E4	F38	B/3	: Primary speed sensor
B3	F18	GR/2	: Fuel injector No. 1	F4	F46	B/22	: CVT unit
C3	F19	GR/2	: Fuel injector No. 2	E3	F47	B/2	: Back-up lamp switch
C3	F20	GR/2	: Fuel injector No. 3	E2	F48	GR/2	: Engine oil temperature sensor
D3	F21	GR/2	: Fuel injector No. 4	E1	F49	GR/5	: Tumble control valve actuator (for California)

## ENGINE CONTROL HARNESS (QR25DE)



# HARNESS

## < SERVICE INFORMATION >

G3	F1	W/2	: To E2	F4	F25	BR/48	: ECM	A
G3	F2	W/24	: To E3	F3	F26†	B/2	: Park/ neutral position (PNP) switch (with M/T)	B
B4	F3	B/2	: A/C compressor	F4	F26††	G/8	: Transmission range switch (with CVT)	B
E2	F4	W/2	: Condenser-2	D1	F27†	—	: Starter motor (CVT)	B
D2	F6	GR/2	: Engine coolant temperature sensor	D4	F27††	—	: Starter motor (M/T)	C
D1	F7	B/6	: Electric throttle control actuator	E5	F28††	—	: Starter motor (M/T)	C
C2	F8	GR/2	: Knock sensor	D1	F28†	GR/1	: Starter motor (CVT)	D
B3	F9	—	: Engine ground	D2	F30	B/3	: Secondary speed sensor	D
G3	F10	W/16	: To E17	F2	F31	B/6	: Mass air flow sensor	D
D2	F11	B/3	: Camshaft position sensor (PHASE)	C1	F32	B/3	: Oil pressure switch	E
C4	F12	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 1)	B2	F33	GR/2	: Intake valve timing control solenoid valve	E
C3	F13	L/2	: EVAP canister purge volume control solenoid valve	C3	F34	GR/3	: Ignition coil No. 1 (with power transistor)	F
C4	F14	B/3	: Generator	C3	F35	GR/3	: Ignition coil No. 2 (with power transistor)	F
B1	F15	—	: Generator	D3	F36	GR/3	: Ignition coil No. 3 (with power transistor)	G
B3	F16	—	: Engine ground	D3	F37	GR/3	: Ignition coil No. 4 (with power transistor)	G
B1	F17	—	: Generator	E3	F38	B/3	: Primary speed sensor	G
B2	F18	GR/2	: Fuel injector No. 1	E3	F40	—	: Fusible link box (battery)	H
C2	F19	GR/2	: Fuel injector No. 2	D3	F42	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 2)	H
D2	F20	GR/2	: Fuel injector No. 3	B3	F43	B/4	: Heated oxygen sensor 2 (bank 1)	I
D2	F21	GR/2	: Fuel injector No. 4	D4	F45	B/4	: Heated oxygen sensor 2 (bank 2)	I
E1	F22	B/3	: Crankshaft position sensor (POS)	F3	F46	B/22	: CVT unit	J
F2	F23	B/48	: TCM (transmission control module)	F3	F47	B/2	: Back-up lamp switch	J
E4	F24	GR/32	: ECM					J

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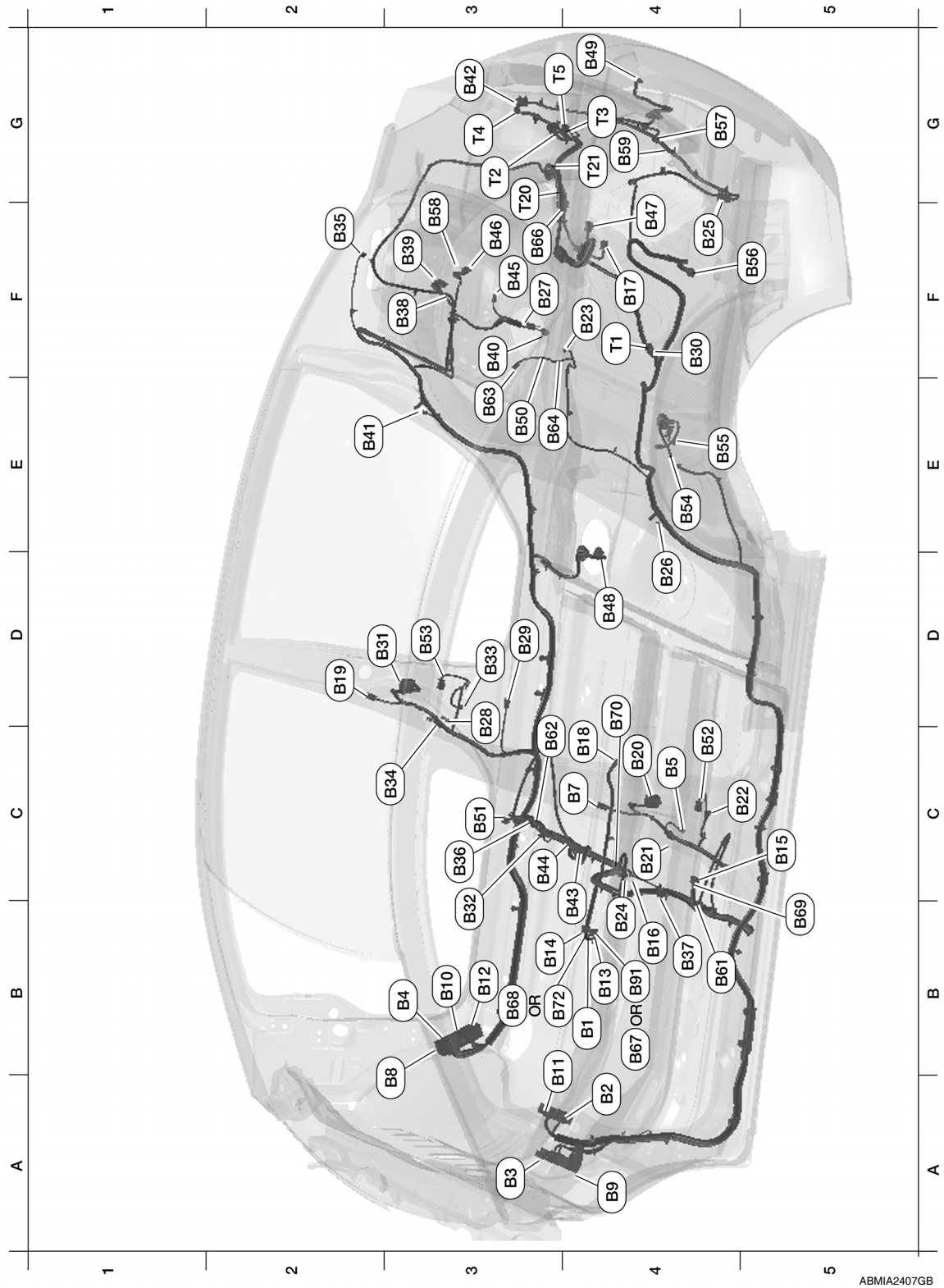
O

P

# HARNESS

< SERVICE INFORMATION >

## BODY HARNESS



ABMIA2407GB

B3	B1	W/16	: To M201	E3	B41	W/3	: Rear door switch RH
A4	B2	GR/16	: To M7	G3	B42	W/6	: Rear combination lamp RH
A3	B3	W/2	: To E5 (without VDC)	B4	B43	W/24	: Audio amplifier
A3	B3	W/6	: To E5 (with VDC)	C4	B44	W/8	: Audio amplifier
B3	B4	GR/16	: To M5	F3	B45	GR/2	: Rear parcel shelf antenna

