

# 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:000000001852187

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.

# POWER SUPPLY ROUTING CIRCUIT

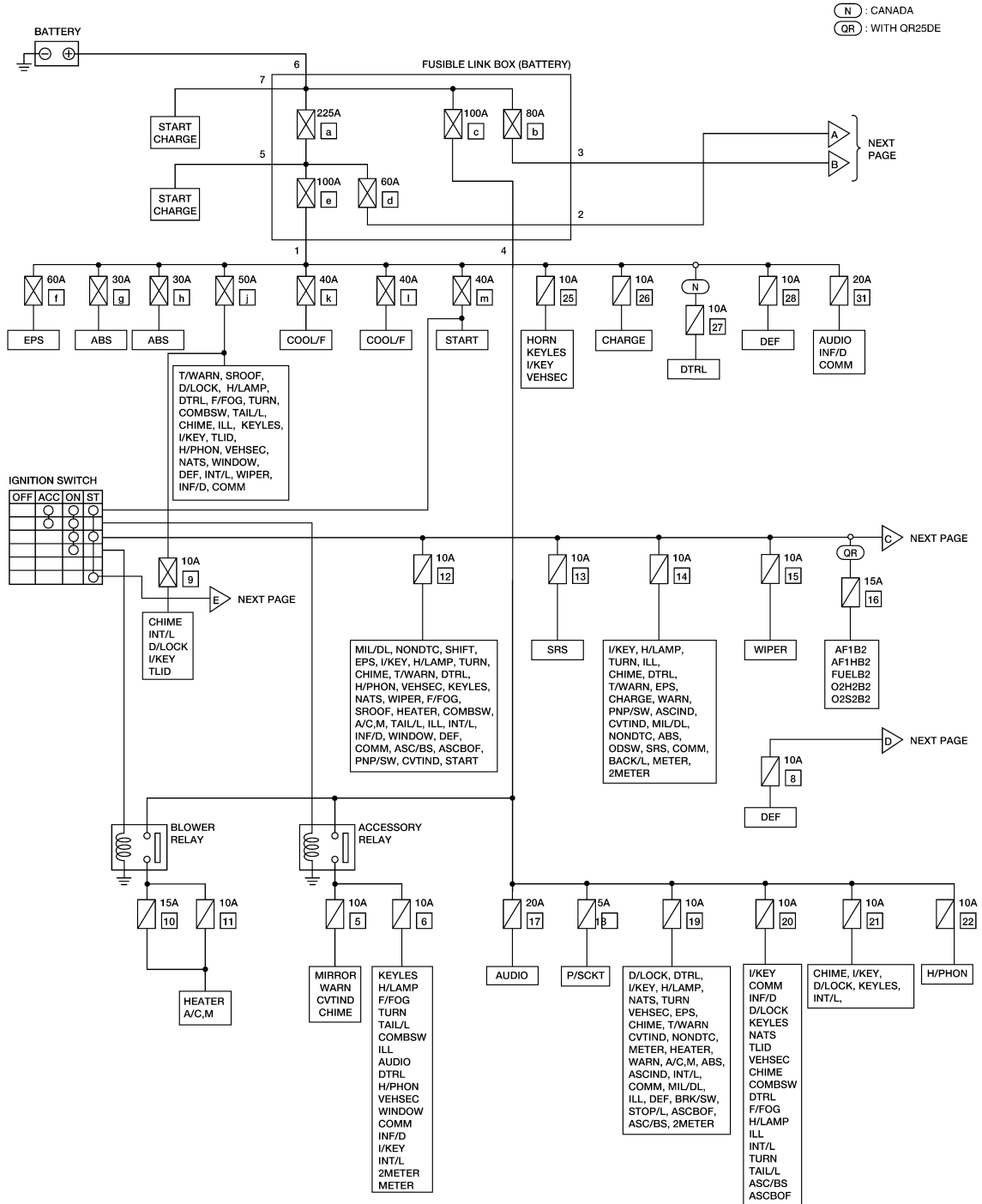
< SERVICE INFORMATION >

## POWER SUPPLY ROUTING CIRCUIT

### Schematic

INFOID:000000001852188

For detailed ground distribution, refer to [PG-29, "Ground Distribution"](#).



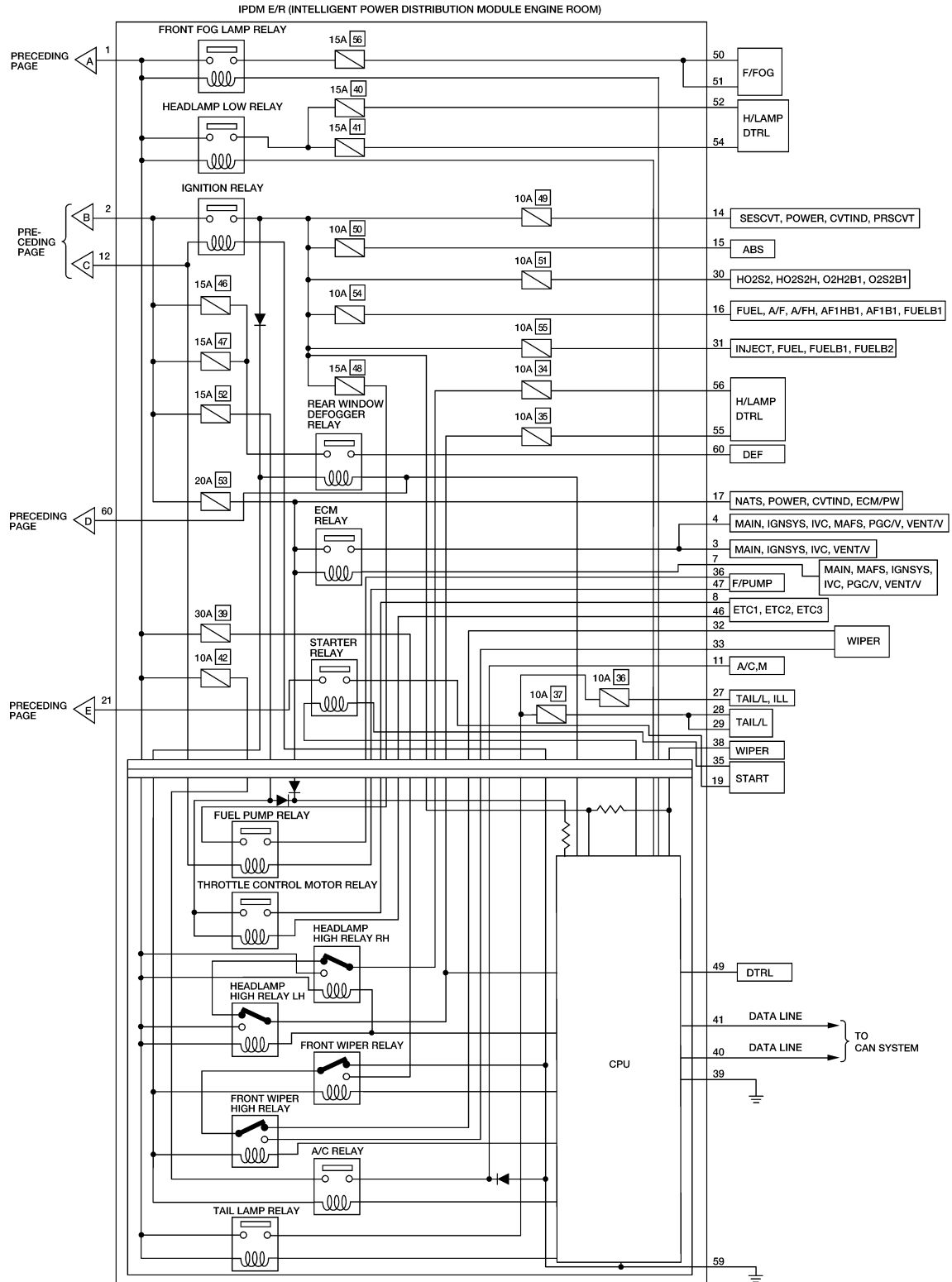
AWMWA0121G

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# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >



WKWA5905E

# POWER SUPPLY ROUTING CIRCUIT

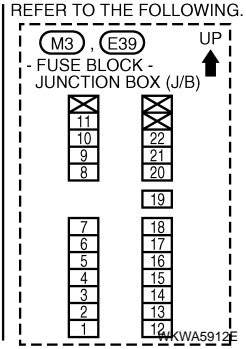
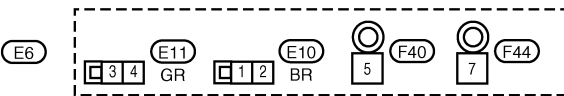
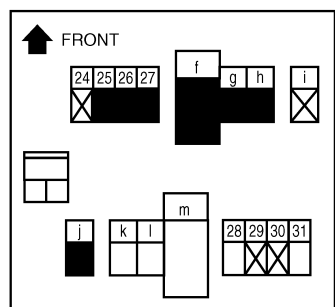
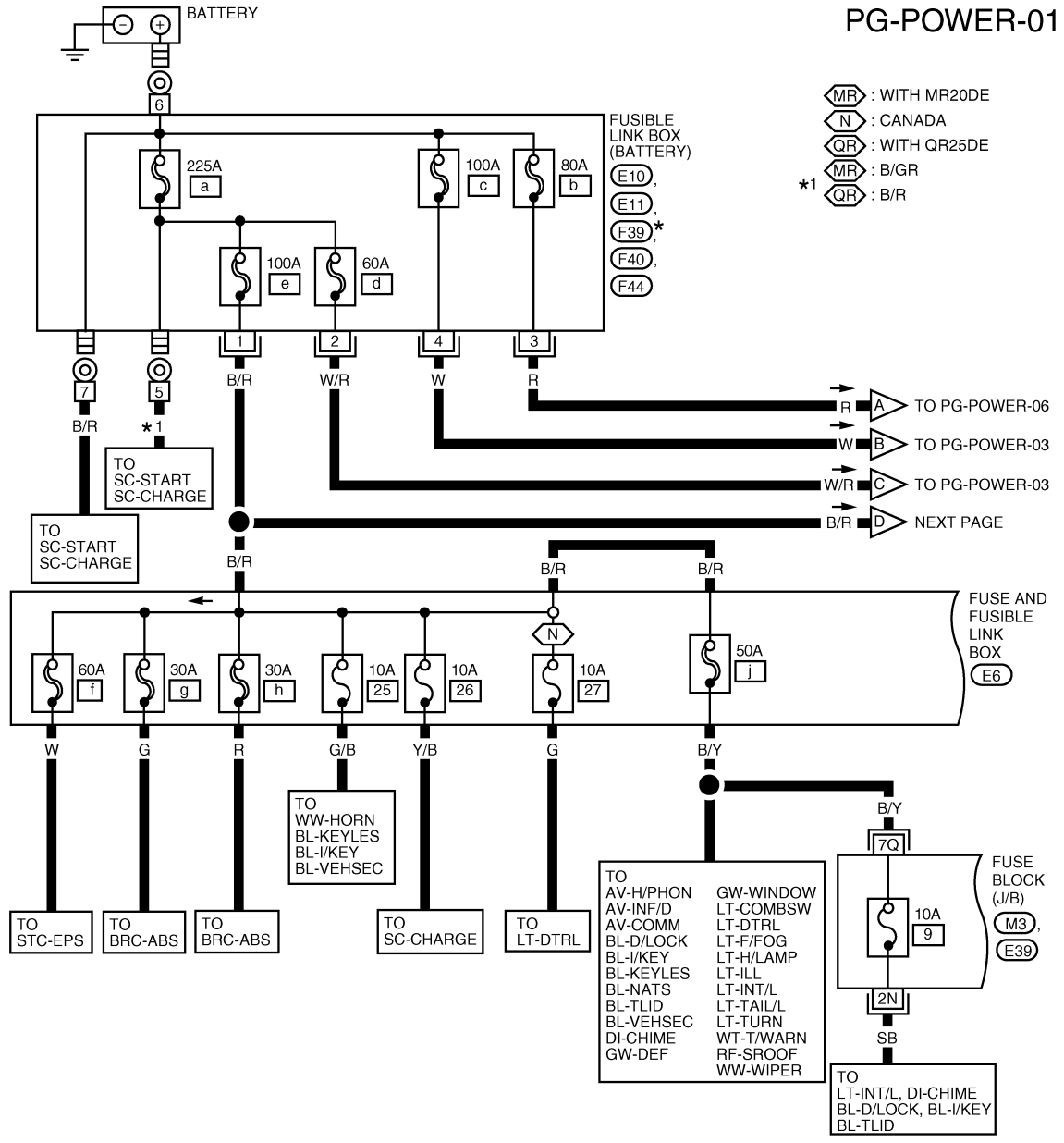
< SERVICE INFORMATION >

## Wiring Diagram - POWER -

INFOID:000000001852189

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

### PG-POWER-01



\* : (F39) IS AN INTEGRAL PART OF FUSIBLE LINK BOX (BATTERY) ASSEMBLY.

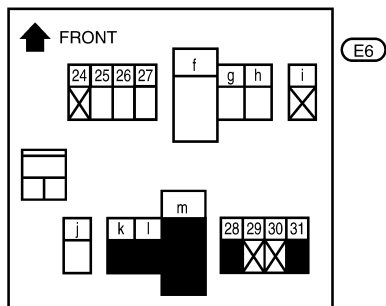
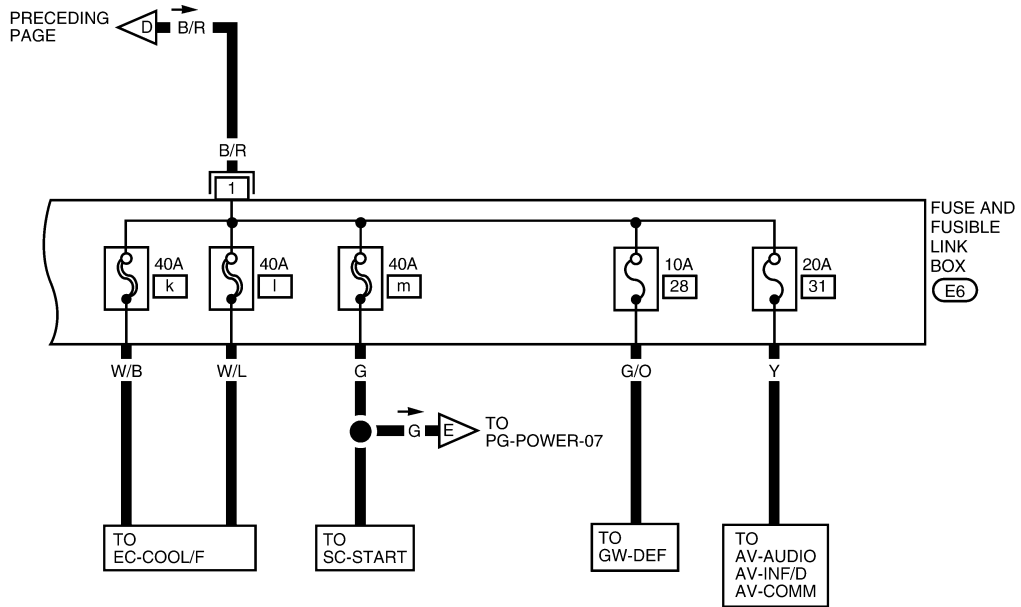
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# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-02

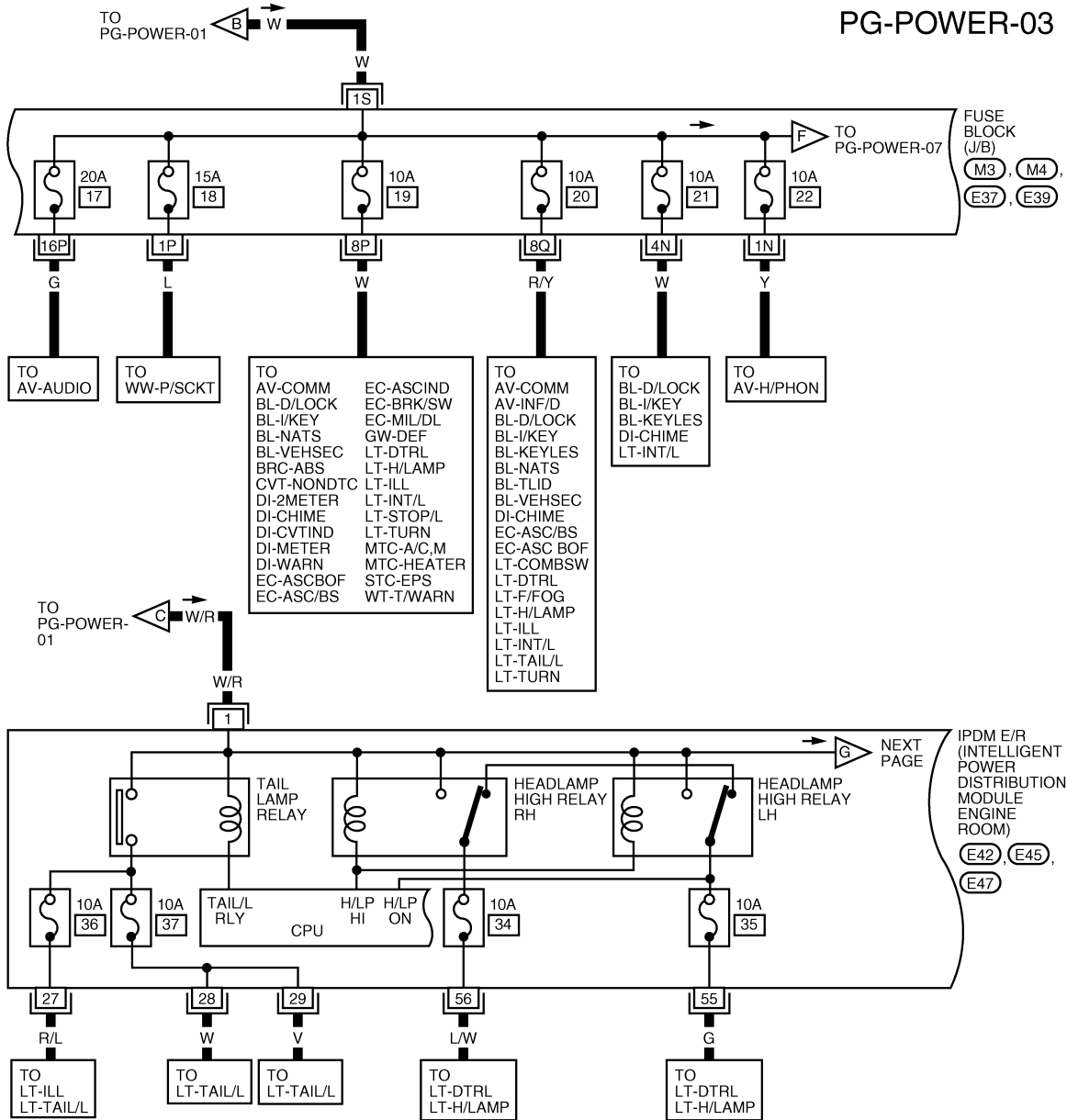


LKWA0399E

# POWER SUPPLY ROUTING CIRCUIT

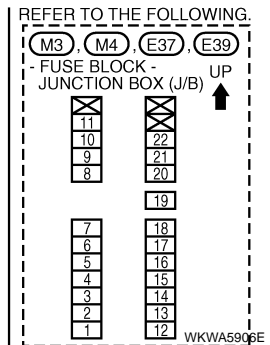
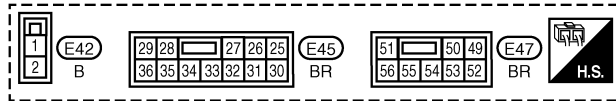
< SERVICE INFORMATION >