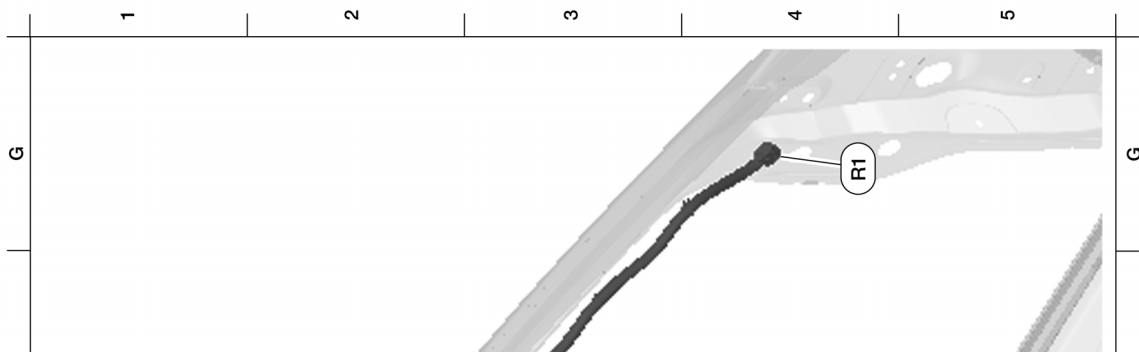


# HARNESS

## < SERVICE INFORMATION >

C4	B5	—	: Body ground (satellite sensor)	F3	B46	W/2	: High mounted stop lamp (without rear spoiler)	A	
C4	B7	—	: Body ground	G4	B47	GR/3	: EVAP control system pressure sensor	B	
B3	B8	W/16	: To M8	D4	B48	GR/5	: Fuel level sensor unit and fuel pump	C	
A4	B9	W/16	: To E13	G4	B49	GR/2	: Rear bumper antenna	D	
B3	B10	W/8	: To M9	E3	B50	B/1	: Rear window defogger	E	
B4	B11	W/24	: To M10	C3	B51	Y/2	: Front RH side air bag module	F	
B3	B12	W/24	: To M11	C4	B52	Y/2	: LH side air bag (satellite) sensor	G	
B4	B13	Y/12	: Air bag diagnosis sensor unit	D3	B53	Y/2	: RH side air bag (satellite) sensor	H	
B3	B14	Y/12	: Air bag diagnosis sensor unit	E4	B54	GR/2	: Rear wheel sensor LH	I	
C5	B15	W/32	: Bluetooth control unit	E5	B55	L/2	: Rear wheel sensor RH	J	
B4	B16	W/4	: Seat belt buckle switch LH	F5	B56	W/16	: Satellite radio tuner	PG	
F4	B17	B/2	: EVAP canister vent control valve	G4	B57	W/2	: Trunk room lamp switch	L	
C4	B18	GR/2	: Front console antenna	F3	B58	W/2	: Trunk room lamp	M	
D2	B19	—	: Body ground	G4	B59	W/2	: Trunk lid opener actuator	N	
C4	B20	W/8	: To D201	B4	B61	W/3	: To B200	O	
C4	B21	W/3	: Front door switch LH	C3	B62	W/3	: To B300	P	
C5	B22	Y/2	: Front LH seat belt pre-tensioner	E3	B63	B/1	: Rear window defogger		
F4	B23	Y/2	: LH side front curtain air bag module	E3	B64	—	: Body ground		
B4	B24	B/1	: Parking brake switch	F3	B66	W/6	: To T20		
F5	B25	W/6	: Rear combination lamp LH	B4	B67	GR/7	: To M227		
D4	B26	W/3	: Rear door switch LH	B3	B68	GR/7	: To M98		
F4	B27	W/2	: Rear speaker LH	B5	B69	W/8	: Bluetooth control unit		
D3	B28	W/3	: Front door switch RH	D4	B70	B/4	: Yaw rate/side/decel G sensor		
D3	B29	W/3	: Belt tension sensor	B2	B72	W/11	: To M95		
F4	B30	W/4	: To T1	B3	B91	GR/11	: To M230		
D3	B31	W/8	: To D301	Tail sub-harness					
C3	B32	W/4	: Seat belt buckle switch RH	F4	T1	W/4	: To B30		
D3	B33	Y/2	: Front RH seat belt pre-tensioner	G3	T2	BR/2	: High mounted stop lamp (with rear spoiler)		
C3	B34	—	: Body ground (satellite sensor)	G4	T3	BR/2	: License plate lamp LH		
F2	B35	Y/2	: RH side front curtain air bag module	G3	T4	BR/2	: License plate lamp RH		
C3	B36	W/8	: To B302	G4	T5	BR/2	: Trunk opener request switch		
B4	B37	Y/2	: Front LH side air bag module	Tail No. 2 sub-harness					
F3	B38	W/4	: Rear speaker assembly RH	G3	T20	W/6	: To B66		
F3	B39	W/2	: Rear speaker RH	G4	T21	W/4	: Rear view camera		
F3	B40	W/4	: Rear speaker assembly LH						

## ROOM LAMP HARNESS

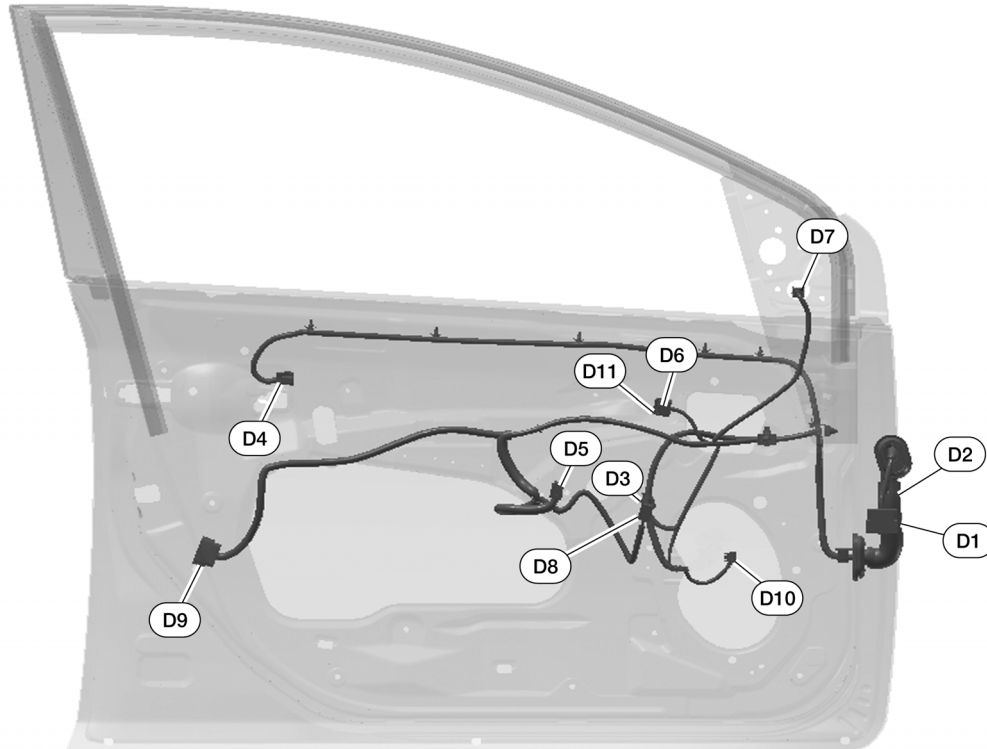


# HARNESS

## < SERVICE INFORMATION >

G4	R1	W/12	: To M41	E3	R8	W/2	: Vanity mirror lamp RH
D3	R3	W/2	: Map lamp	Sunroof sub-harness			
D3	R4	W/4	: Microphone	D3	R25	BR/4	: To R6
B1	R5	W/2	: Interior room lamp	C3	R26	GR/10	: Sunroof motor assembly
C3	R6	BR/4	: To R25	D3	R27	W/3	: Sunroof switch
C4	R7	W/2	: Vanity mirror lamp LH				

## FRONT DOOR LH HARNESS

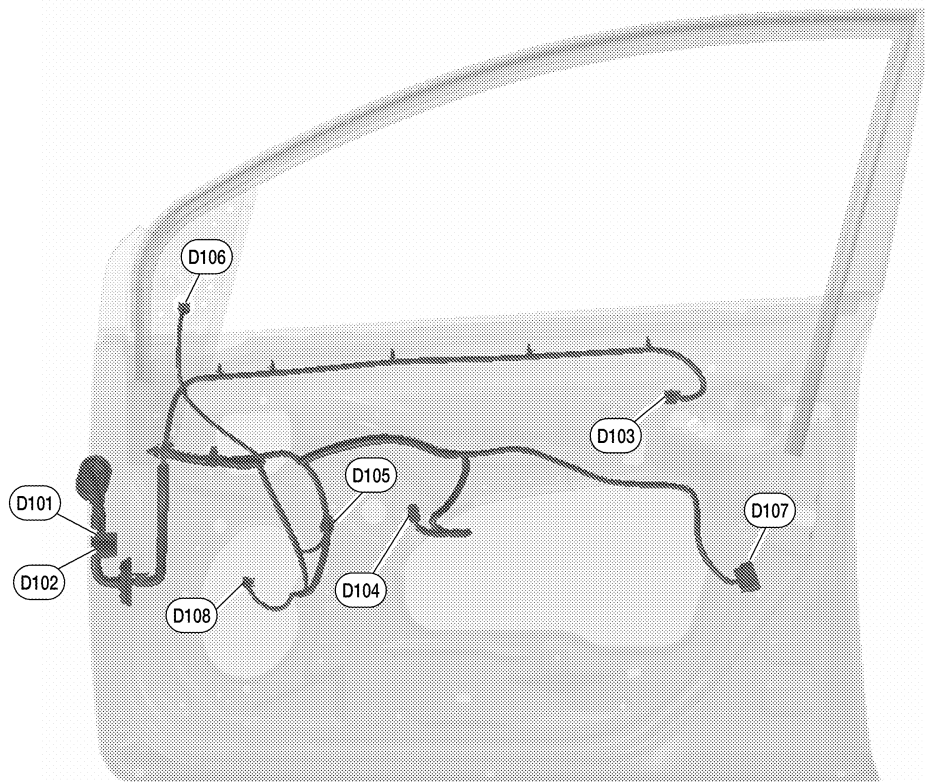


ABMIA2409GB

D1	W/16	: To M12	D7	W/8	: Door mirror LH
D2	W/12	: To M13	D8	B/6	: Front power window motor LH
D3	W/10	: Door mirror switch	D9	GR/6	: Front door lock assembly LH
D4	B/4	: Front outside handle LH	D10	W/2	: Front door speaker LH
D5	W/16	: Main power window and door lock/unlock switch	D11	W/3	: Main power window and door lock/unlock switch
D6	GR/8	: Door lock/unlock switch LH			