PG-POWER-03



FUSE BLOCK (J/B)  
 (M3), (M4),  
 (E37), (E39)

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)  
 (E42), (E45),  
 (E47)

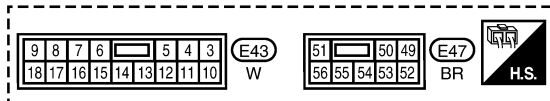
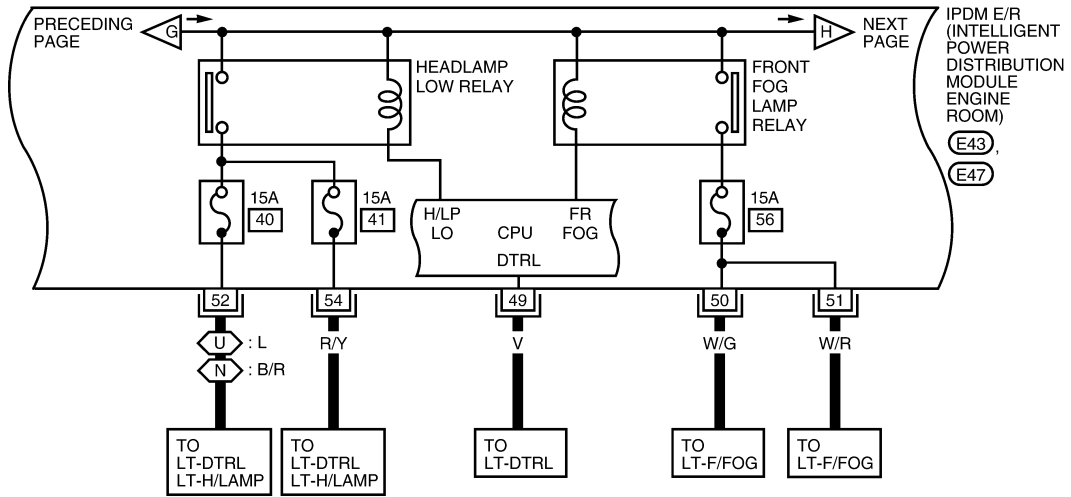


# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-04

U : USA  
N : CANADA



WKWA5534E

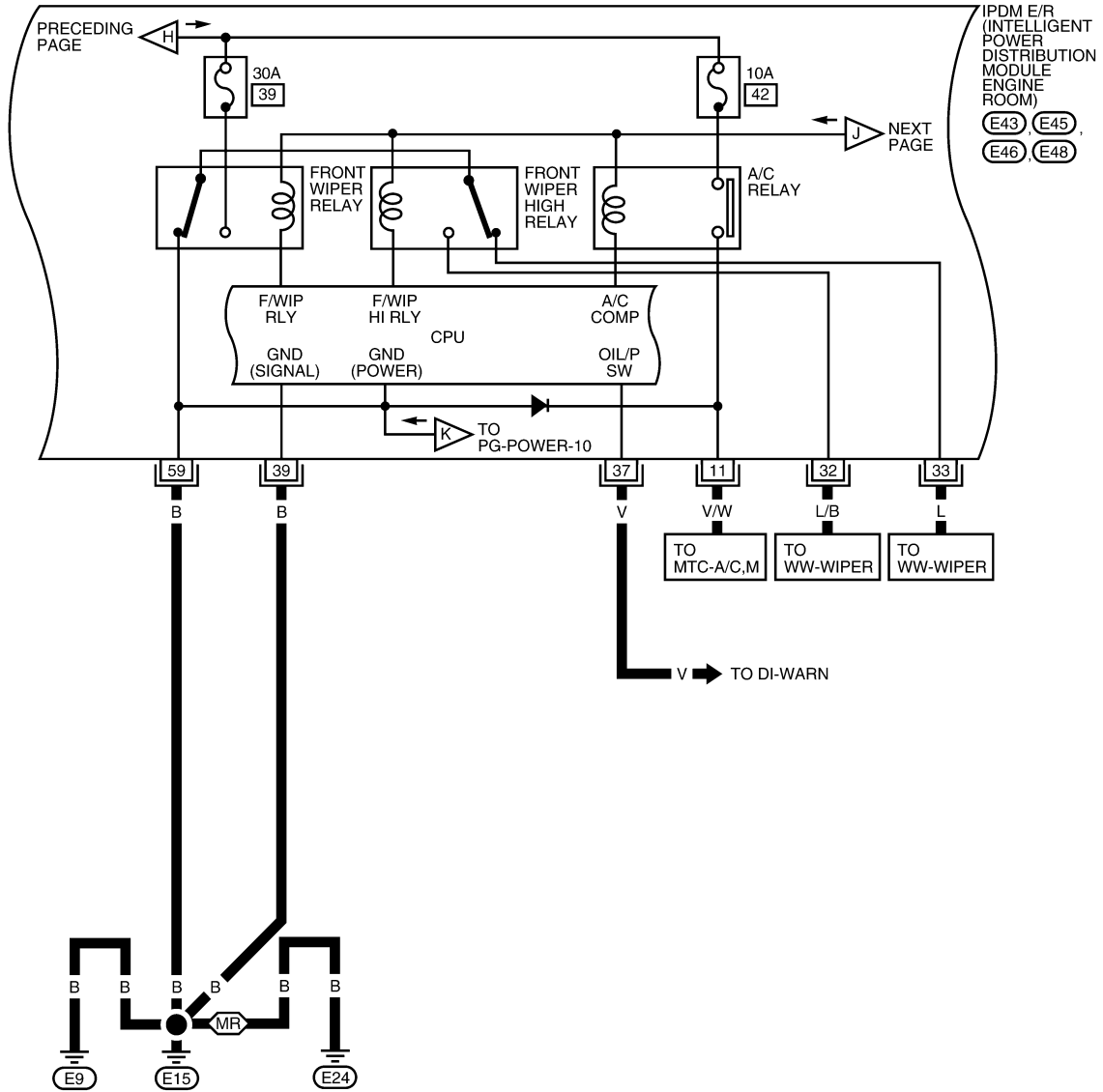


# POWER SUPPLY ROUTING CIRCUIT

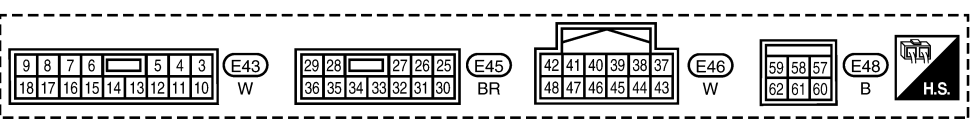
< SERVICE INFORMATION >

PG-POWER-05

MR : WITH MR20DE



IPDM E/R  
(INTELLIGENT  
POWER  
DISTRIBUTION  
MODULE  
ENGINE  
ROOM)  
E43, E45  
E46, E48



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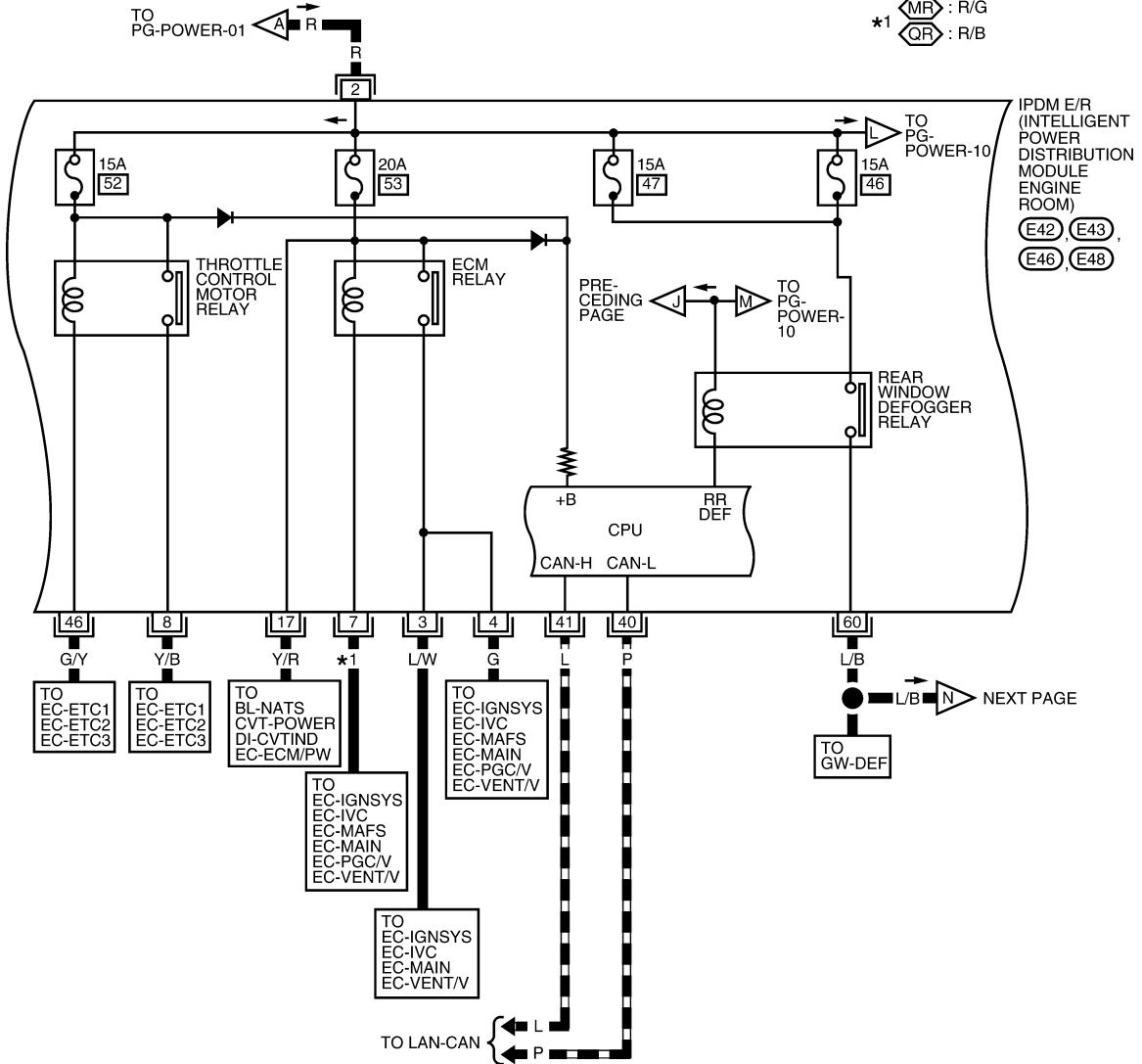
WKWA5907E

# POWER SUPPLY ROUTING CIRCUIT

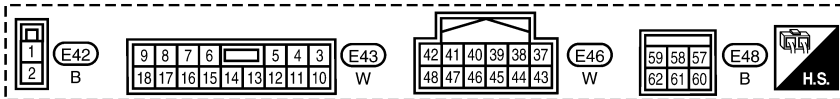
< SERVICE INFORMATION >

## PG-POWER-06

- : DATA LINE
- MR : WITH MR20DE
- QR : WITH QR25DE
- MR : R/G
- QR : R/B



IPDM E/R  
(INTELLIGENT  
POWER  
DISTRIBUTION  
MODULE  
ENGINE  
ROOM)  
E42, E43,  
E46, E48



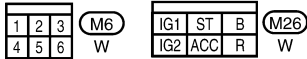
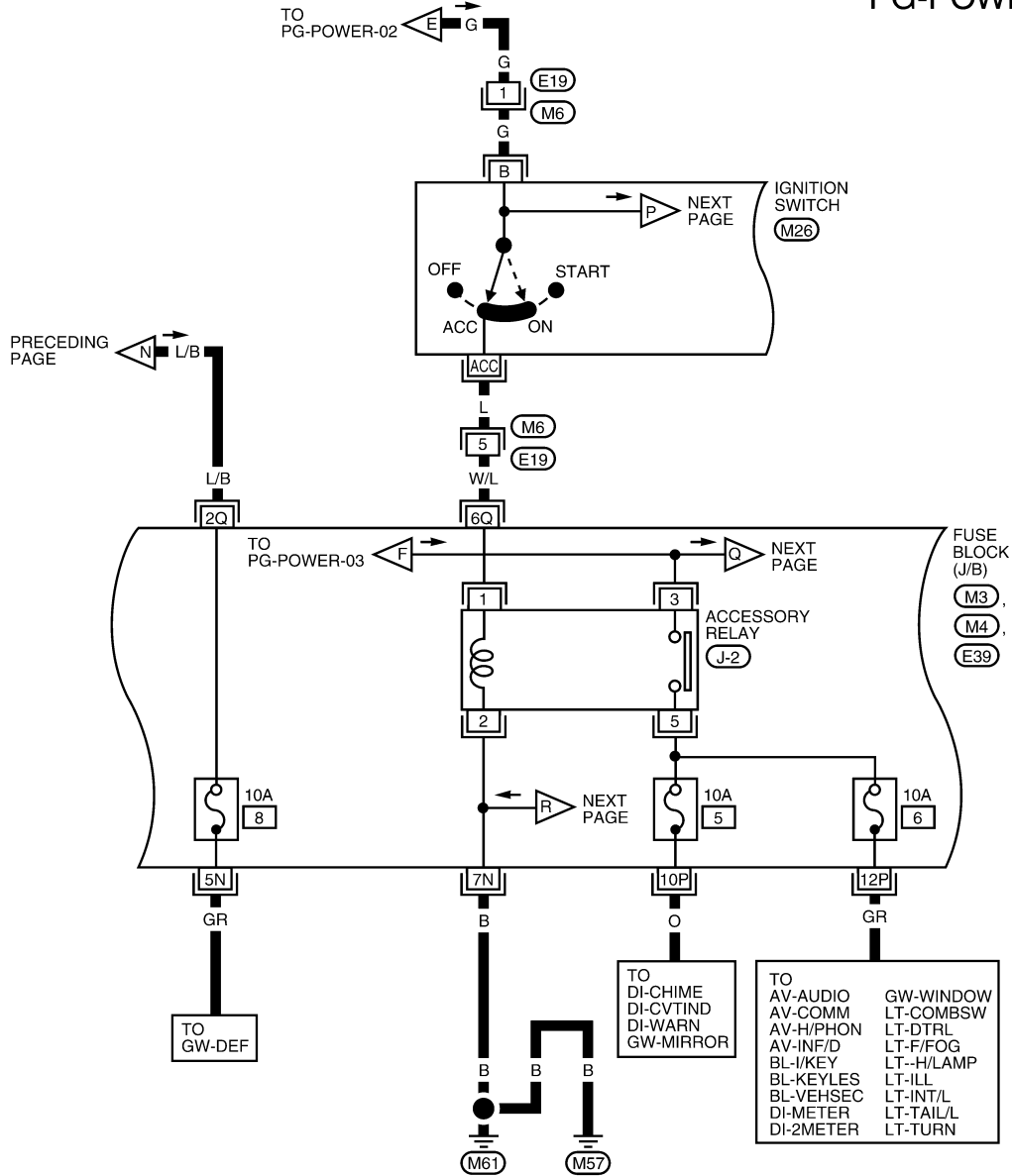
WKWA5908E

# POWER SUPPLY ROUTING CIRCUIT

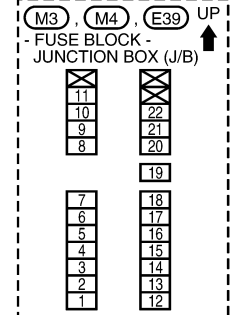
< SERVICE INFORMATION >

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

PG-POWER-07



REFER TO THE FOLLOWING.