# HARNESS

## < SERVICE INFORMATION > FRONT DOOR RH HARNESS



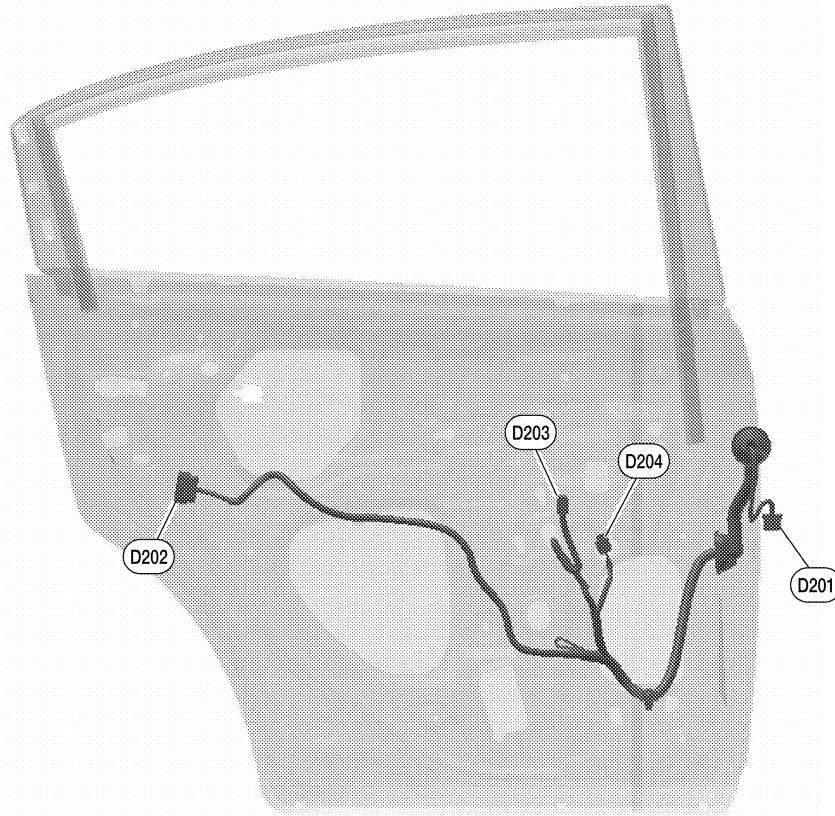
LKIA0917E

D101	W/8	: To M74	D105	B/6	: Front power window motor RH
D102	W/12	: To M75	D106	W/8	: Door mirror RH
D103	B/4	: Front outside handle RH	D107	GR/6	: Front door lock actuator RH
D104	W/12	: Power window and door lock/unlock switch RH	D108	W/2	: Front door speaker RH

# HARNESS

< SERVICE INFORMATION >

## REAR DOOR LH HARNESS



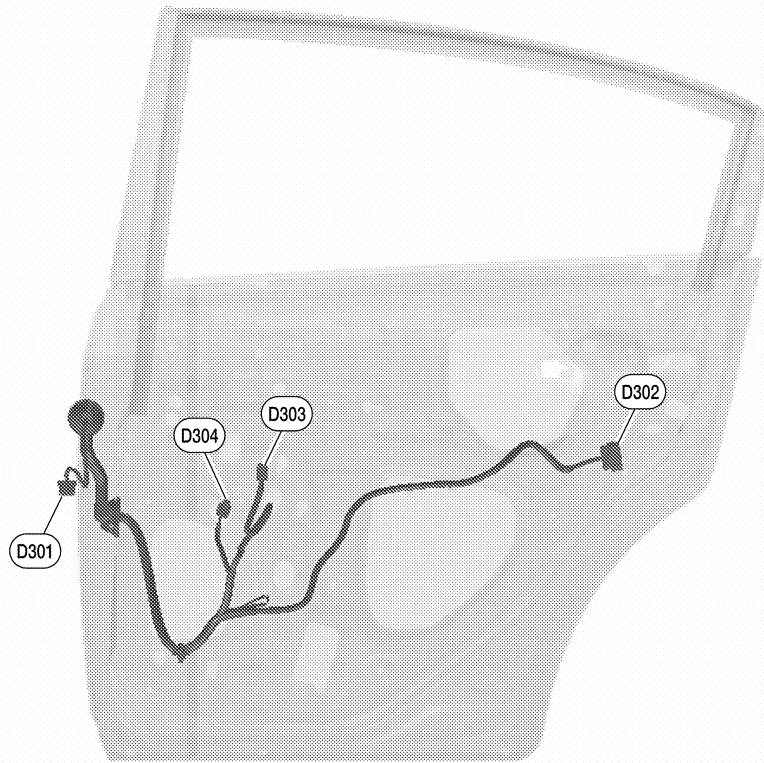
LKIA0914E

D201	W/8	: To B20	D203	W/8	: Rear power window switch LH
D202	GR/6	: Rear door lock actuator LH	D204	GR/2	: Rear power window motor LH

# HARNESS

< SERVICE INFORMATION >

## REAR DOOR RH HARNESS



LKIA0915E

D301	W/8	: To B31	D303	W/8	: Rear power window switch RH
D302	GR/6	: Rear door lock actuator RH	D304	GR/2	: Rear power window motor RH

### Wiring Diagram Codes (Cell Codes)

INFOID:000000006151970

Use the chart below to find out what each wiring diagram code stands for.

Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

Code	Section	Wiring Diagram Name
ABS	BRC	Anti-lock Brake System
A/C,M	MTC	Manual Air Conditioner
A/F	EC	Air Fuel Ratio Sensor 1
A/FH	EC	Air Fuel Ratio Sensor 1 Heater
A/F1B1	EC	Air Fuel Ratio Sensor 1 Bank 1
A/F1B2	EC	Air Fuel Ratio Sensor 1 Bank 2
A/F1HB1	EC	Air Fuel Ratio Sensor 1 Heater Bank 1
A/F1HB2	EC	Air Fuel Ratio Sensor 1 Heater Bank 2
APPS1	EC	Accelerator Pedal Position Sensor
APPS2	EC	Accelerator Pedal Position Sensor
APPS3	EC	Accelerator Pedal Position Sensor
ASC/BS	EC	ASCD Brake Switch
ASC/SW	EC	ASCD Steering Switch
ASCBOF	EC	ASCD Brake Switch
ASCIND	EC	ASCD Indicator
AUDIO	AV	Audio

# HARNESSES

## < SERVICE INFORMATION >

BACK/L	LT	Back-up Lamp
B/COMP	DI	Board Computer
BRK/SW	EC	Brake Switch
CAN	CVT	CAN Communication Line
CAN	EC	CAN Communication Line
CAN	LAN	CAN System
CHARGE	SC	Charging System
CHIME	DI	Warning Chime
COOL/F	EC	Cooling Fan Control
COMBSW	LT	Combination Switch
COMM	AV	Audio Visual Communication System
CVTIND	DI	CVT Indicator Lamp
D/LOCK	BL	Power Door Lock
DEF	GW	Rear Window Defogger
DTRL	LT	Headlamp - With Daytime Light System
ECM/PW	EC	ECM Power Supply For Back-up
ECTS	EC	Engine Coolant Temperature Sensor
EOTS	EC	Engine Oil Temperature Sensor
EPS	STC	Electronic Controlled Power Steering
ETC1	EC	Electric Throttle Control Function
ETC2	EC	Throttle Control Motor Relay
ETC3	EC	Throttle Control Motor
F/FOG	LT	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FTS	CVT	CVT Fluid Temperature Sensor Circuit
FTTS	EC	Fuel Tank Temperature Sensor
FUEL	EC	Fuel Ignition System Function
FUELB1	EC	Fuel Ignition System Function Bank1
FUELB2	EC	Fuel Ignition System Function Bank2
HEATER	MTC	Heater System
H/LAMP	LT	Headlamp
H/PHON	AV	Hands Free Telephone
HORN	WW	Horn
HO2S2	EC	Heated Oxygen Sensor 2
HO2S2H	EC	Heated Oxygen Sensor 2 Heater
IATS	EC	Intake Air Temperature Sensor
IGNSYS	EC	Ignition System
I/KEY	BL	Intelligent Key System
ILL	LT	Illumination
INJECT	EC	Injector
INT/L	LT	Room/Map, Vanity and Luggage Lamps
IVC	EC	Intake Valve Timing Control Solenoid Valve
KEYLES	BL	Remote Keyless Entry System
KS	EC	Knock Sensor
LPSV	CVT	Line Pressure Solenoid Valve
L/USSV	CVT	Lock-up Select Solenoid Valve
MAFS	EC	Mass Air Flow Sensor
MAIN	EC	Main Power Supply and Ground Circuit
METER	DI	Speedometer, Tachometer, Temp. and Fuel Gauges
2METER	DI	Double Meter
MIL/DL	EC	Malfunction Indicator Lamp
MIRROR	GW	Door Mirror

# HARNESS

## < SERVICE INFORMATION >

MMSW	CVT	Manual Mode Switch	A
NATS	BL	Nissan Anti-Theft System	
NONDTC	CVT	Non-detectable Item	
ODSW	CVT	Overdrive Control Switch	B
O2H2B1	EC	Heated Oxygen Sensor 2 Heater Bank 1	
O2H2B2	EC	Heated Oxygen Sensor 2 Heater Bank 2	
O2S2B1	EC	Heated Oxygen Sensor 2 Bank 1	C
O2S2B2	EC	Heated Oxygen Sensor 2 Bank 2	
P/SCKT	WW	Power Socket	
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve	D
PHASE	EC	Camshaft Position Sensor (PHASE)	
TR/SW	EC	Transmission range switch	
POS	EC	Crankshaft Position Sensor (POS)	E
POWER	CVT	Transmission Control Module (Power Supply)	
PRE/SE	EC	EVAP Control System Pressure Sensor	
PRSCVT	CVT	Primary Speed Sensor CVT (Revolution Sensor)	F
RP/SEN	EC	Refrigerant Pressure Sensor	
R/VIEW	AV	Rear View Camera	
SECPS	CVT	Secondary Pressure Sensor	G
SECPSV	CVT	Secondary Speed Sensor CVT (Revolution Sensor)	
SEN/PW	EC	Sensor Power Supply	
SESCVT	CVT	Secondary Pressure Sensor Solenoid Valve	H
SHIFT	CVT	CVT Shift Lock System	
SROOF	RF	Sunroof	
SRS	SRS	Supplemental Restraint System	I
START	SC	Starting System	
STM	CVT	Step Motor	
STOP/L	LT	Stop Lamp	J
TCV	CVT	Torque Converter Clutch Solenoid Valve	
TCV1	EC	Tumble Control Valve	
TCV2	EC	Tumble Control Valve	PG
T/LID	BL	Trunk Lid Opener	
T/WARN	WT	Low Tire Pressure Warning System	
TAIL/L	LT	Parking, License and Tail Lamps	L
TPS1	EC	Throttle Position Sensor	
TPS2	EC	Throttle Position Sensor	
TPS3	EC	Throttle Position Sensor	M
TR/SW	CVT	Transmission Range Switch	
TURN	LT	Turn Signal and Hazard Warning Lamps	N
VEHSEC	BL	Vehicle Security (Theft Warning) System	
VENT/V	EC	EVAP Canister Vent Control Valve	
VDC	BRC	Vehicle Dynamic Control System	O
WARN	DI	Warning Lamps	
WINDOW	GW	Power Window	
WIPER	WW	Front Wiper and Washer	P

# ELECTRICAL UNITS LOCATION

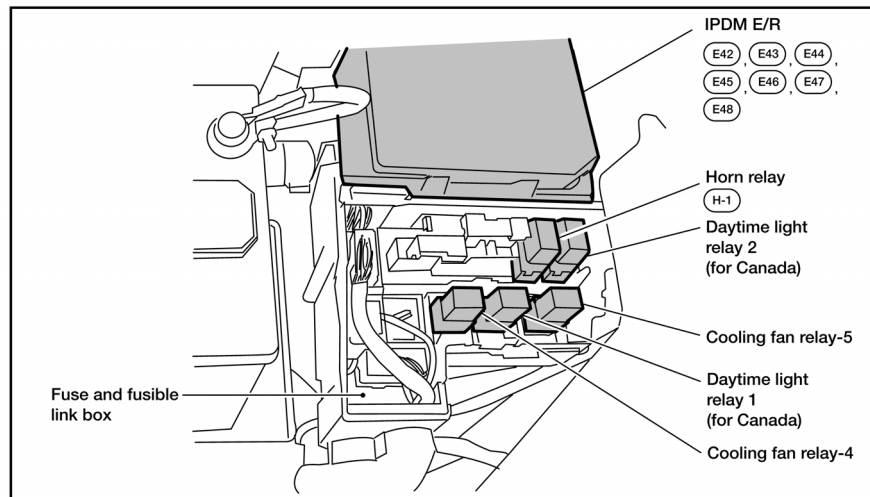
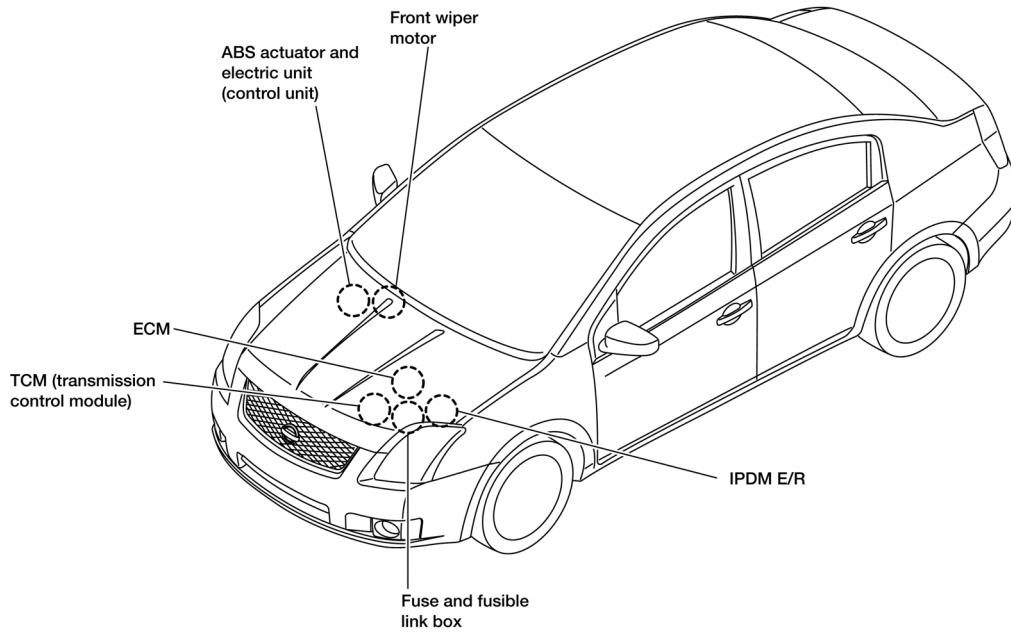
< SERVICE INFORMATION >

## ELECTRICAL UNITS LOCATION

### Electrical Units Location

INFOID:000000006151971

### ENGINE COMPARTMENT



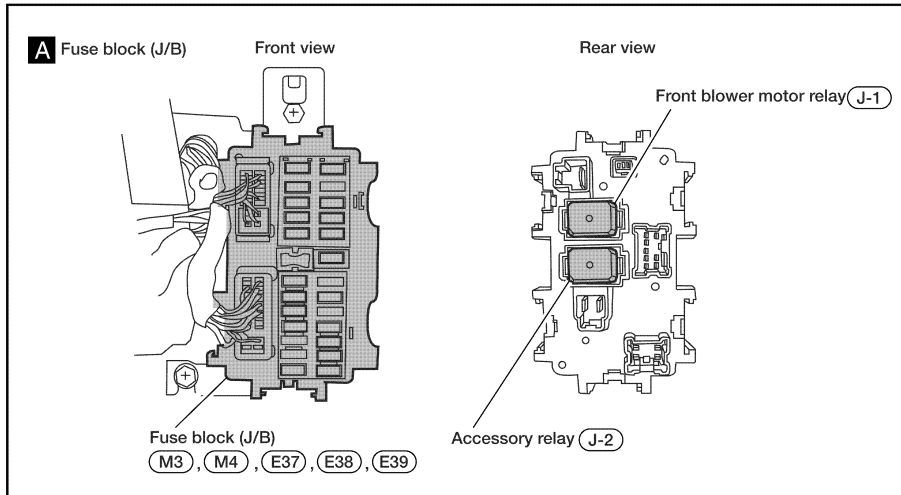
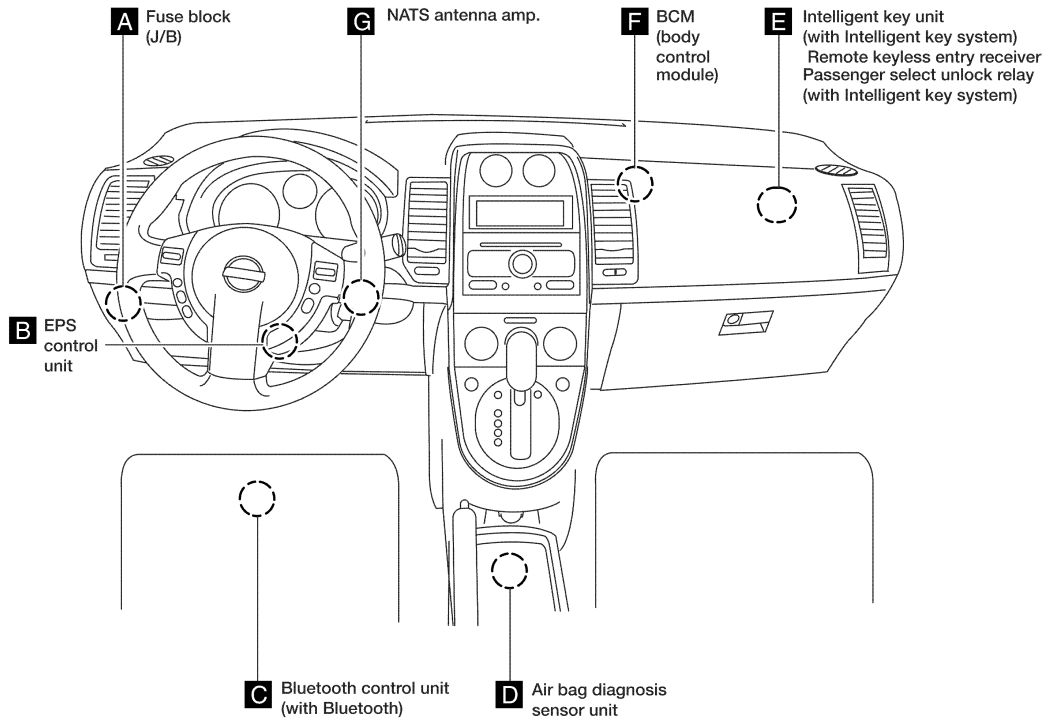
WKIA6038E