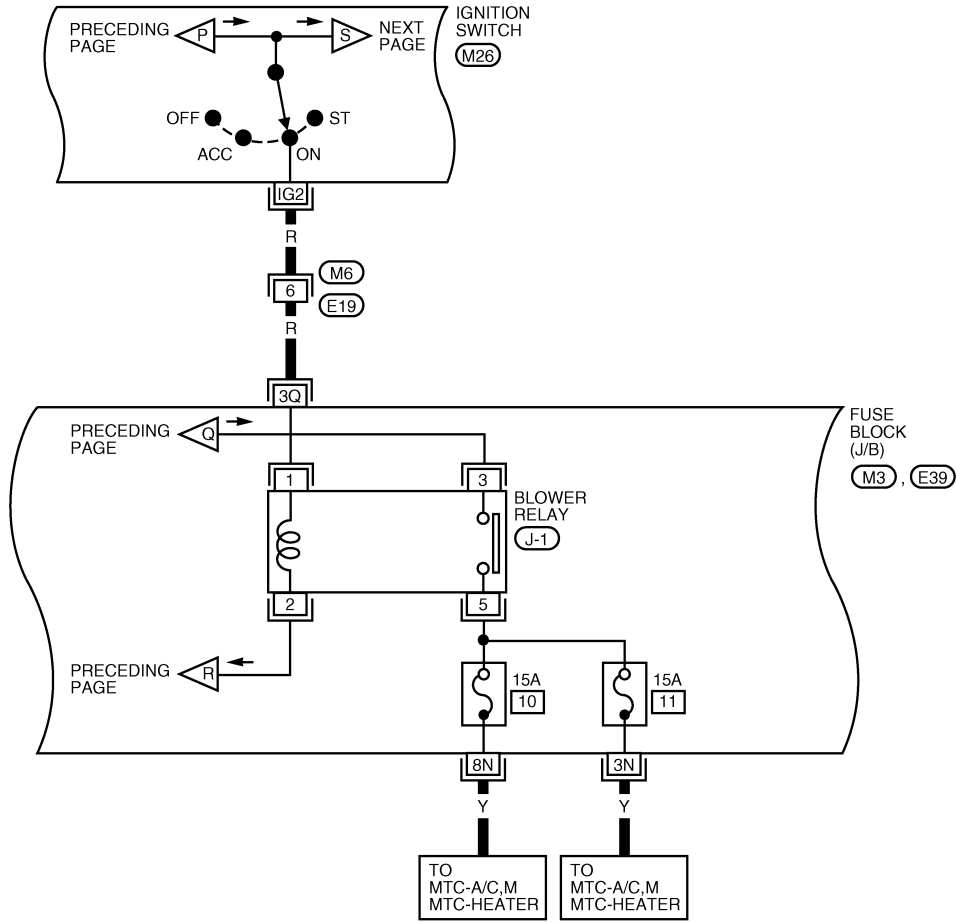
AWMWA0122G

# POWER SUPPLY ROUTING CIRCUIT

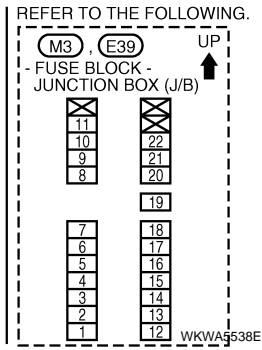
< SERVICE INFORMATION >

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



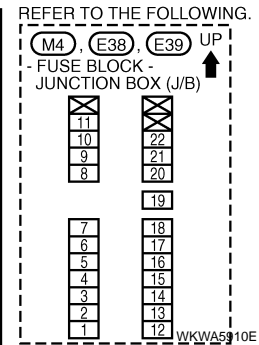
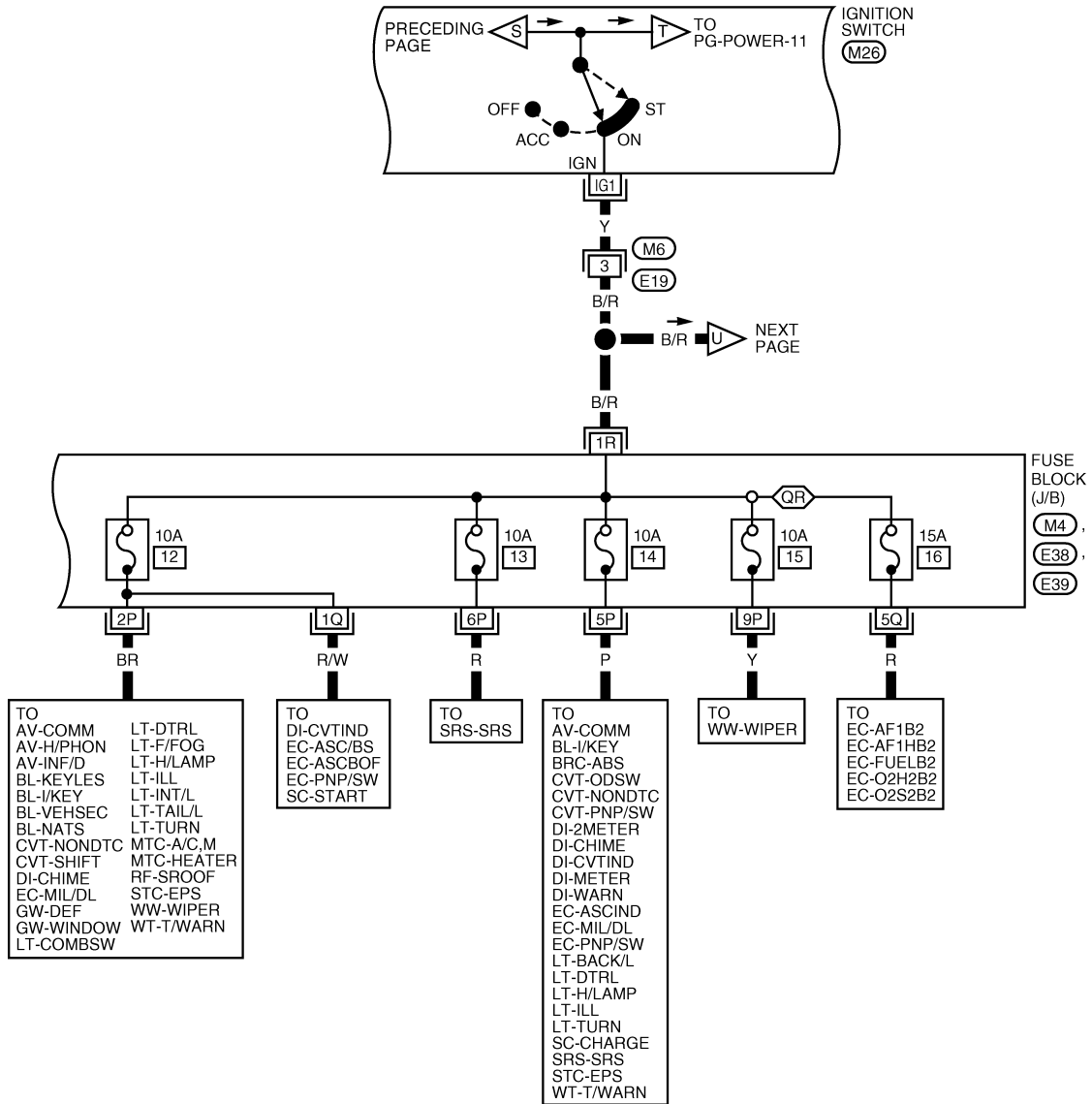
# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

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

QR : WITH QR25DE

PG-POWER-09

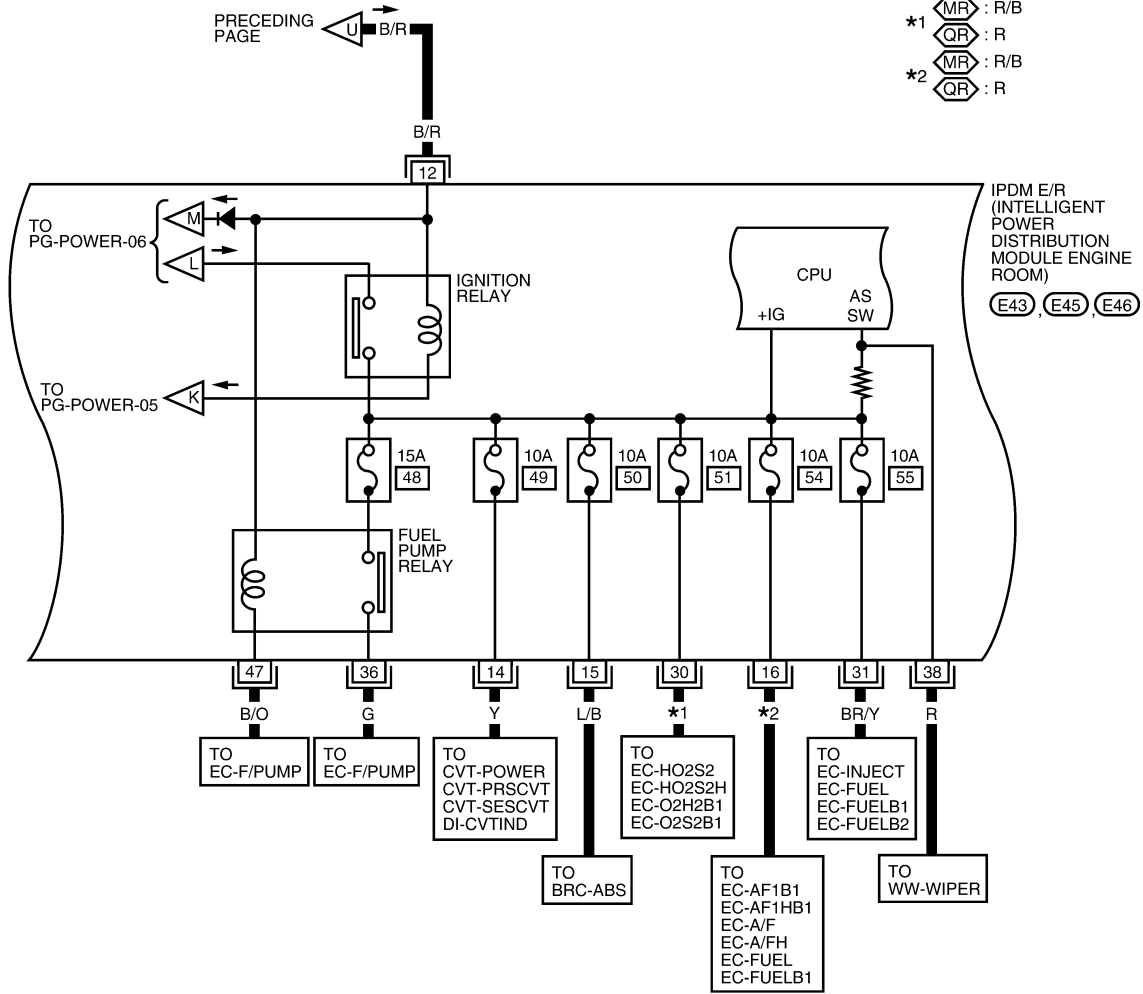


# POWER SUPPLY ROUTING CIRCUIT

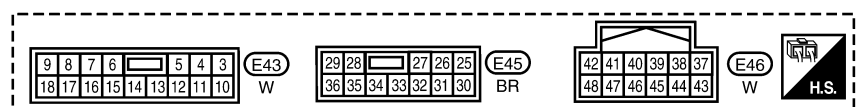
< SERVICE INFORMATION >

## PG-POWER-10

- : WITH MR20DE
- : WITH QR25DE
- \*1 : R/B
- : R
- \*2 : R/B
- : R



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



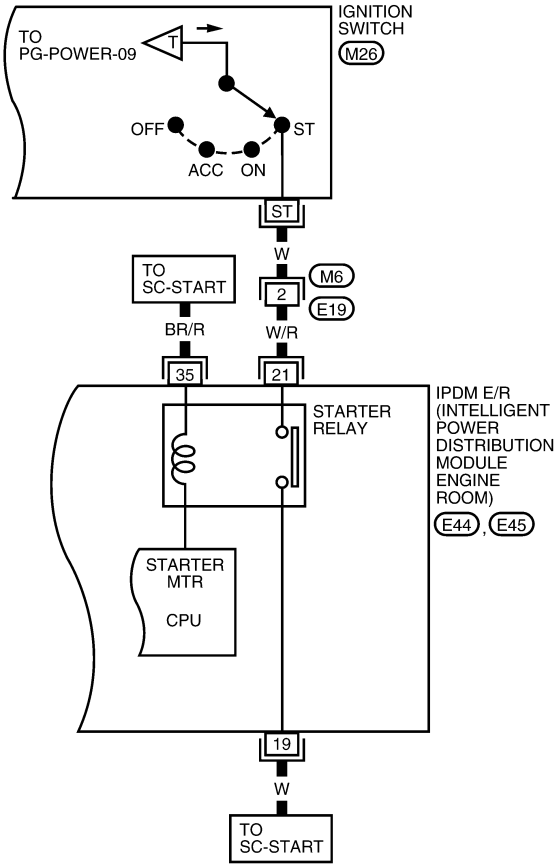
WKWA5911E

# POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

IGNITION POWER SUPPLY — IGNITION SWITCH IN START

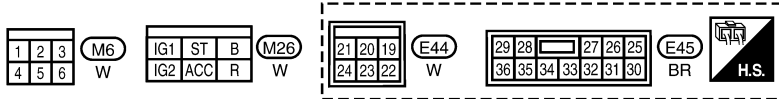
PG-POWER-11



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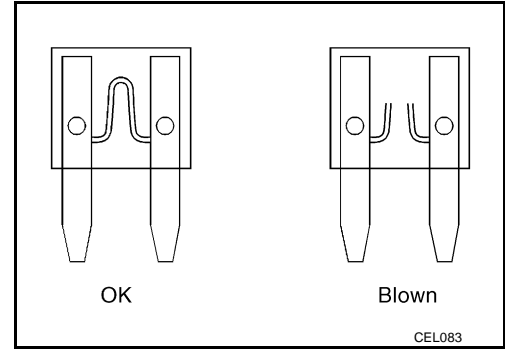
# POWER SUPPLY ROUTING CIRCUIT

## < SERVICE INFORMATION >

### Fuse

INFOID:000000001852190

- 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.



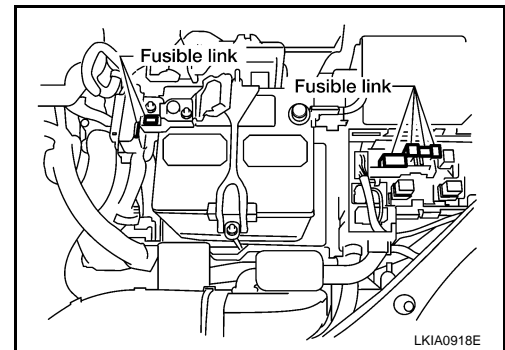
### Fusible Link

INFOID:000000001852191

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.



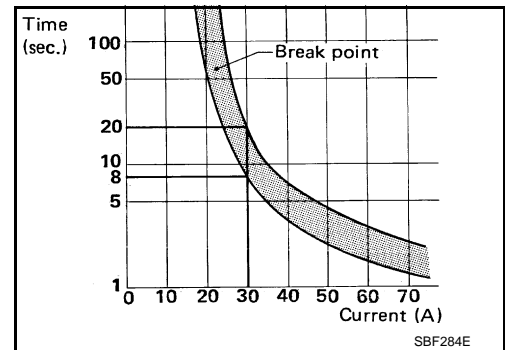
### Circuit Breaker (Built Into BCM)

INFOID:000000001852192

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:000000001852193

- 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:000000001852194

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

### Function of Detecting Ignition Relay Malfunction

INFOID:000000001852195

- 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:000000001852196

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
Hood switch	HOOD SW (*2)	OFF	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

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

## < SERVICE INFORMATION >

\*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.

\*2 This item is displayed, but does not function.

### 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 LAMP	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 ON, LO ON), 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-OFF operation, the horn relay can be operated.