# ELECTRICAL UNITS LOCATION

< SERVICE INFORMATION >

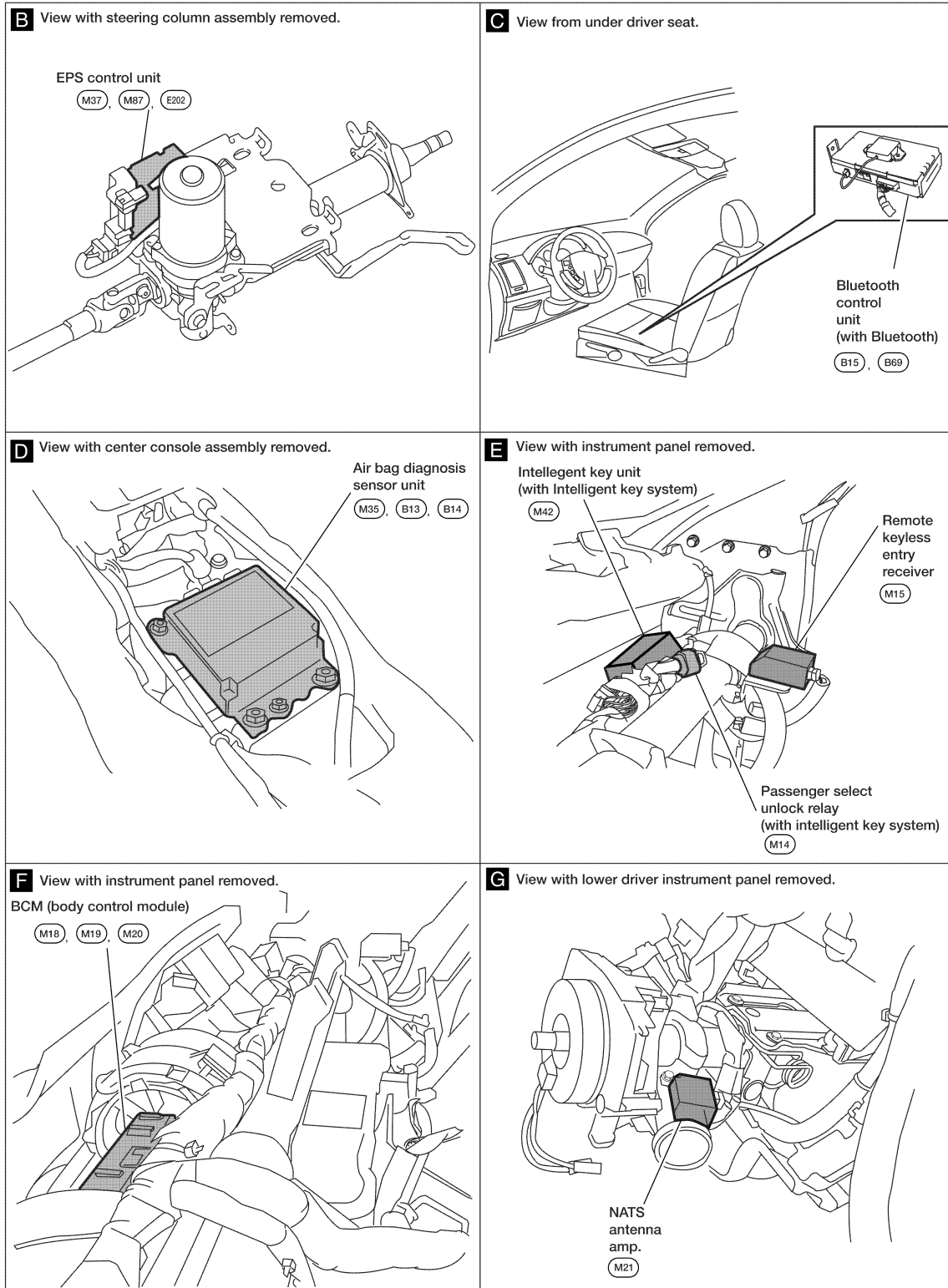
## PASSENGER COMPARTMENT



ABMIA2410GB

# ELECTRICAL UNITS LOCATION

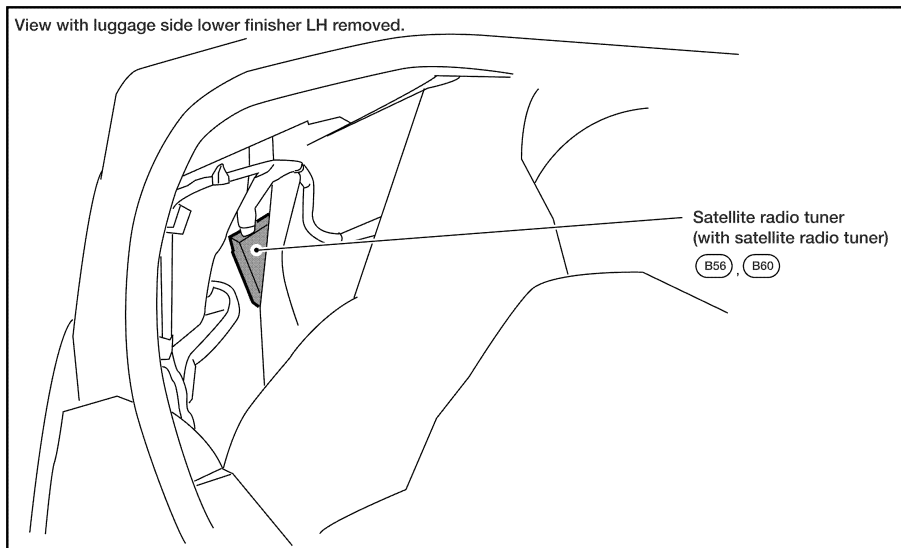
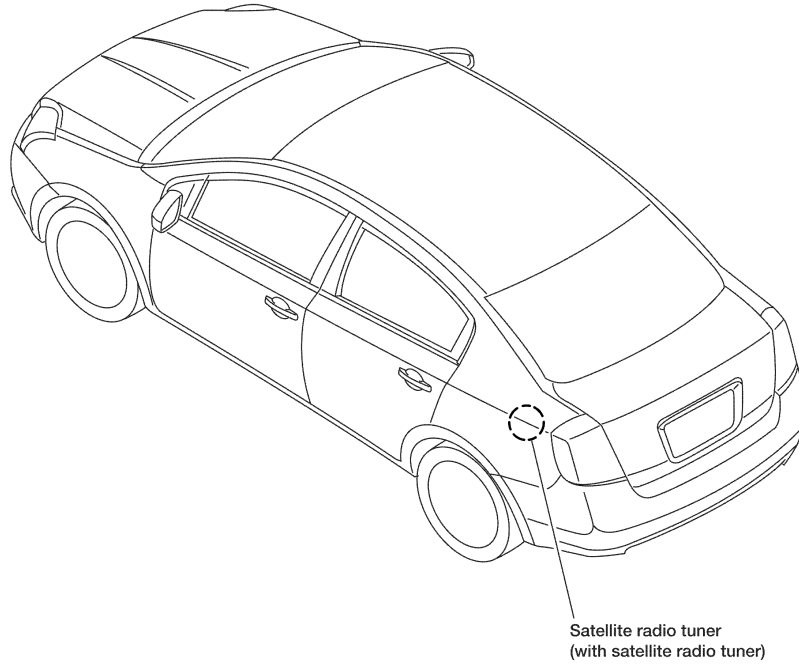
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ABMIA2411GB

# ELECTRICAL UNITS LOCATION

< SERVICE INFORMATION >  
LUGGAGE COMPARTMENT



ABMIA2412GB

A  
B  
C  
D  
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F  
G  
H  
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J  
PG  
L  
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P