### Auto Active Test

INFOID:000000001852197

#### 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

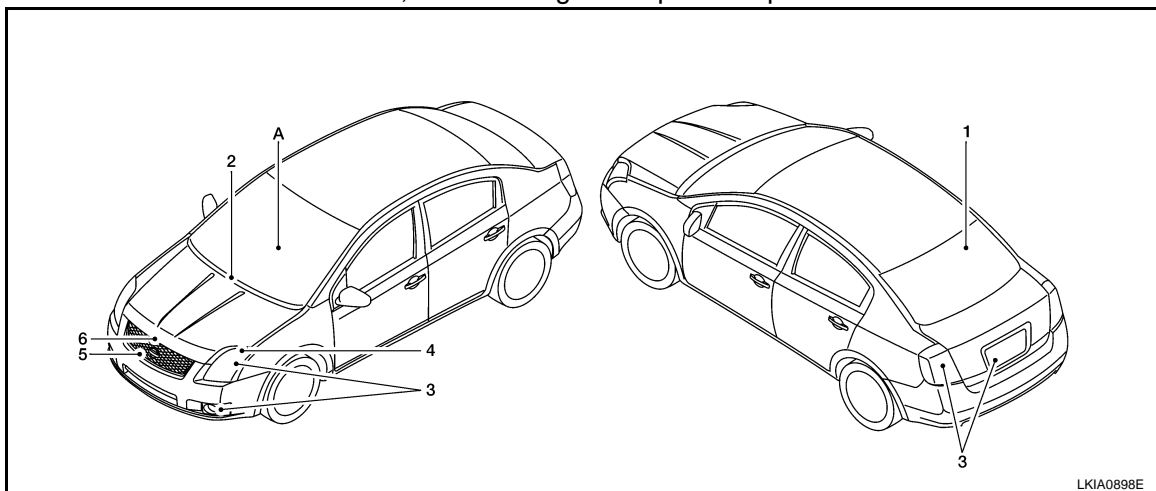
1. Close front door RH and hood. Lift wiper arms away from windshield (to prevent glass damage by wiper operation).  
**NOTE:**  
When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn ignition switch OFF.
3. Turn ignition switch ON and, within 20 seconds, 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-36, "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 >

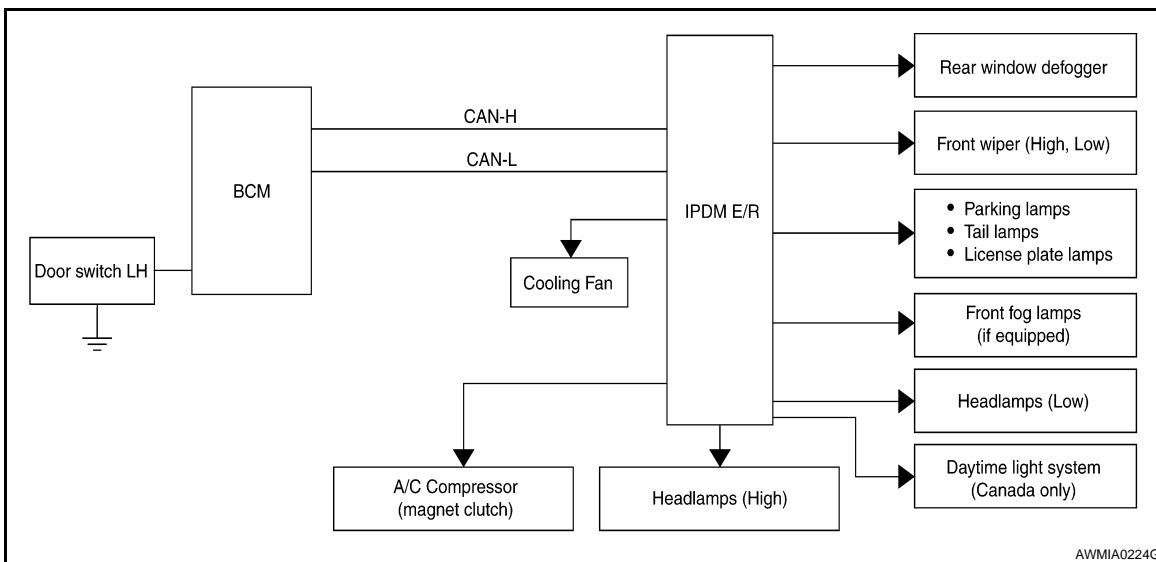
When auto active test mode is actuated, the following six steps are repeated three times.



(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 >

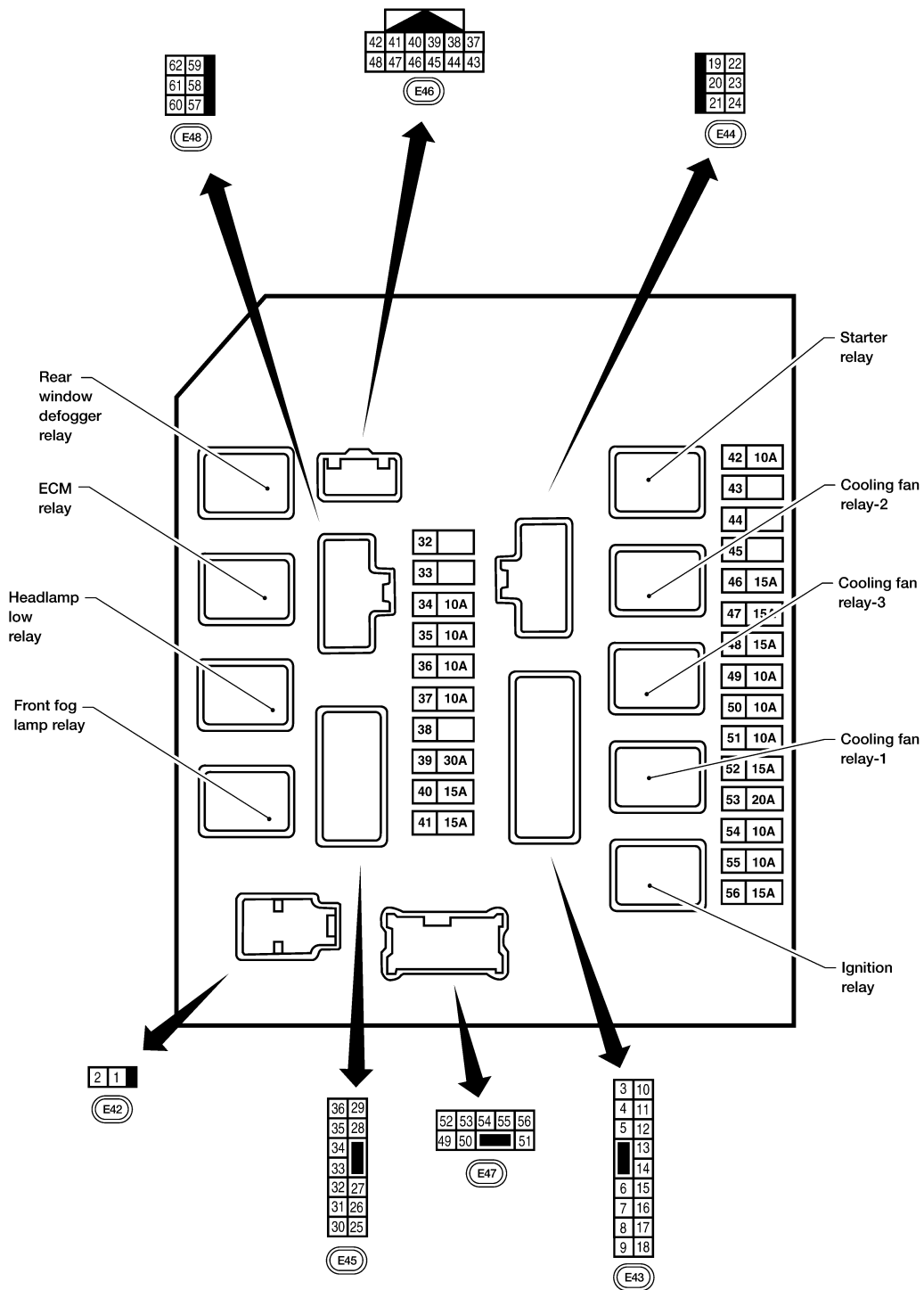
Symptom	Inspection contents	Possible cause	
Rear window defogger does not operate.	Perform auto active test. Does rear window defogger operate?	YES	<ul style="list-style-type: none"> <li>• BCM signal input circuit</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• Rear window defogger relay</li> <li>• Open circuit of rear window defogger</li> <li>• IPDM E/R malfunction</li> <li>• Harness or connector malfunction between IPDM E/R and rear window defogger</li> </ul>
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	<ul style="list-style-type: none"> <li>• BCM signal input system</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• Lamp/wiper motor malfunction</li> <li>• Lamp/wiper motor ground circuit malfunction</li> <li>• Harness/connector malfunction between IPDM E/R and system in question</li> <li>• IPDM E/R (integrated relay) malfunction</li> </ul>
A/C compressor does not operate.	Perform auto active test. Does magnet clutch operate?	YES	<ul style="list-style-type: none"> <li>• BCM signal input circuit</li> <li>• CAN communication signal between BCM and ECM</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• Magnet clutch malfunction</li> <li>• Harness/connector malfunction between IPDM E/R and magnet clutch</li> <li>• IPDM E/R (integrated relay) malfunction</li> </ul>
Cooling fan does not operate.	Perform auto active test. Does cooling fan operate?	YES	<ul style="list-style-type: none"> <li>• ECM signal input circuit</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• Cooling fan motor malfunction</li> <li>• Harness/connector malfunction between IPDM E/R and cooling fan motor</li> <li>• IPDM E/R (integrated relay) malfunction</li> <li>• Cooling fan relay-4 or relay-5 malfunction</li> </ul>
Oil pressure warning lamp does not operate.	Perform auto active test. Does oil pressure warning lamp blink?	YES	<ul style="list-style-type: none"> <li>• Harness/connector malfunction between IPDM E/R and oil pressure switch</li> <li>• Oil pressure switch malfunction</li> <li>• IPDM E/R</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• CAN communication signal between BCM and combination meter</li> <li>• Combination meter</li> </ul>

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

< SERVICE INFORMATION >

## IPDM E/R Terminal Arrangement

INFOID:000000001852198



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WKIA5897E

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

< SERVICE INFORMATION >

## Terminal and Reference Value for IPDM E/R

INFOID:000000001852199

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 (MR20DE) R/B (QR25DE)	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 (MR20DE) R (QR25DE)	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.)	A
				Ignition switch	Operation or condition		
23	L/B	Cooling fan relay-3	Input	—	Conditions correct for cooling fan high operation	0V	B
					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	C
					Conditions not correct for cooling fan high operation	0V	D
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	E
29	V	Tail lamp relay (parking lamps)	Output	—	Lighting switch in 1st or 2nd position	Battery voltage	F
30	R/B (MR20DE) R (QR25DE)	Fuse 51	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	G
31	BR/Y	Fuse 55	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	H
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	J
					Selector lever any other position (CVT) or clutch pedal released (M/T)	0V	PG
36	G	Fuel pump relay	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	L
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	M
38	L/Y	Wiper auto stop signal	Input	ON or START	Wipers not in park position	Battery voltage	N
					Wipers in park position	0V	
39	B	Ground	Input	—	—	0V	
40	P	CAN-L	—	ON	—	—	O
41	L	CAN-H	—	ON	—	—	
45	L/R	Cooling fan relay-4	Input	—	Conditions correct for cooling fan high operation	Battery voltage	P
					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
					Ignition switch OFF or ACC	Battery voltage
49	V	Daytime light relay 1 control	Input	ON	Daytime light system active.	Less than battery voltage
					Daytime light system inactive.	Battery voltage
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	Battery voltage
					OFF	
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	Battery voltage
					OFF	
52	L	LH Low beam head-lamp	Output	—	Lighting switch in 2nd position	Battery voltage
54	R/Y	RH Low beam head-lamp	Output	—	Lighting switch in 2nd position	Battery voltage
55	G	LH High beam head-lamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position	Battery voltage
56	L/W	RH High beam head-lamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position	Battery voltage
59	B	Ground	Input	—	—	0V
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:000000001852200

### 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.

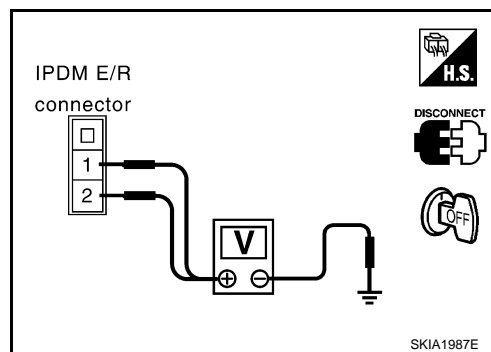
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

## < SERVICE INFORMATION >

**Battery voltage should exist.**

### OK or NG

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



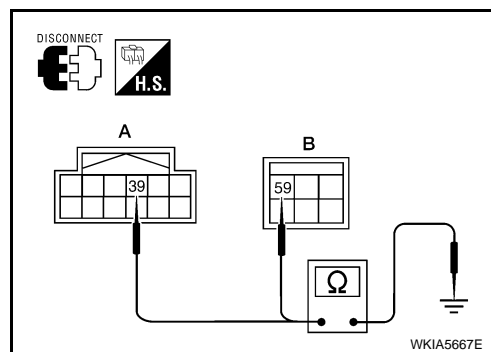
## 3. GROUND CIRCUIT INSPECTION

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)

INFOID:000000001852201

### 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-16](#).

## Removal and Installation of IPDM E/R

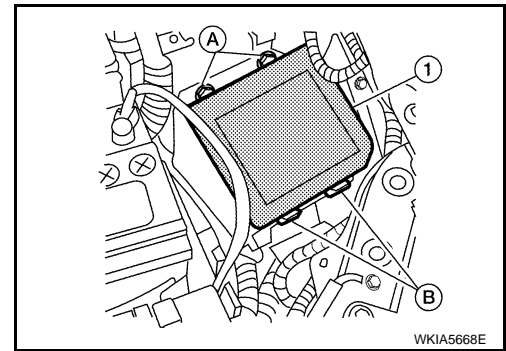
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### REMOVAL

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

### < SERVICE INFORMATION >

1. Lift up the IPDM E/R while pushing and opening pawls (A) or (B), and remove the IPDM E/R while pushing and opening the other side pawls.
2. Disconnect harness connector.



### INSTALLATION

Installation is the reverse order of removal.

# GROUND CIRCUIT

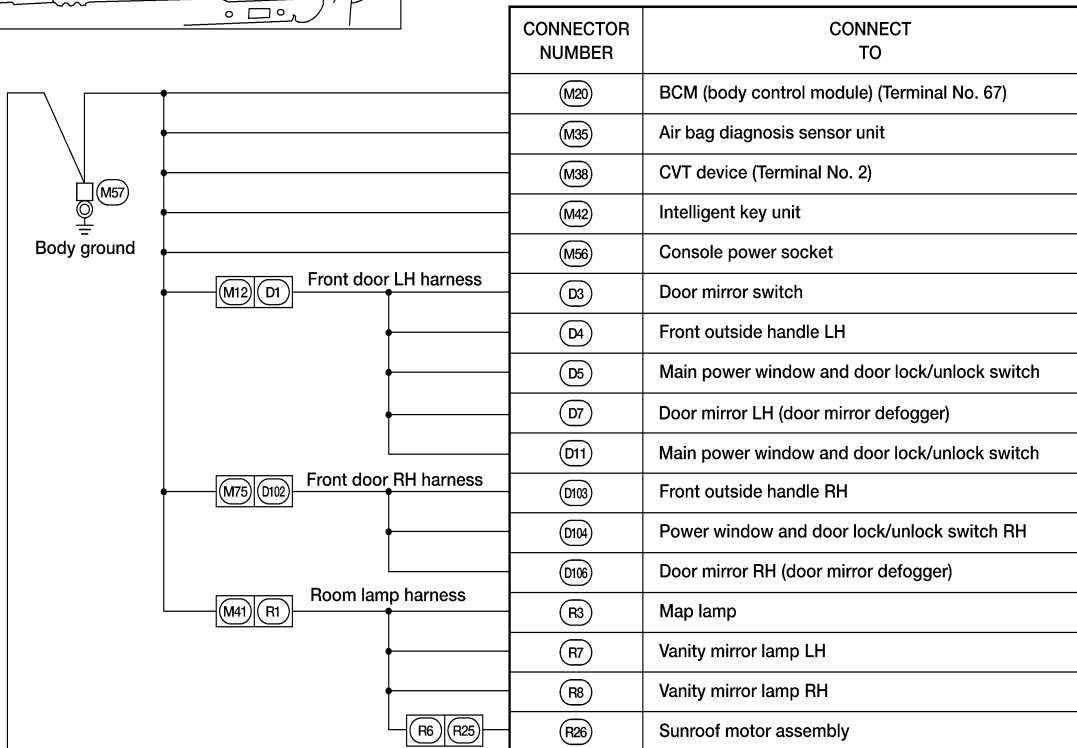
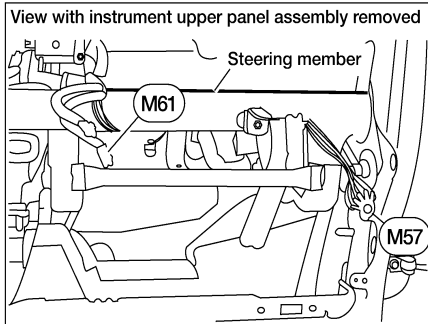
< SERVICE INFORMATION >

## GROUND CIRCUIT

### Ground Distribution

INFOID:000000001852203

### MAIN HARNESS



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Next page

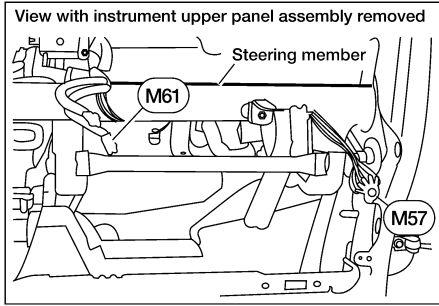
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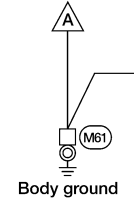
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# GROUND CIRCUIT