# HARNESS CONNECTOR

< SERVICE INFORMATION >

## HARNESS CONNECTOR

### Description

INFOID:000000006151972

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

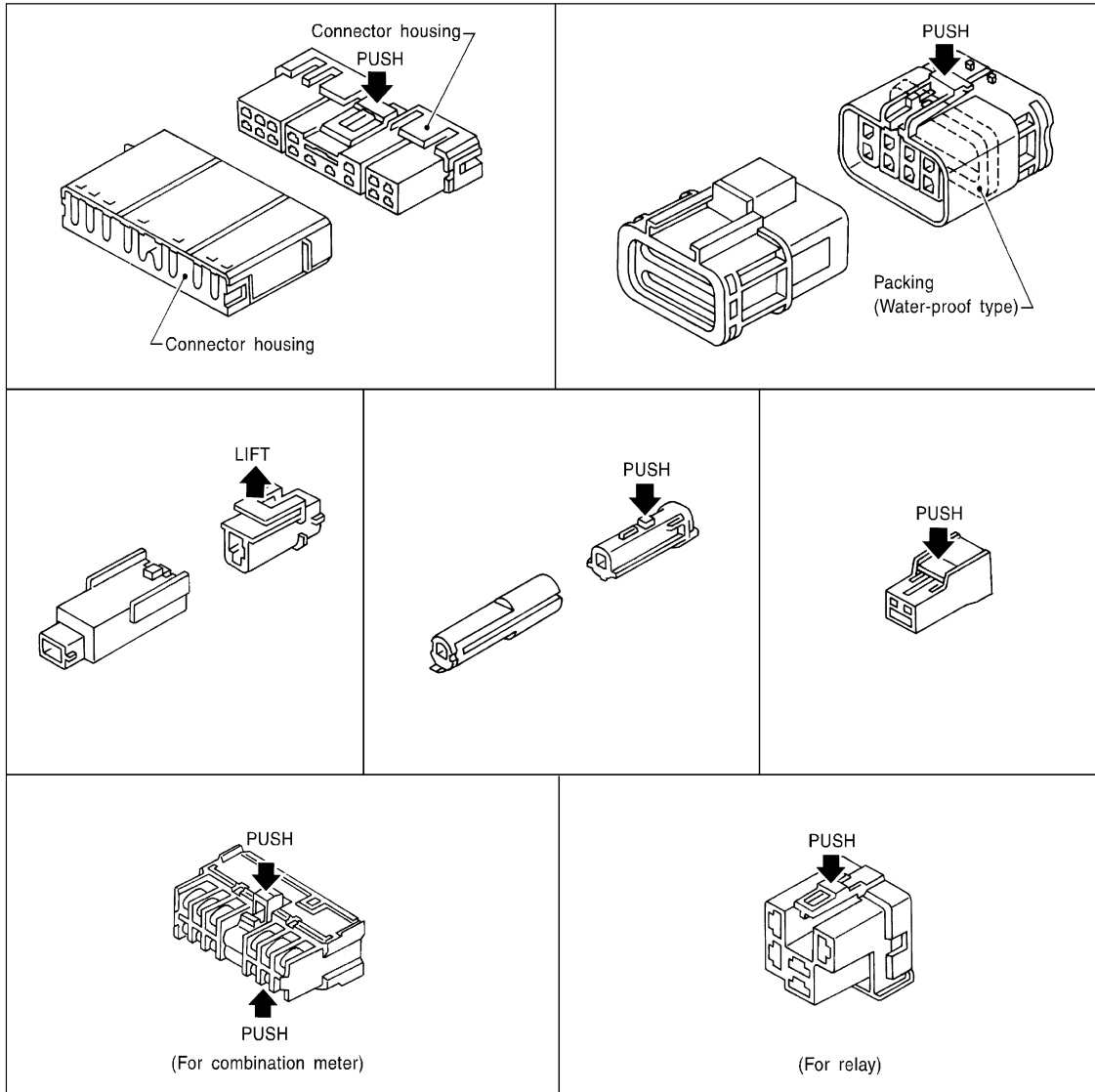
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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 figure below.