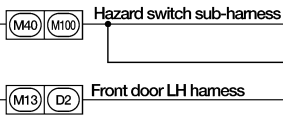
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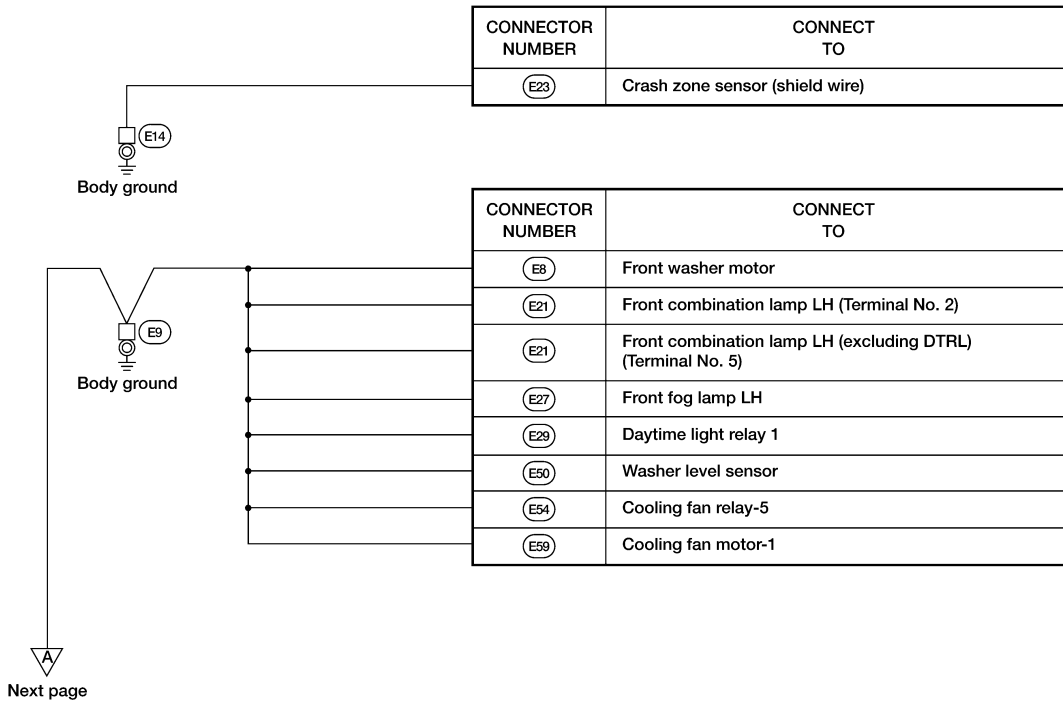
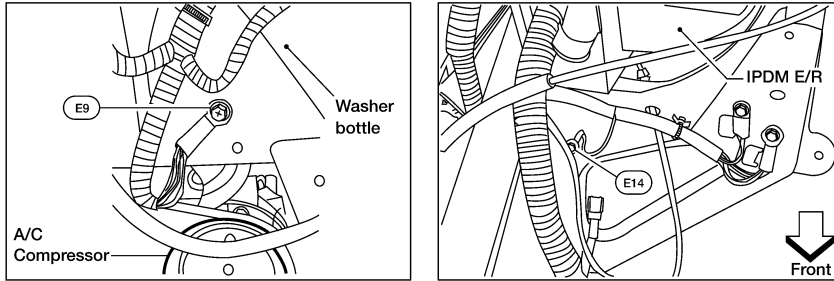
CONNECTOR NUMBER	CONNECT TO
M3	Fuse block (J/B)
M16	Front passenger air bag off indicator
M20	BCM (body control module) (Terminal No. 67)
M21	NATS antenna amp.
M22	Data link connector (Terminal No. 4)
M22	Data link connector (Terminal No. 5)
M24	Combination meter (Terminal No. 3)
M24	Combination meter (Terminal No. 21)
M33	Front air control
M34	Air mix door motor
M48	Intake door motor
M51	Mode door motor
M52	Fan control amp.
M59	Glove box lamp
M89	Double meter (Terminal No. 9) (QR25DE)
M89	Double meter (Terminal No. 10) (QR25DE)
M102	Hazard switch
M103	Manual mode select switch (QR25DE)
D9	Front door lock assembly LH (key cylinder switch)



WKIA6024E

# GROUND CIRCUIT

## < SERVICE INFORMATION > ENGINE ROOM HARNESS

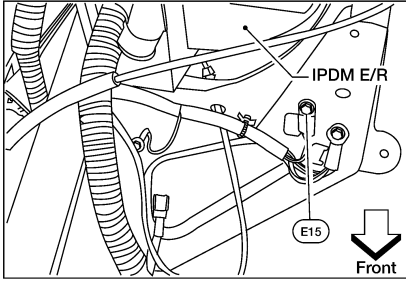


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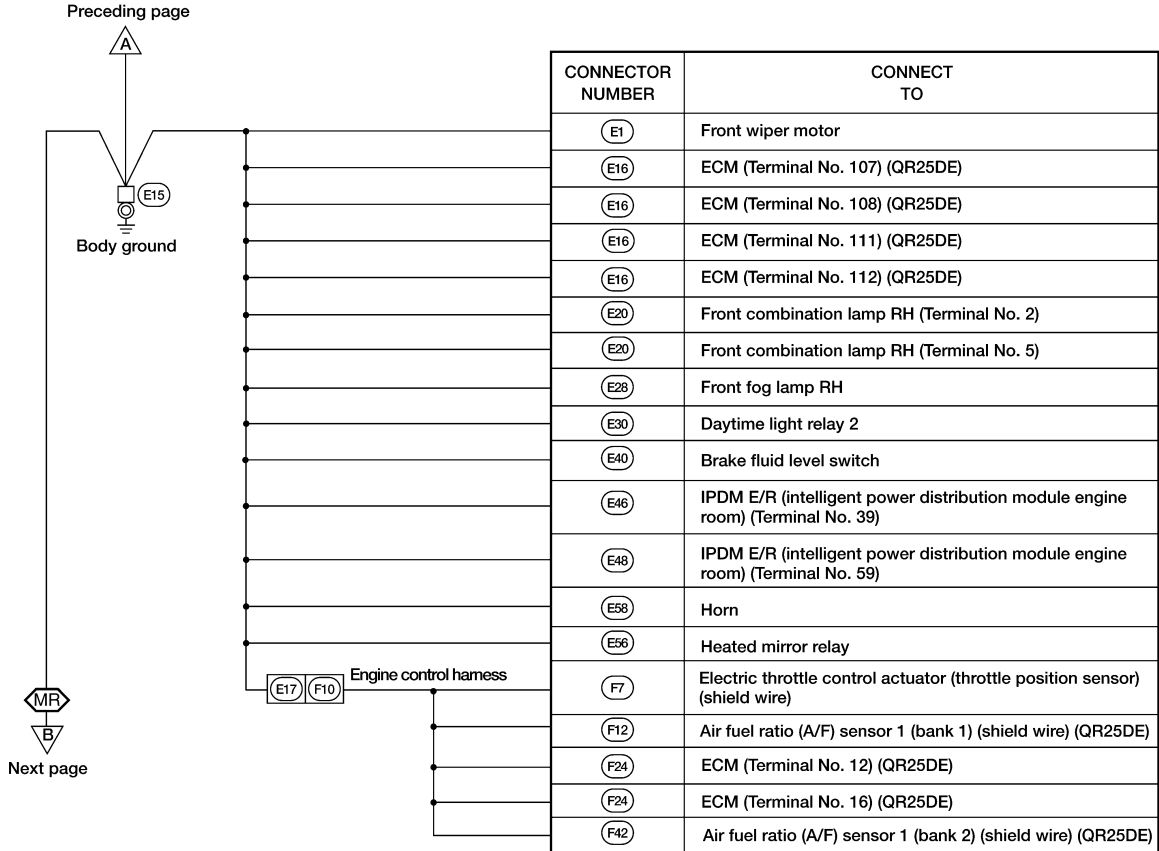
WKIA6025E

# GROUND CIRCUIT

< SERVICE INFORMATION >



MR : WITH MR20DE

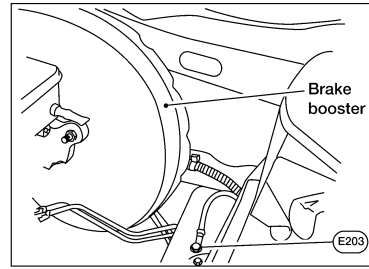
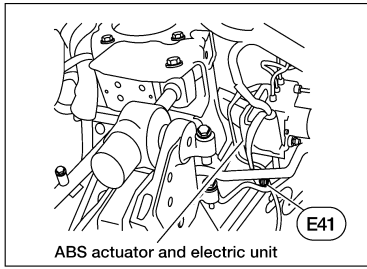
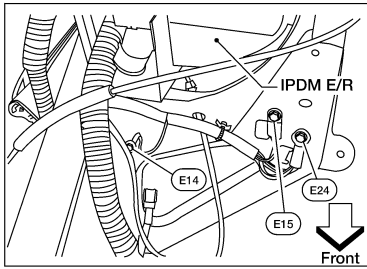


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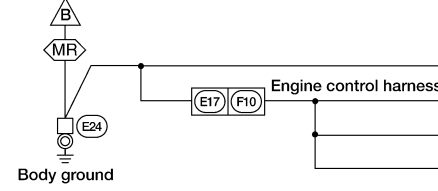
# GROUND CIRCUIT

< SERVICE INFORMATION >

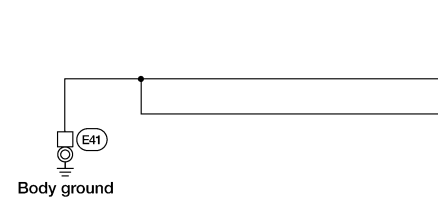


MR : WITH MR20DE  
 QR : WITH WITH QR25DE

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CONNECTOR NUMBER	CONNECT TO
E16	ECM (Terminal No. 108)
F12	Air fuel ratio (A/F) sensor 1 (shield wire)
F24	ECM (Terminal No.10)
F24	ECM (Terminal No. 11)



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



CONNECTOR NUMBER	CONNECT TO
E18	Generator (QR25DE)

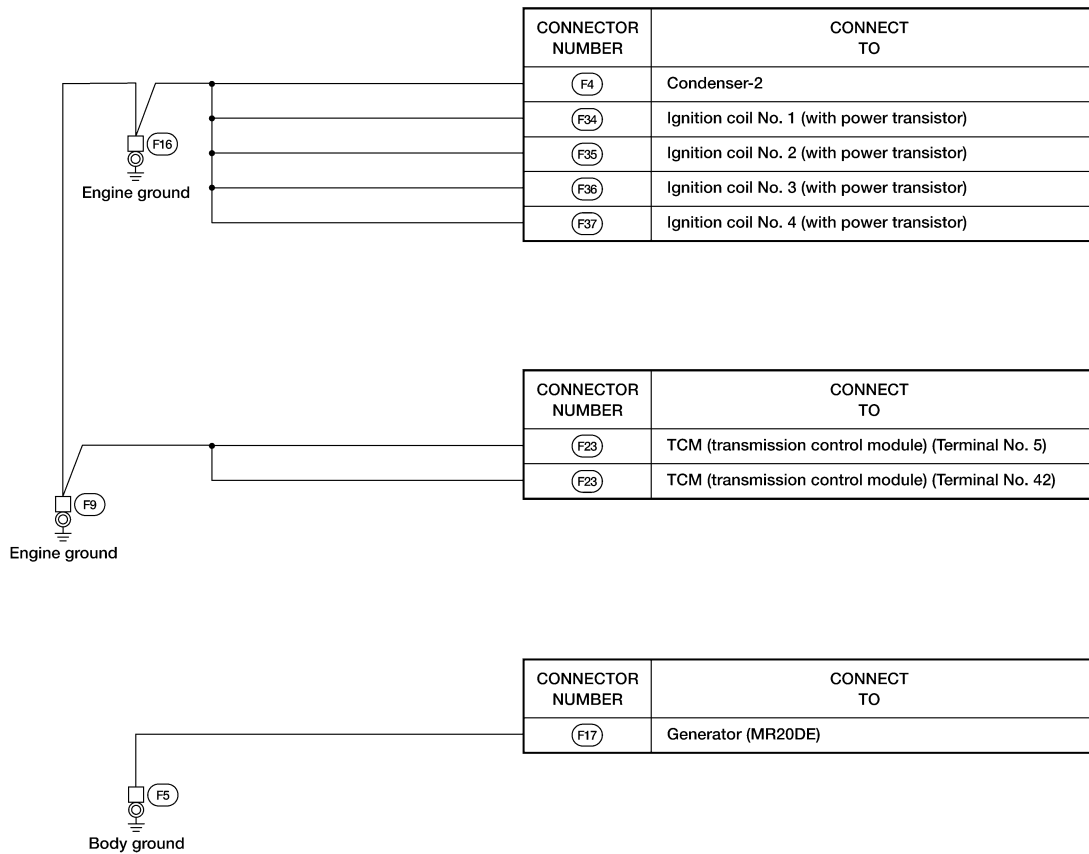
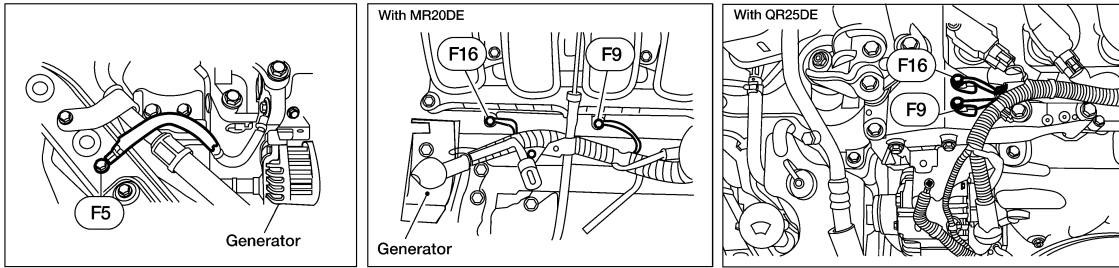
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# GROUND CIRCUIT

## < SERVICE INFORMATION > ENGINE CONTROL HARNESS

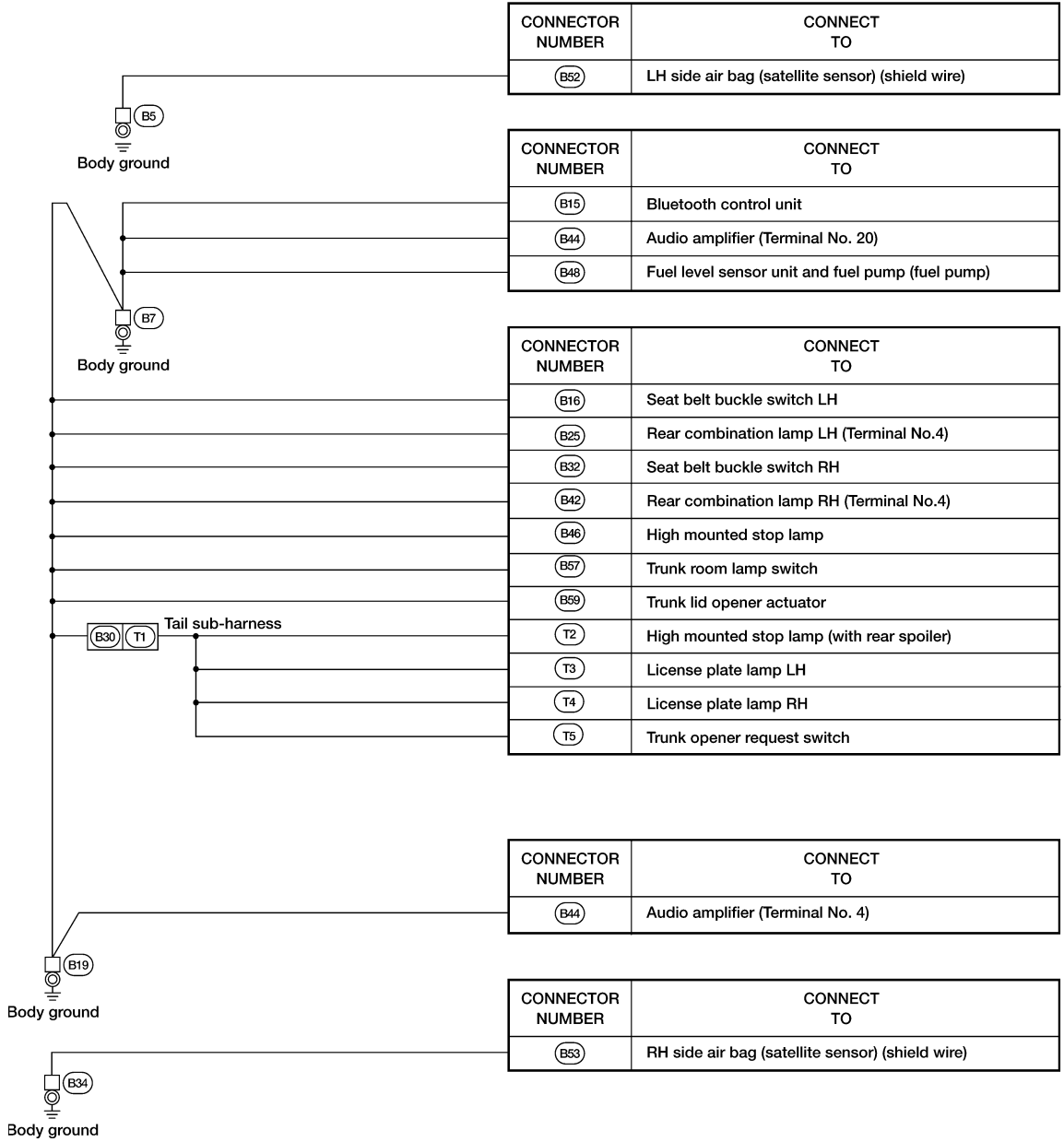
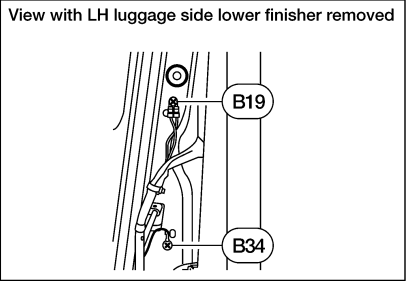
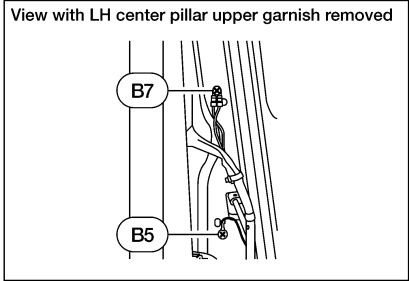