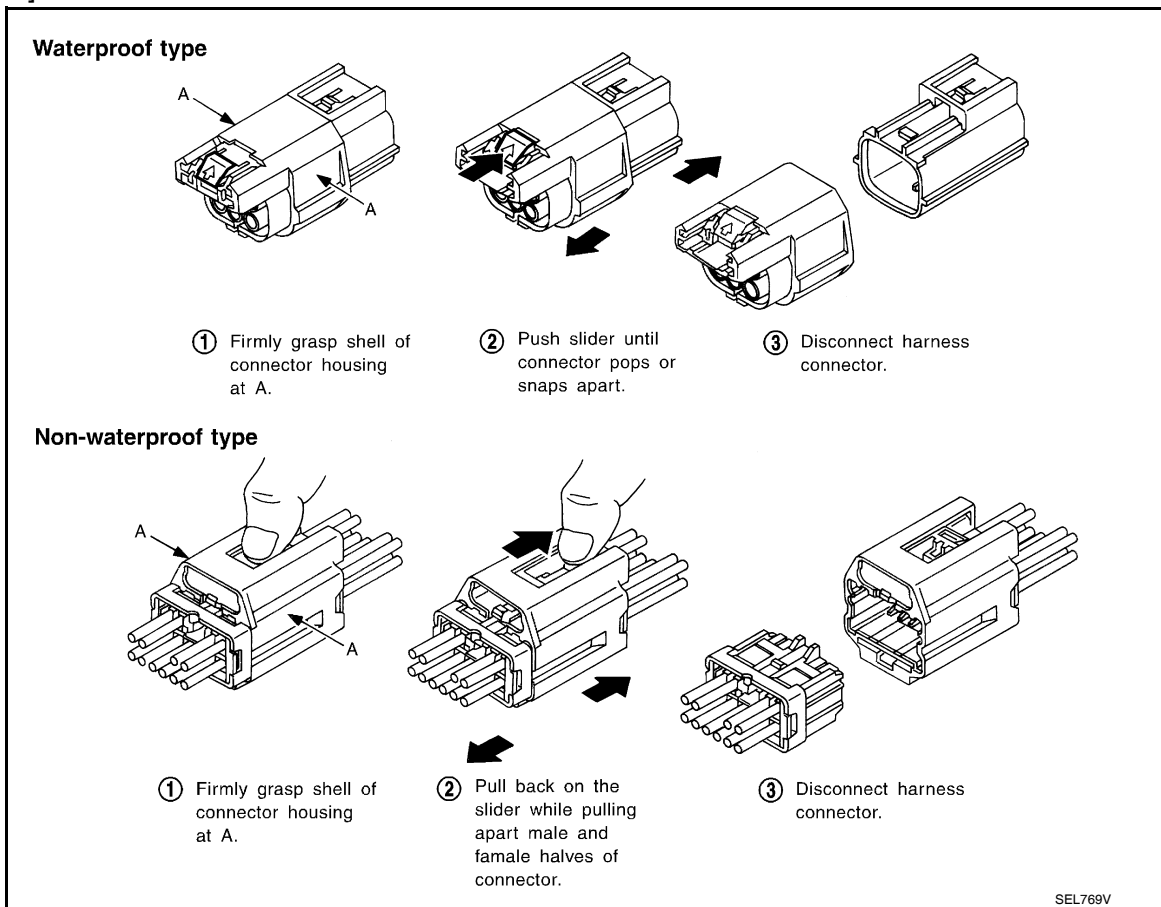
# HARNESS CONNECTOR

< SERVICE INFORMATION >

**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.

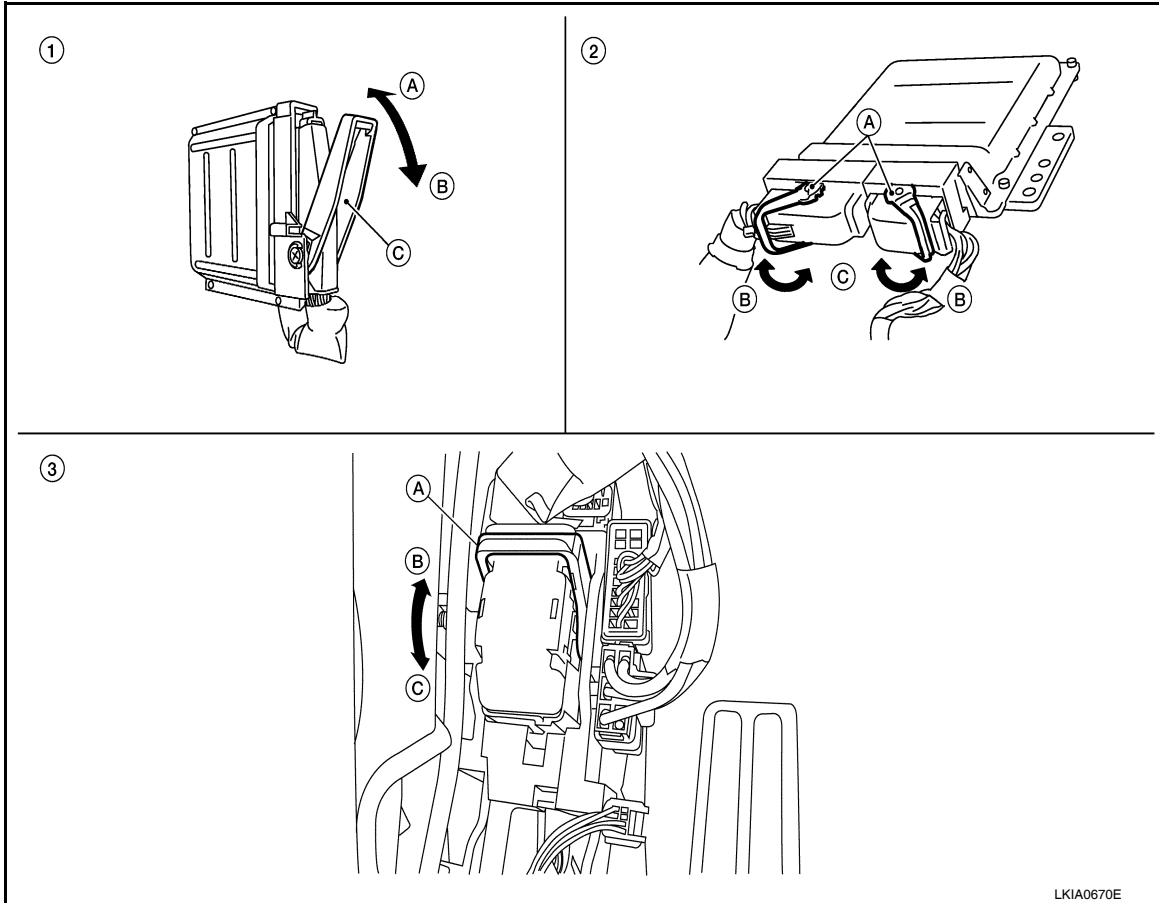
**CAUTION:**

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
PG  
L  
M  
N  
O  
P

# HARNES CONNECTOR

## < SERVICE INFORMATION >

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

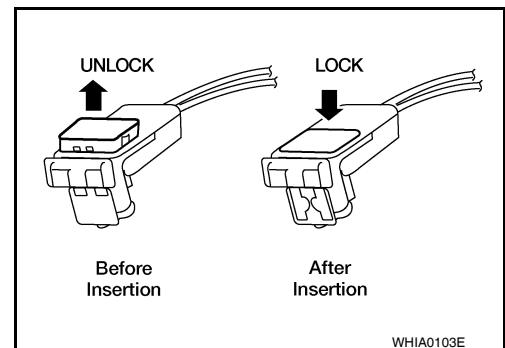
- |  |  |   |
|--|--|---|
| <p>1. Control unit with single lever<br/>         A. Fasten<br/>         B. Loosen<br/>         C. Lever</p> | <p>2. Control unit with dual levers<br/>         A. Levers<br/>         B. Fasten<br/>         C. Loosen</p> | <p>3. SMJ connector<br/>         A. Lever<br/>         B. Fasten<br/>         C. Loosen</p> |
|--|--|---|

## 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.



WHIA0103E

# ELECTRICAL UNITS

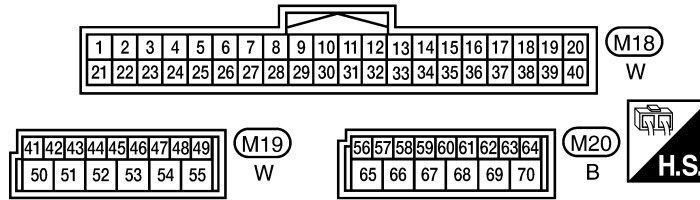
< SERVICE INFORMATION >

## ELECTRICAL UNITS

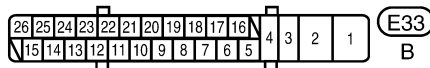
### Terminal Arrangement

INFOID:000000006151973

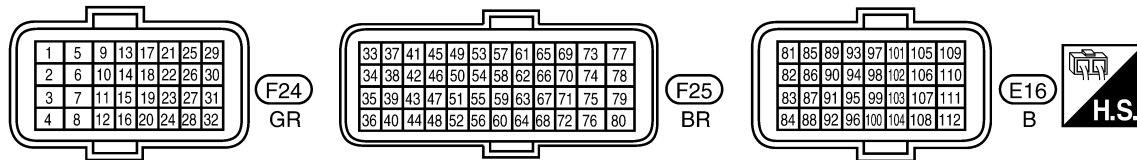
BCM (BODY CONTROL MODULE)



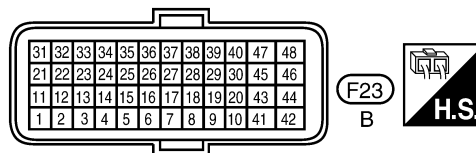
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)



ECM



TCM (TRANSMISSION CONTROL MODULE)



WKIA5901E

# STANDARDIZED RELAY

< SERVICE INFORMATION >

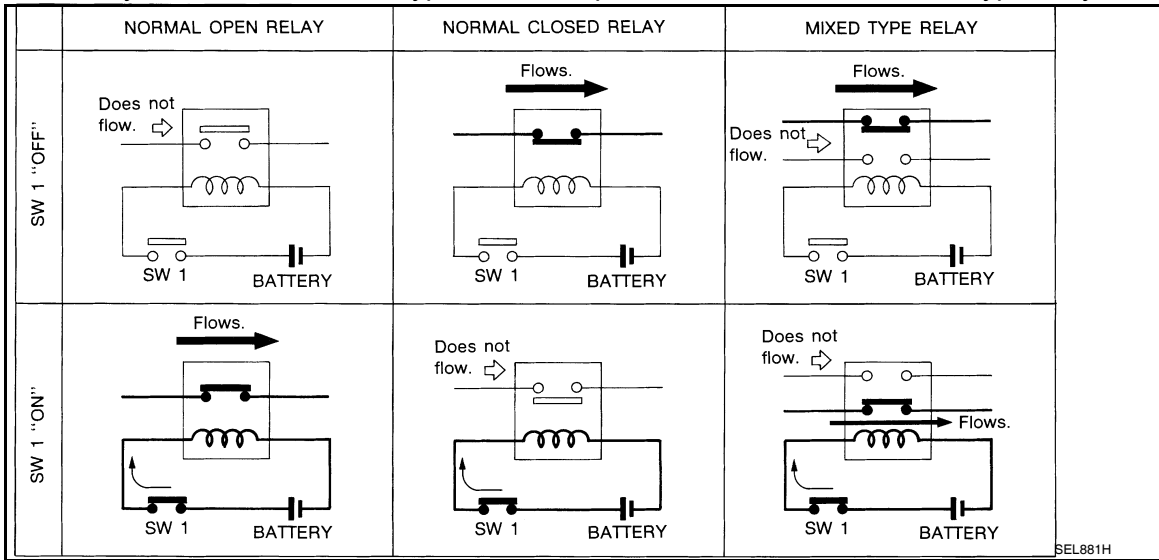
## STANDARDIZED RELAY

### Description

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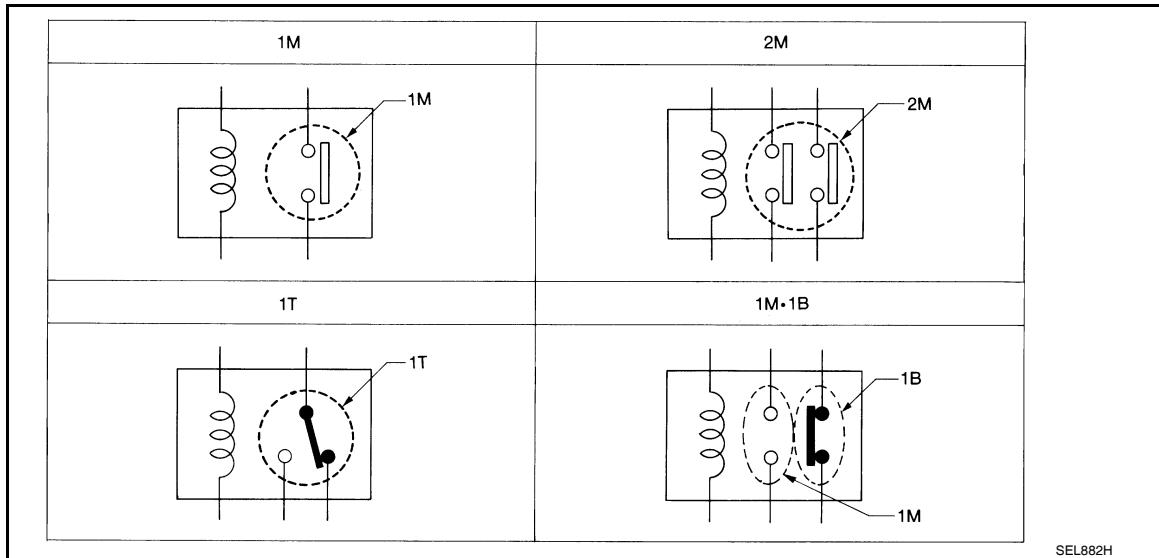
### NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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