WKIA6027E

# GROUND CIRCUIT

< SERVICE INFORMATION >

## BODY HARNESS



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WKIA6028E

# HARNESS

< SERVICE INFORMATION >

## HARNESS

### Harness Layout

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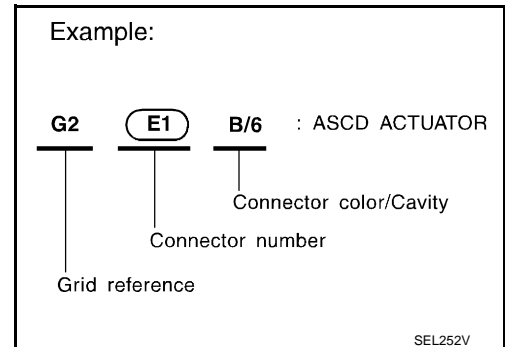
#### HOW TO READ HARNESS LAYOUT

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

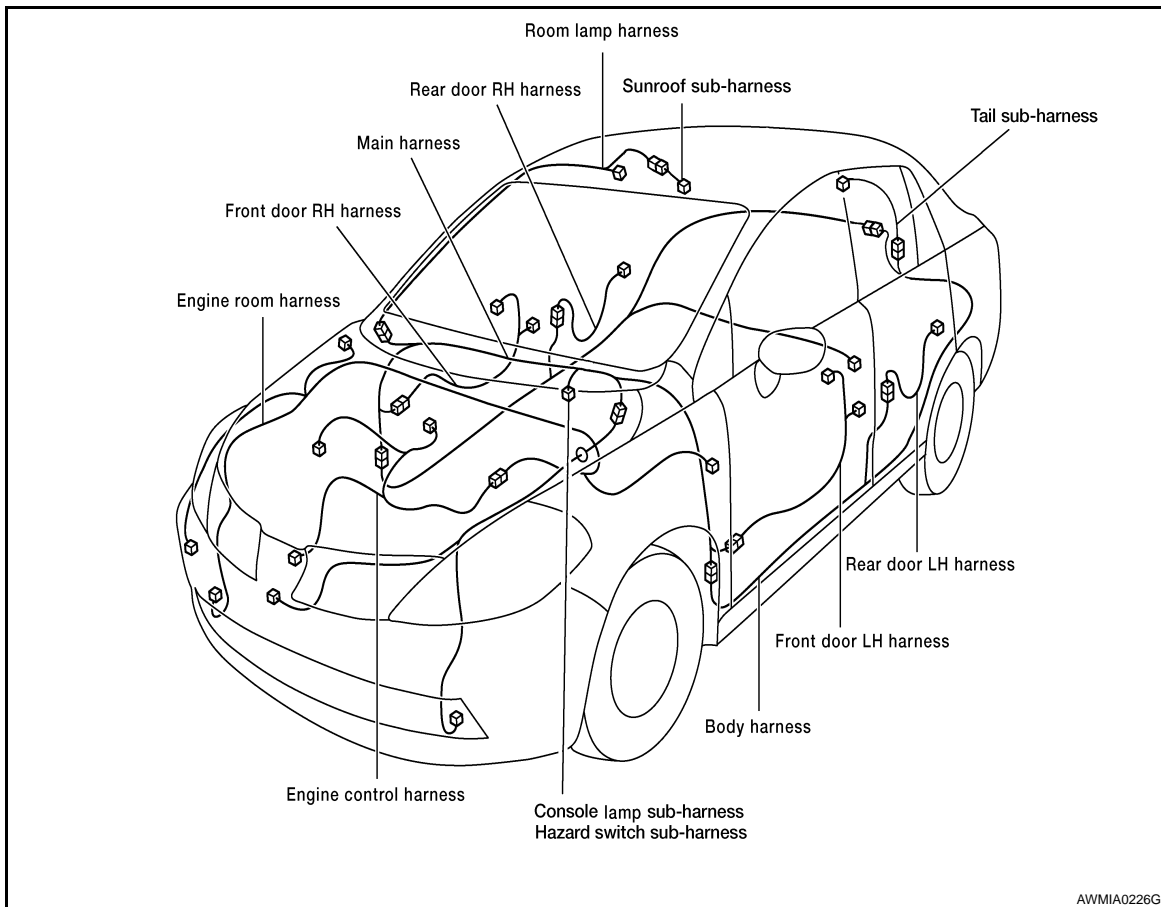
- Main Harness, Console Lamp and Hazard Switch Sub-harnesses
- Engine Room Harness
- Engine Room Harness Passenger Compartment
- Engine Control Harness
- Body Harness and Tail Sub-harness
- Room Lamp Harness and Sunroof Sub-harness

#### 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

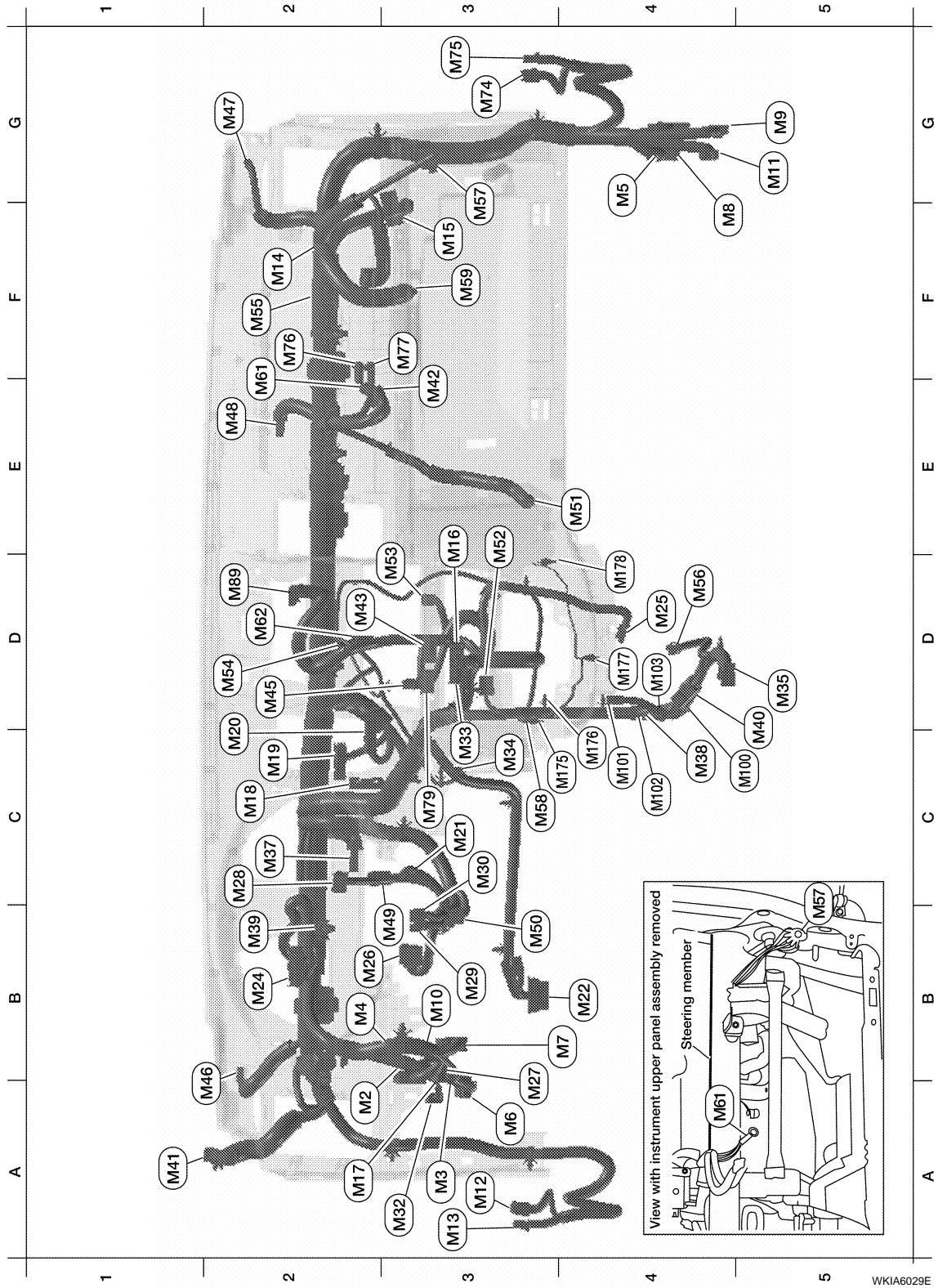


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# HARNESS

< SERVICE INFORMATION >

## MAIN HARNESS



WKIA6029E

A2	M2	W/32	: To E4	E2	M48	W/3	: Intake door motor
A3	M3	W/8	: Fuse block (J/B)	B3	M49	GR/6	: Key switch and ignition knob switch
B2	M4	W/16	: Fuse block (J/B)	B3	M50	BR/2	: Key switch
G4	M5	GR/16	: To B4	E4	M51	W/3	: Mode door motor
A3	M6	W/6	: To E19	E3	M52	W/4	: Fan control amp.

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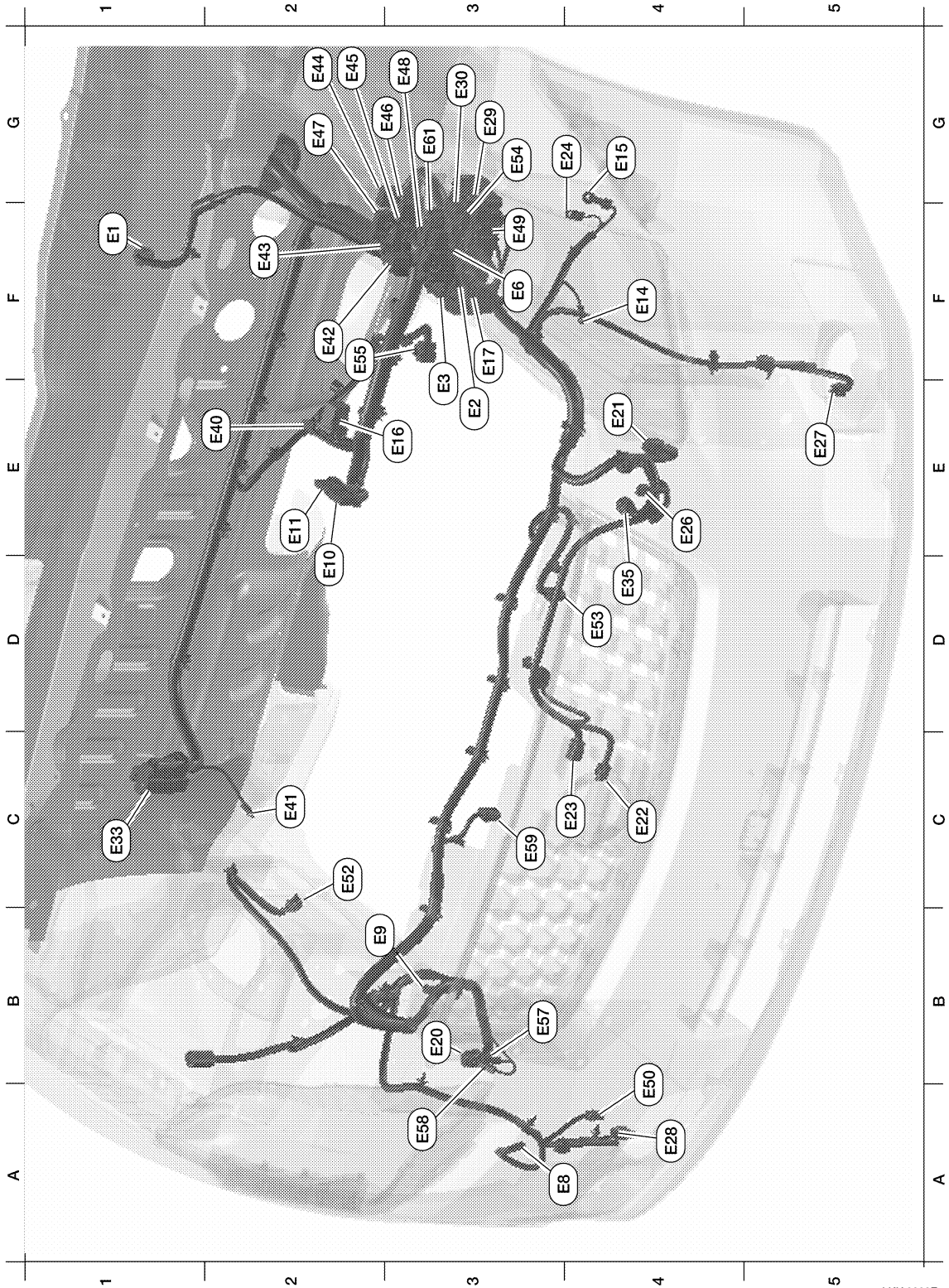
# HARNESS

## < SERVICE INFORMATION >

B4	M7	GR/16	: To B2	D3	M53	W/12	: Audio unit
F4	M8	W/16	: To B8	D2	M54	B/2	: Resistor-1
G5	M9	W/8	: To B10	F2	M55	Y/4	: Front passenger air bag module (service replacement)
B3	M10	W/24	: To B11	D4	M56	B/3	: Console power socket
G5	M11	W/12	: To B12	F3	M57	—	: Body ground
A3	M12	W/16	: To D1	C3	M58	W/2	: To M175
A3	M13	W/12	: To D2	F3	M59	BR/2	: Glove box lamp
F2	M14	B/5	: Passenger select unlock relay	E2	M61	—	: Body ground
F3	M15	W/4	: Remote keyless entry receiver	D2	M62	W/2	: Front blower motor
D3	M16	W/3	: Front passenger air bag OFF indicator	G3	M74	W/8	: To D101
A2	M17	W/3	: To E25	G3	M75	W/12	: To D102
C2	M18	W/40	: BCM (body control module)	F2	M76	Y/2	: Front passenger air bag module
C2	M19	W/15	: BCM (body control module)	F3	M77	O/2	: Front passenger air bag module
C2	M20	B/15	: BCM (body control module)	C3	M79	W/12	: Audio unit
C3	M21	W/4	: NATS antenna amp.	D2	M89	W/12	: Double meter (QR25DE)
B4	M22	W/16	: Data link connector	Hazard switch sub-harness			
B2	M24	W/40	: Combination meter	C5	M100	W/12	: To M40
D4	M25	GR/2	: Instrument panel antenna	C4	M101	BR/2	: CVT device
B2	M26	W/6	: Ignition switch	C4	M102	W/4	: Hazard switch
A3	M27	W/4	: Steering lock solenoid	D4	M103	GR/6	: Manual mode select switch (QR25DE)
C2	M28	W/16	: Combination switch	Console lamp sub-harness			
B3	M29	Y/6	: Combination switch (spiral cable)	C3	M175	W/2	: To M58
C3	M30	GR/8	: Combination switch (spiral cable)	C4	M176	W/2	: Console lamp LH
A3	M32	Y/4	: To E31	D4	M177	W/2	: Console lamp center
C3	M33	W/40	: Front air control	D4	M178	W/2	: Console lamp RH
C3	M34	W/3	: Air mix door motor				
D5	M35	Y/28	: Air bag diagnosis sensor unit				
C2	M37	W/8	: EPS control unit				
C4	M38	W/4	: CVT device (without intelligent key)				
C4	M38	W/8	: CVT device (with intelligent key)				
B2	M39	W/2	: Tire pressure warning check connector				
C5	M40	W/12	: To M100				
A1	M41	W/12	: To R1				
E3	M42	W/40	: Intelligent key unit				
D2	M43	W/20	: Audio unit				
D2	M45	W/12	: Audio unit				
A2	M46	BR/2	: Front tweeter LH				
G2	M47	BR/2	: Front tweeter RH				

# HARNESS

< SERVICE INFORMATION >  
ENGINE ROOM HARNESS



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

LKIA0909E

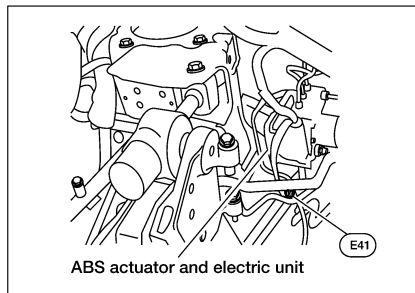
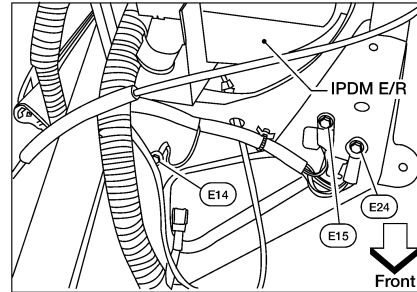
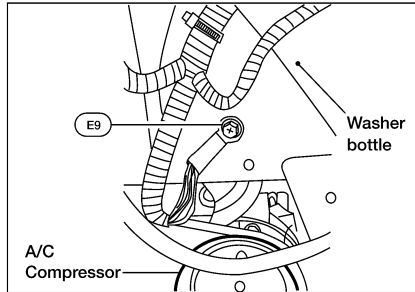
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# HARNESS

## < SERVICE INFORMATION >

### ENGINE ROOM GROUNDS



WKIA6030E

F1	E1	GR/5	: Front wiper motor	A4	E50	BR/2	: Washer fluid level switch
E3	E2	W/2	: To F1	C2	E52	GR/2	: Front wheel sensor RH
E3	E3	W/24	: To F2	D4	E53	GR/4	: Cooling fan motor-2
F3	E6	—	: Fuse and fusible link box	G3	E54	L/4	: Cooling fan relay-5
A3	E8	GR/2	: Front washer motor	F2	E55	B/4	: Heated oxygen sensor 2



# HARNESS

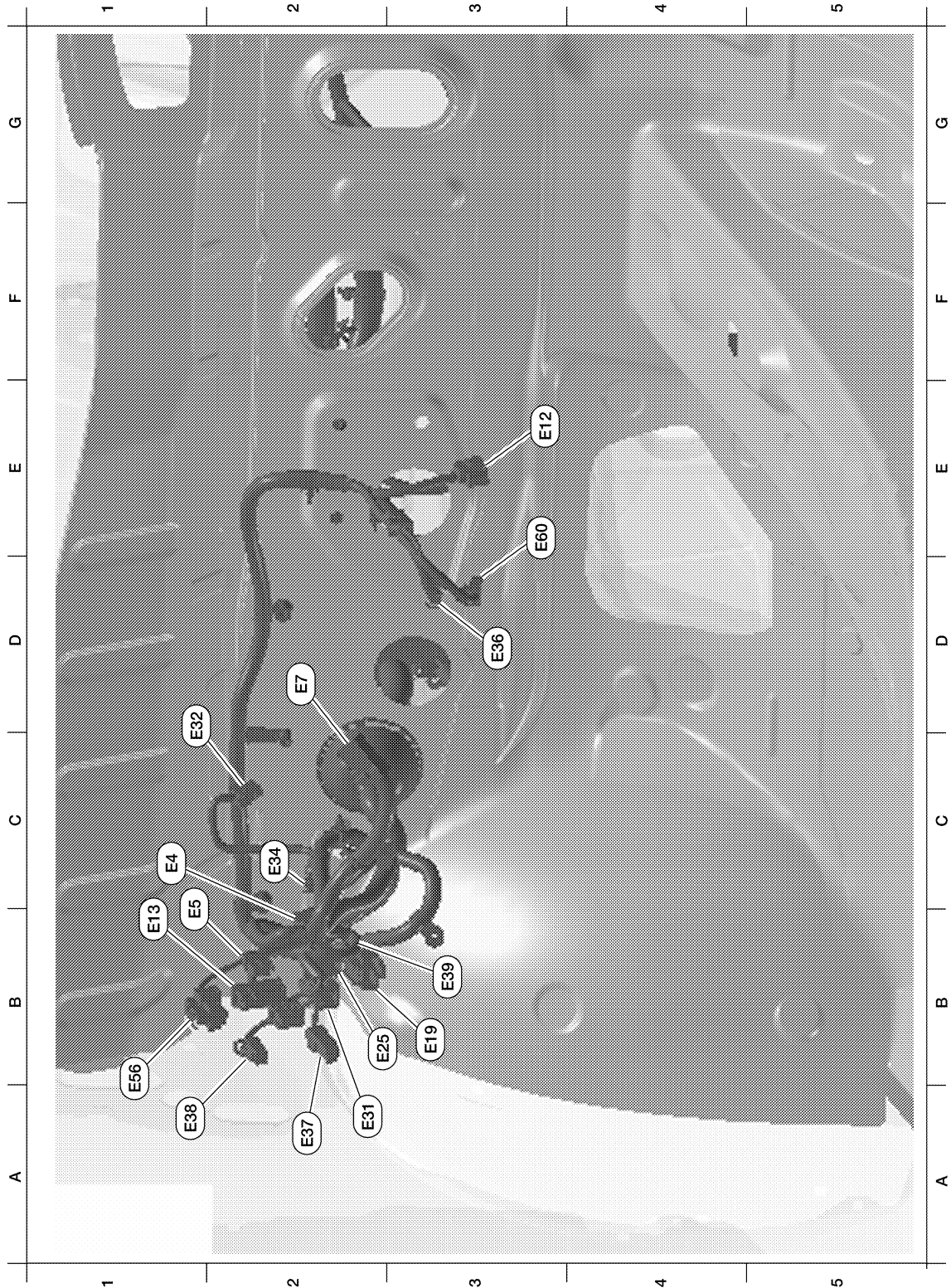
## < SERVICE INFORMATION >

B2	E9	—	: Engine ground	B3	E57	B/1	: Horn (high)
D2	E10	BR/2	: Fusible link box (battery)	A3	E58	B/1	: Horn (GND)
D2	E11	GR/2	: Fusible link box (battery)	C3	E59	W/4	: Cooling fan motor-1
F4	E14	—	: Engine ground (crash zone sensor)	G3	E61	L/2	: Front wheel sensor LH
G4	E15	—	: Engine ground				
E3	E16	B/32	: ECM				
F3	E17	W/16	: To F10				
B3	E20	GR/6	: Front combination lamp RH (headlamp)				
E4	E21	GR/6	: Front combination lamp LH (headlamp)				
C4	E22	B/2	: Ambient sensor				
C4	E23	Y/2	: Crash zone sensor				
G4	E24	—	: Engine ground				
E4	E26	BR/3	: Intelligent key warning buzzer				
E5	E27	B/2	: Front fog lamp LH				
A4	E28	B/2	: Front fog lamp RH				
G3	E29	B/5	: Daytime light relay 1				
G3	E30	L/4	: Daytime light relay 2				
C1	E33	B/26	: ABS actuator and electric unit (control unit)				
D4	E35	B/3	: Refrigerant pressure sensor				
E2	E40	GR/2	: Brake fluid level switch				
C2	E41	—	: Ground (ABS)				
F2	E42	B/2	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
F2	E43	W/16	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
G2	E44	W/6	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
G2	E45	BR/12	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
G2	E46	W/12	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
G2	E47	BR/8	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
G3	E48	B/6	: IPDM E/R (Intelligent Power Distribution Module Engine Room)				
F3	E49	L/4	: Cooling fan relay-4				

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# HARNESS

< SERVICE INFORMATION >  
PASSENGER COMPARTMENT



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

LKIA0910E

C1	E4	W/32	: To M2			
C1	E5	W/2	: To B3			
D2	E7	B/2	: To E201			
E3	E12	B/6	: Accelerator pedal position sensor			
B1	E13	W/16	: To B9			

# HARNESS

## < SERVICE INFORMATION >

B3	E19	W/6	: To M6				
B2	E25	W/3	: To M17				
A2	E31	Y/4	: To M32				
D1	E32	BR/2	: ASCD clutch switch				
C2	E34	BR/2	: Clutch interlock switch (with M/T)				
D3	E36	BR/2	: ASCD brake switch				
A2	E37	B/1	: Fuse block (J/B)				
A1	E38	B/2	: Fuse block (J/B)				
B3	E39	W/8	: Fuse block (J/B)				
B1	E56	L/4	: Heated mirror relay				
E3	E60	GR/4	: Stop lamp switch (with M/T)				
E3	E60	B/2	: Stop lamp switch (without M/T)				

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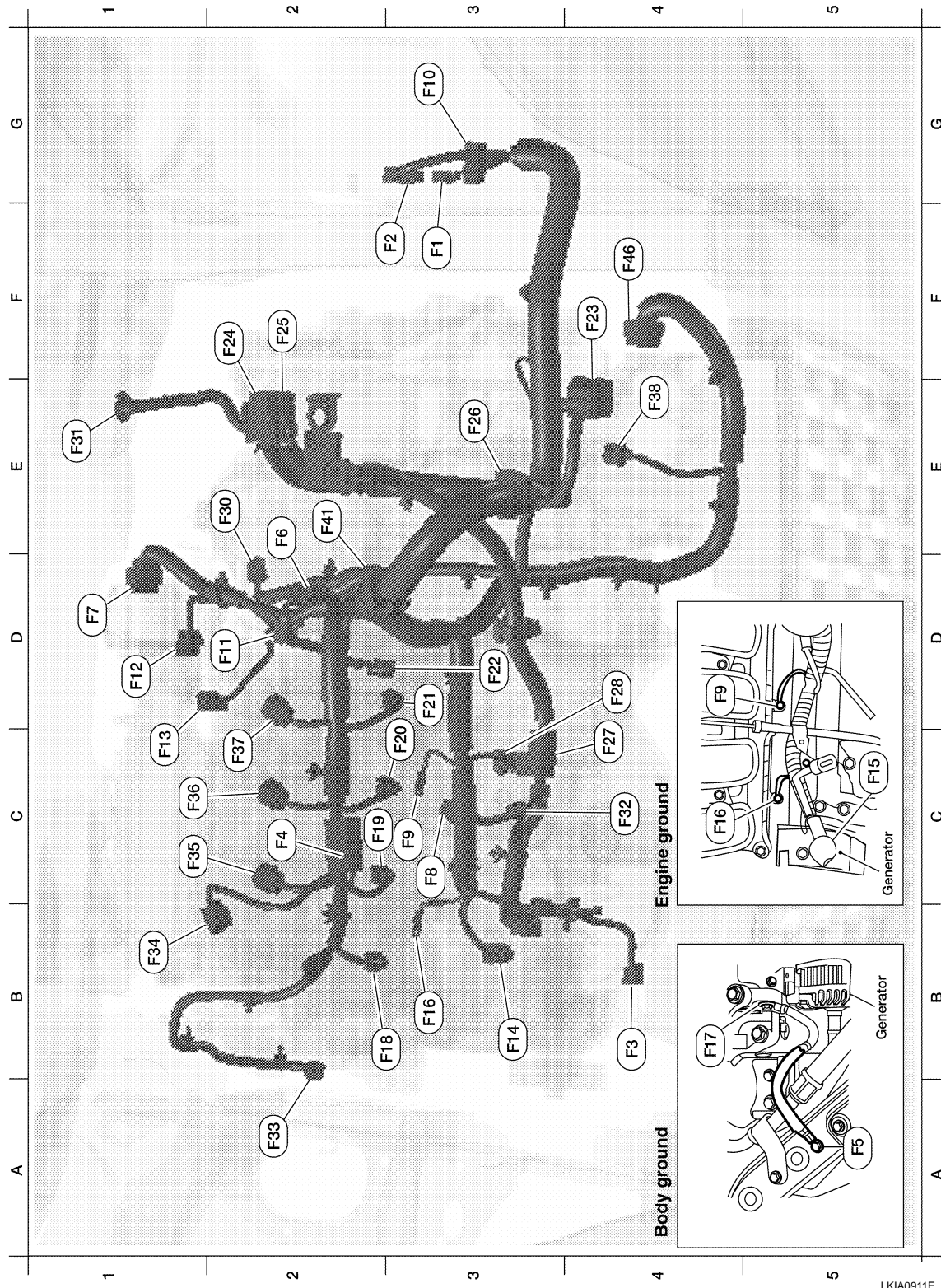
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# HARNESS

< SERVICE INFORMATION >

## ENGINE CONTROL HARNESS (MR20DE)



LKIA0911E

F3	F1	W/2	: To E2			
F3	F2	W/24	: To E3			
B4	F3	B/2	: A/C compressor			
C2	F4	GR/2	: Condenser-2			
E2	F6	GR/2	: Engine coolant temperature sensor			

# HARNESS

## < SERVICE INFORMATION >

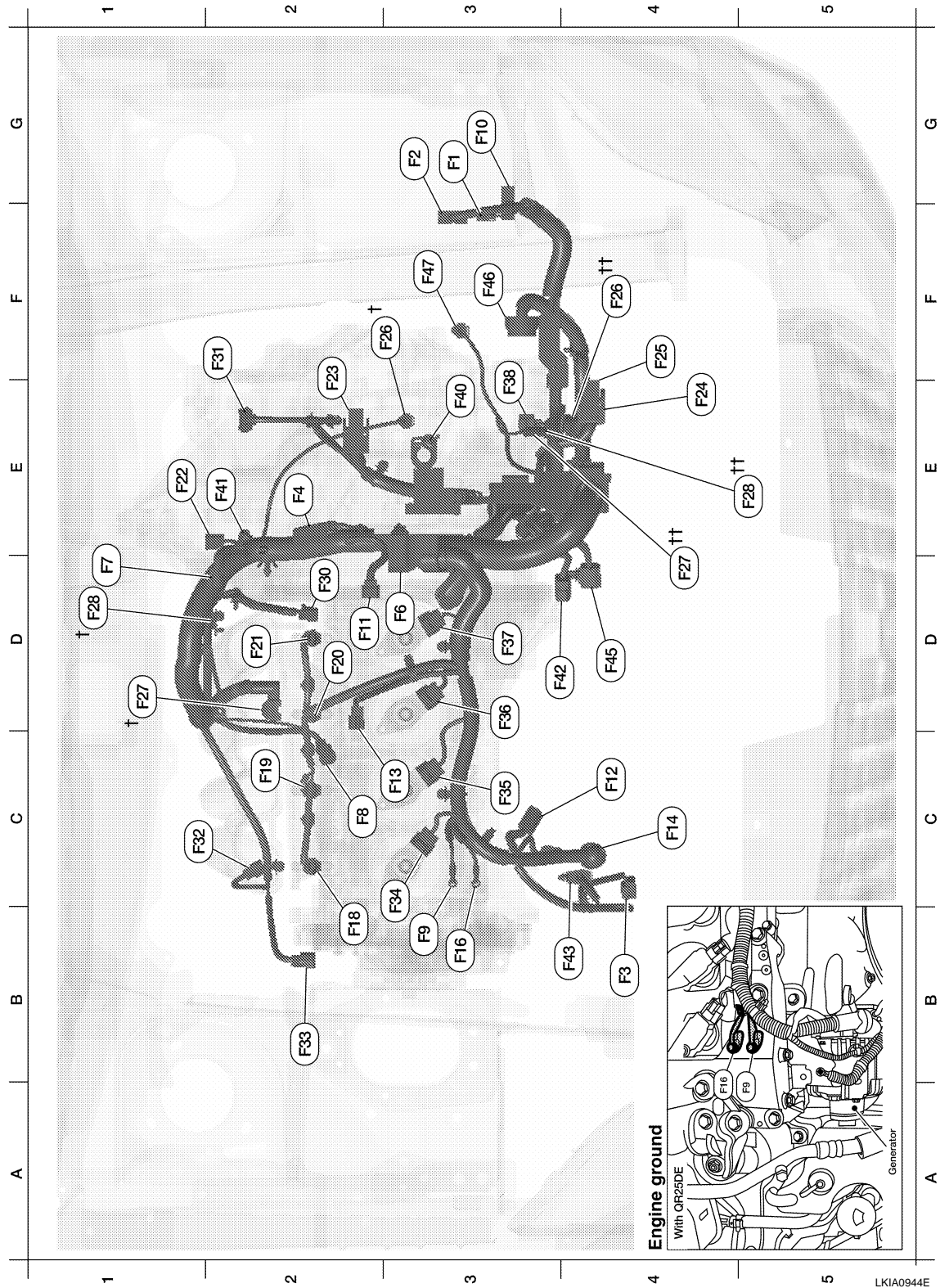
D1	F7	B/6	: Electric throttle control actuator					A
C3	F8	B/2	: Knock sensor					
C3	F9	—	: Engine ground					
G3	F10	W/16	: To E17					B
D2	F11	B/3	: Camshaft position sensor (PHASE)					
D1	F12	GR/4	: Air fuel ratio (A/F) sensor 1					
C1	F13	GR/2	: EVAP canister purge volume control solenoid valve					C
B3	F14	B/3	: Generator					
B3	F16	—	: Engine ground					D
B3	F18	GR/2	: Fuel injector No. 1					
C3	F19	GR/2	: Fuel injector No. 2					E
C3	F20	GR/2	: Fuel injector No. 3					
D3	F21	GR/2	: Fuel injector No. 4					
D3	F22	B/3	: Crankshaft position sensor (POS)					F
F4	F23	B/48	: TCM (transmission control module)					
F2	F24	GR/32	: ECM					G
F2	F25	BR/48	: ECM					
E3	F26	G/3	: Park/neutral position (PNP) switch (with M/T)					H
E3	F26	G/8††	: Park/neutral position (PNP) switch (with CVT)					
C4	F27	—	: Starter motor					I
D4	F28	—	: Starter motor					
E2	F30	B/3	: Secondary speed sensor					J
E1	F31	B/6	: Mass air flow sensor					
C4	F32	GR/1	: Oil pressure switch					
A2	F33	GR/2	: Intake timing control solenoid valve					PG
B1	F34	GR/3	: Ignition coil No. 1 (with power transistor)					
C1	F35	GR/3	: Ignition coil No. 2 (with power transistor)					L
C1	F36	GR/3	: Ignition coil No. 3 (with power transistor)					M
C2	F37	GR/3	: Ignition coil No. 4 (with power transistor)					
E4	F38	B/3	: Primary speed sensor					N
E2	F41	GR/2	: Vehicle speed sensor					
F4	F46	GR/22	: CVT unit					O

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# HARNESS

< SERVICE INFORMATION >

## ENGINE CONTROL HARNESS (QR25DE)



LKIA0944E

G3	F1	W/2	: To E2	D3	F42	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 2)
G3	F2	W/24	: To E3	B3	F43	B/4	: Heated oxygen sensor 2 (bank 1)
B4	F3	B/2	: A/C compressor	D4	F45	B/4	: Heated oxygen sensor 2 (bank 2)
E2	F4	GR/2	: Condenser-2	F3	F46	GR/22	: CVT unit
D2	F6	GR/2	: Engine coolant temperature sensor	F3	F47	B/2	: Back-up lamp switch