SEL881H

### TYPE OF STANDARDIZED RELAYS



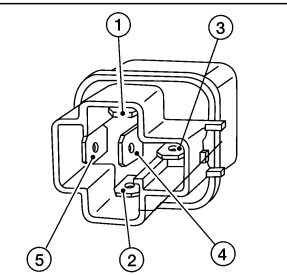
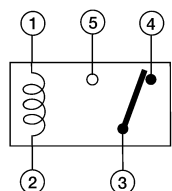
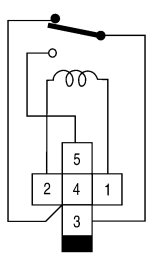
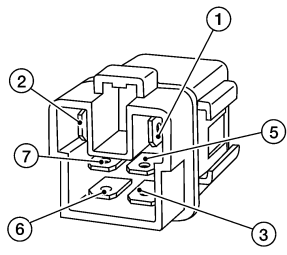
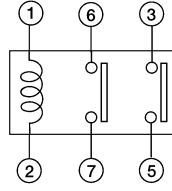
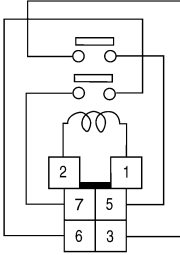
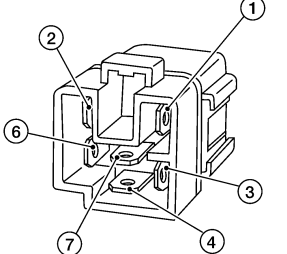
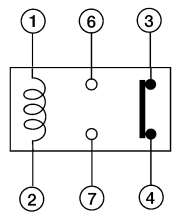
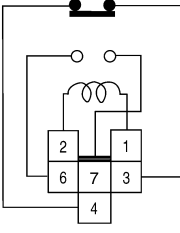
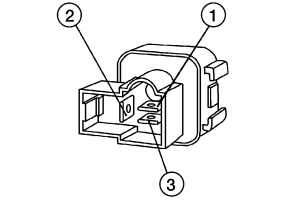
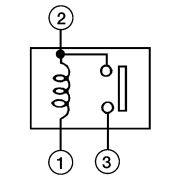
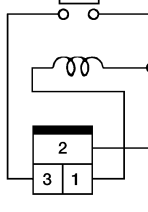
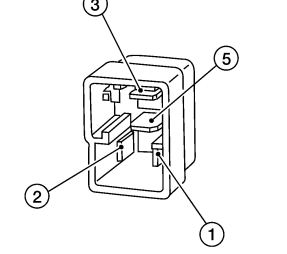
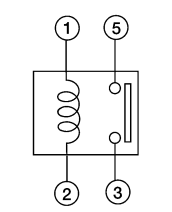
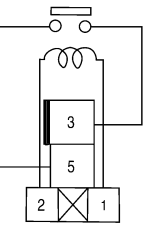
SEL882H

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



# STANDARDIZED RELAY

< SERVICE INFORMATION >

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

A  
B  
C  
D  
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G  
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J  
K  
L  
M  
N  
O  
P

PG

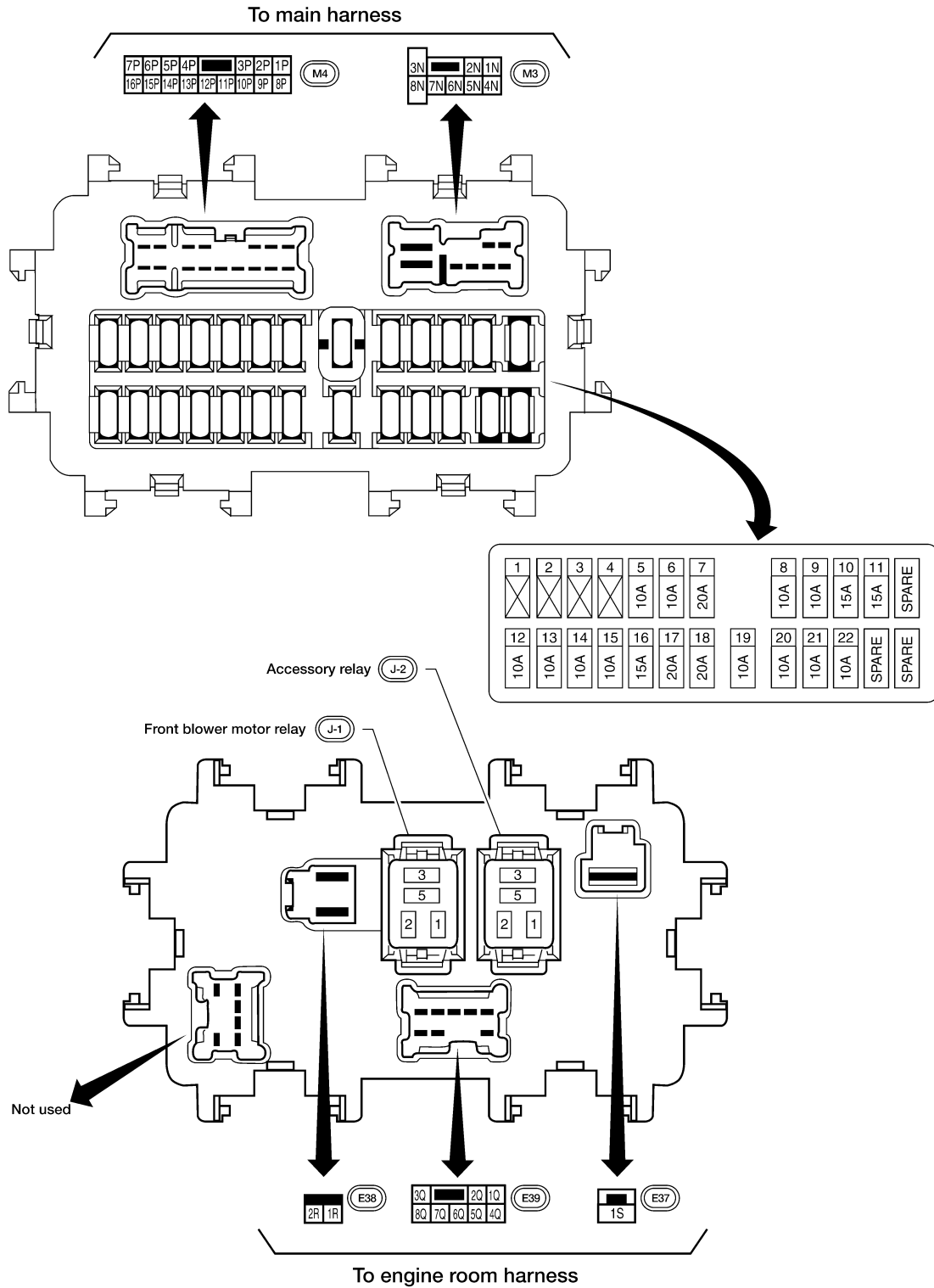
# FUSE BLOCK-JUNCTION BOX (J/B)

< SERVICE INFORMATION >

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

### Terminal Arrangement

INFOID:000000006151975



AAMIA0395GB

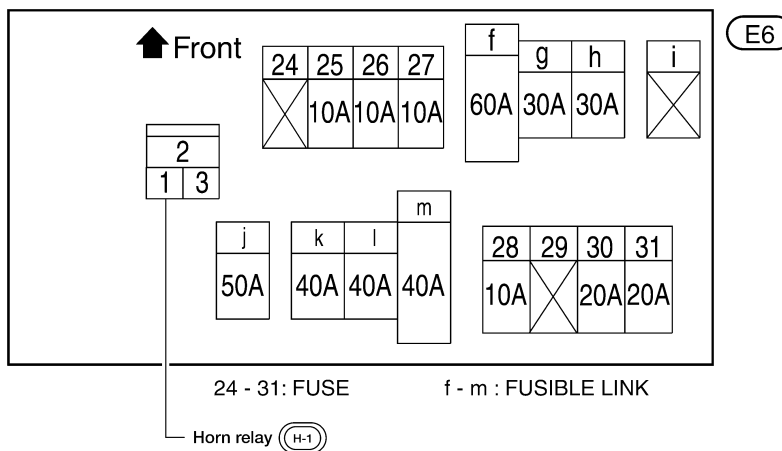
# FUSE AND FUSIBLE LINK BOX

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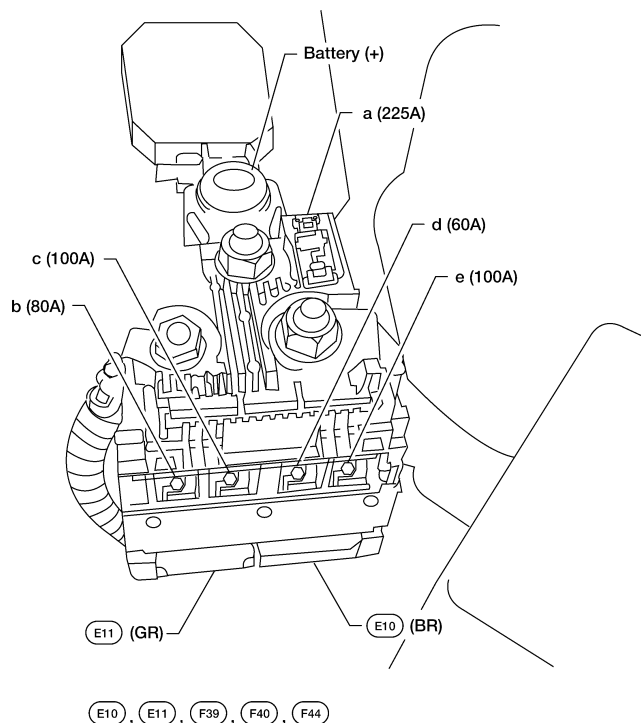
## FUSE AND FUSIBLE LINK BOX

### Terminal Arrangement

INFOID:000000006151976



### FUSIBLE LINK BOX (BATTERY)



ABMIA2413GB