# HARNESS

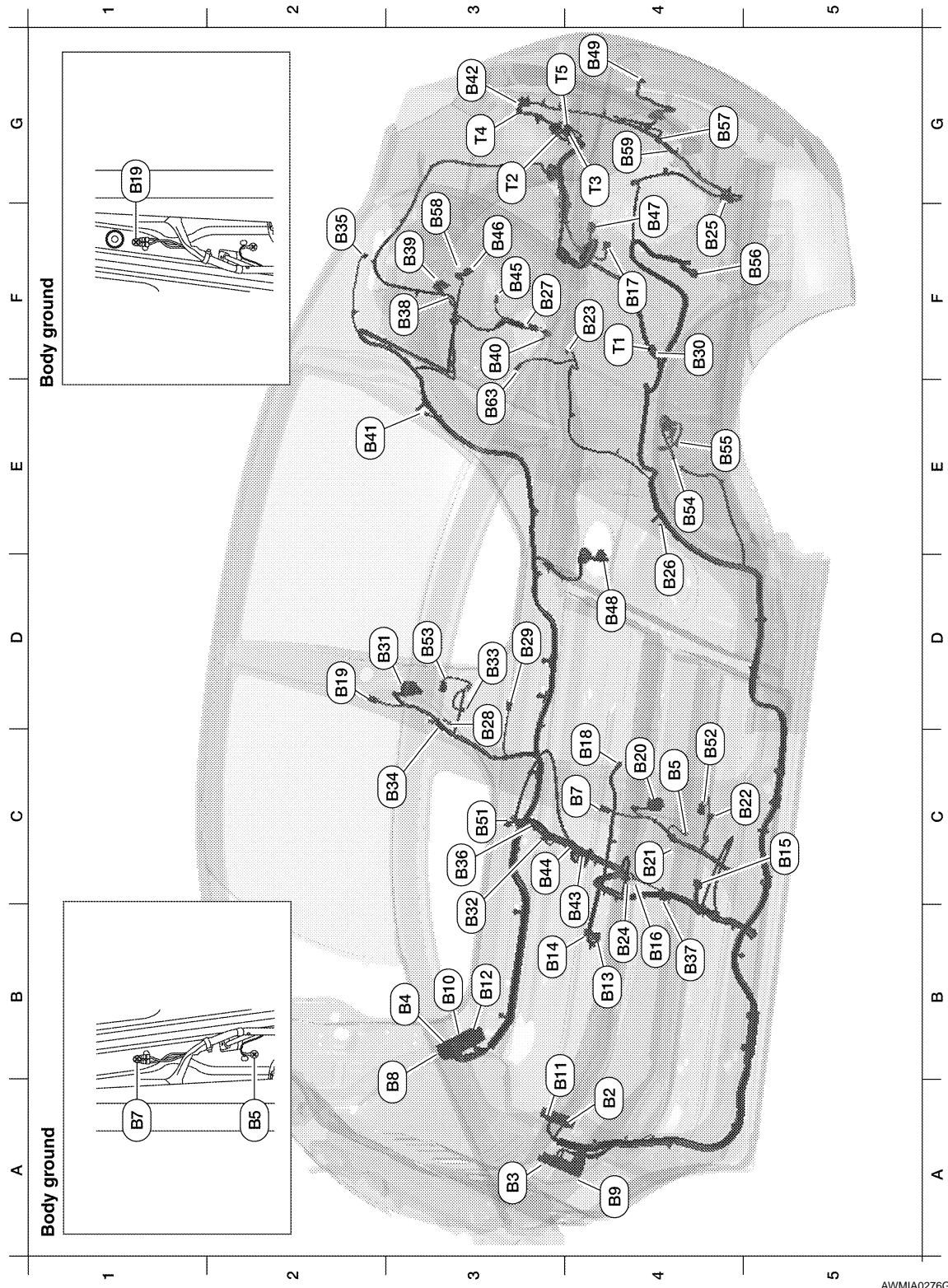
## < SERVICE INFORMATION >

D1	F7	B/6	: Electric throttle control actuator					A
C2	F8	GR/2	: Knock sensor					B
B3	F9	—	: Engine ground					C
G3	F10	W/16	: To E17					D
D2	F11	B/3	: Camshaft position sensor (PHASE)					E
C4	F12	GR/4	: Air fuel ratio (A/F) sensor 1 (bank 1)					F
C3	F13	GR/2	: EVAP canister purge volume control solenoid valve					G
C4	F14	B/3	: Generator					H
B3	F16	—	: Engine ground					I
B2	F18	GR/2	: Fuel injector No. 1					J
C2	F19	GR/2	: Fuel injector No. 2					
D2	F20	GR/2	: Fuel injector No. 3					
D2	F21	GR/2	: Fuel injector No. 4					
E1	F22	B/3	: Crankshaft position sensor (POS)					
F2	F23	B/48	: TCM (transmission control module)					
E4	F24	GR/32	: ECM					
F4	F25	BR/48	: ECM					
F3	F26	B/2†	: Park/neutral position (PNP) switch (with M/T)					
F4	F26	G/8††	: Park/neutral position (PNP) switch (with CVT)					
D1	F27	—†	: Starter motor (CVT)					
D4	F27	—††	: Starter motor (M/T)					
E5	F28	—††	: Starter motor (M/T)					
D1	F28	GR/1†	: Starter motor (CVT)					
D2	F30	B/3	: Secondary speed sensor					
F2	F31	B/6	: Mass air flow sensor					PG
C1	F32	B/3	: Oil pressure switch					
B2	F33	GR/2	: Intake timing control solenoid valve					L
C3	F34	GR/3	: Ignition coil No. 1 (with power transistor)					M
C3	F35	GR/3	: Ignition coil No. 2 (with power transistor)					N
D3	F36	GR/3	: Ignition coil No. 3 (with power transistor)					O
D3	F37	GR/3	: Ignition coil No. 4 (with power transistor)					P
E3	F38	B/3	: Primary speed sensor					
E3	F40	—	: Fusible link box (battery)					
E2	F41	GR/2	: Vehicle speed sensor (M/T)					

# HARNESS

< SERVICE INFORMATION >

## BODY HARNESS



AWMIA0276GB

A4	B2	GR/16	: To M7	F3	B46	W/2	: High mounted stop lamp (without rear spoiler)
A3	B3	W/2	: To E5	G4	B47	GR/3	: EVAP control system pressure sensor
B3	B4	GR/16	: To M5	D4	B48	GR/5	: Fuel level sensor unit and fuel pump
C4	B5	—	: Body ground (satellite sensor)	G4	B49	GR/2	: Rear bumper antenna



# HARNESS

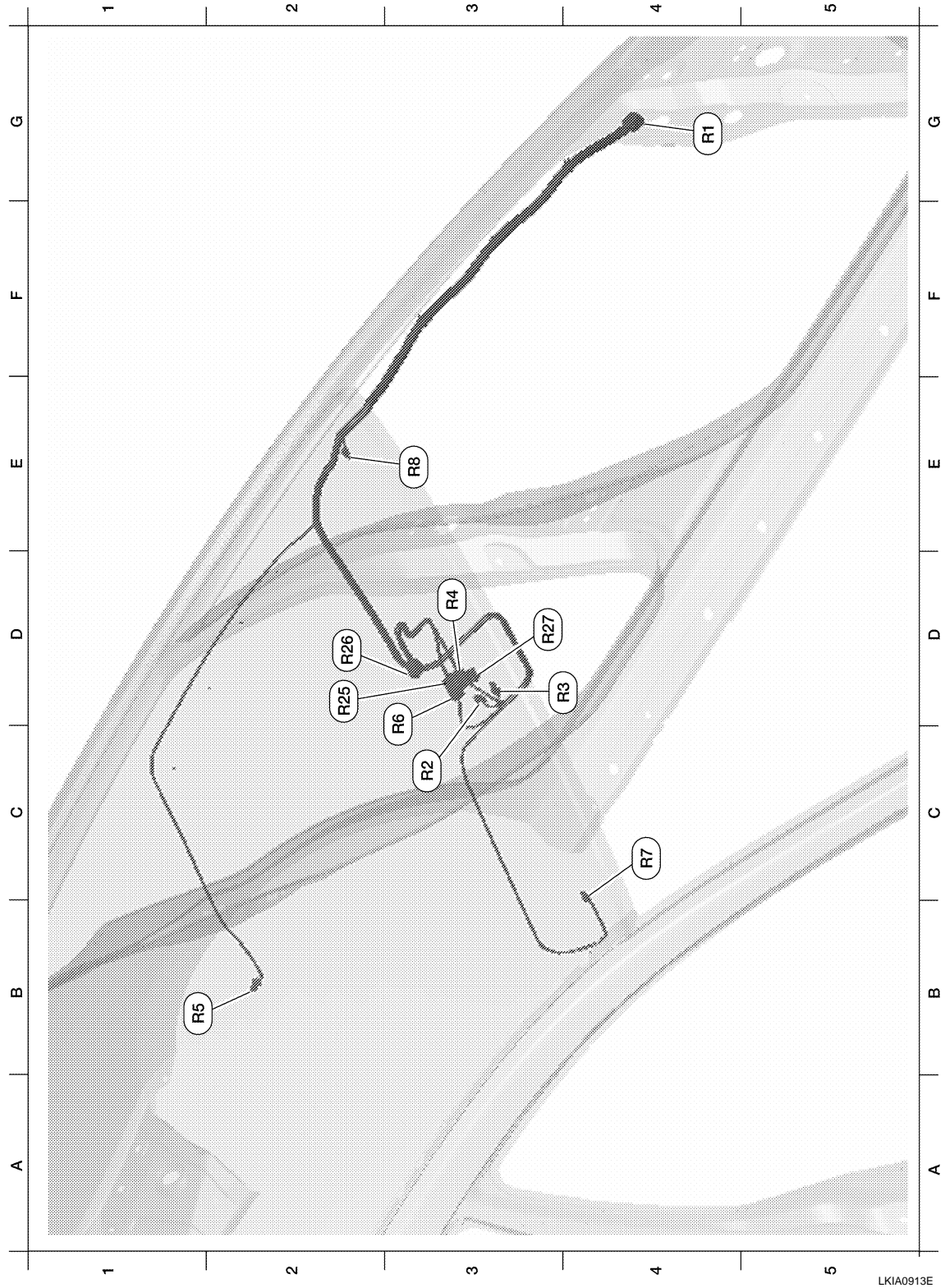
## < SERVICE INFORMATION >

C4	B7	—	: Body ground	C3	B51	Y/2	: Front RH side air bag module	A	
B3	B8	W/16	: To M8	C4	B52	Y/2	: LH side air bag (satellite) sensor	B	
A4	B9	W/16	: To E13	D3	B53	Y/2	: RH side air bag (satellite) sensor	C	
B3	B10	W/8	: To M9	E4	B54	GR/2	: Rear wheel sensor LH	D	
B4	B11	W/24	: To M10	E5	B55	L/2	: Rear wheel sensor RH	E	
B3	B12	W/12	: To M11	F5	B56	W/16	: Satellite radio tuner	F	
B4	B13	Y/12	: Air bag diagnosis sensor unit	G4	B57	W/2	: Trunk room lamp switch	G	
B3	B14	Y/12	: Air bag diagnosis sensor unit	F3	B58	W/2	: Trunk room lamp	H	
B5	B15	W/32	: Bluetooth control unit	G4	B59	W/2	: Trunk lid opener actuator	I	
B4	B16	W/3	: Seat belt buckle switch LH	E3	B63	B/1	: Rear window defogger	J	
F4	B17	B/2	: EVAP canister vent control valve	Tail sub-harness					
C4	B18	GR/2	: Front console antenna	F4	T1	W/4	: To B30		
D2	B19	—	: Body ground	G4	T2	BR/2	: High mounted stop lamp (with rear spoiler)		
C4	B20	W/8	: To D201	G4	T3	BR/2	: License plate lamp LH		
C4	B21	W/3	: Front door switch LH	G4	T4	BR/2	: License plate lamp RH		
C5	B22	Y/2	: Front LH seat belt pre-tensioner	G4	T5	BR/2	: Trunk opener request switch		
F4	B23	Y/2	: LH side curtain air bag module						
B4	B24	B/1	: Parking brake switch						
F5	B25	W/6	: Rear combination lamp LH						
D4	B26	W/3	: Rear door switch LH						
F4	B27	W/2	: Rear speaker LH						
D3	B28	W/3	: Front door switch RH						
D3	B29	W/3	: Belt tension sensor						
F4	B30	W/4	: To T1						
D3	B31	W/8	: To D301						
C3	B32	W/3	: Seat belt buckle switch RH						
D3	B33	Y/2	: Front RH seat belt pre-tensioner						
C3	B34	—	: Body ground (satellite sensor)						
F2	B35	Y/2	: RH side curtain air bag module						
C3	B36	W/8	: To B150						
B4	B37	Y/2	: Front LH side air bag module						
F3	B38	W/4	: Rear speaker assembly RH						
F3	B39	W/2	: Rear speaker RH						
F3	B40	W/4	: Rear speaker assembly LH						
E3	B41	W/3	: Rear door switch RH						
G3	B42	W/6	: Rear combination lamp RH						
B4	B43	W/24	: Audio amplifier						
C4	B44	W/8	: Audio amplifier						
F3	B45	GR/2	: Rear parcel shelf antenna						

# HARNESS

< SERVICE INFORMATION >

## ROOM LAMP HARNESS



LKIA0913E

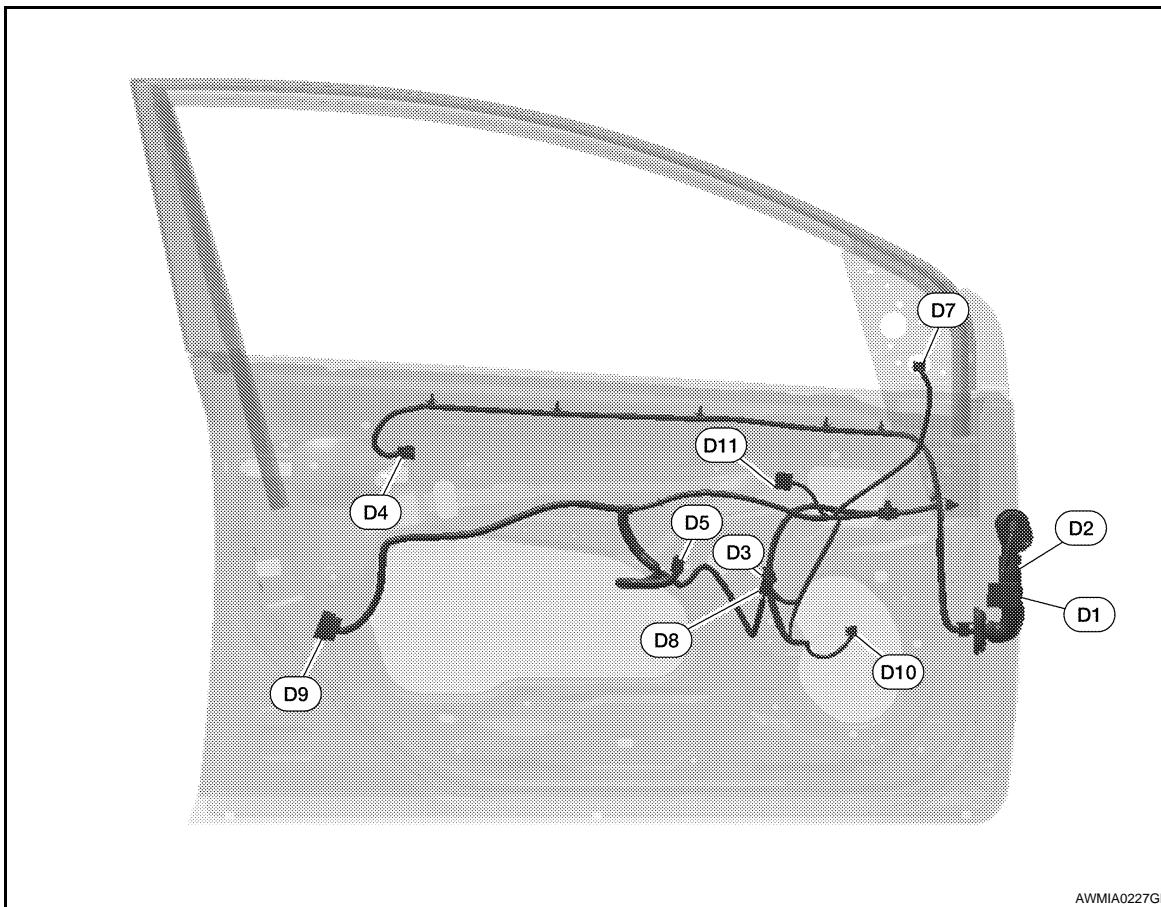
G4	R1	W/12	: To M41				
C3	R2	W/4	: Bluetooth ON indicator				
D3	R3	W/2	: Map lamp				
D3	R4	W/4	: Microphone				
B1	R5	W/2	: Interior room lamp				

# HARNESS

## < SERVICE INFORMATION >

C3	R6	BR/4	: To R25			
C4	R7	W/2	: Vanity mirror lamp LH			
E3	R8	W/2	: Vanity mirror lamp RH			
Sunroof sub-harness						
D3	R25	BR/4	: To R6			
C3	R26	GR/10	: Sunroof motor assembly			
D3	R27	W/3	: Sunroof switch			

## FRONT DOOR LH HARNESS



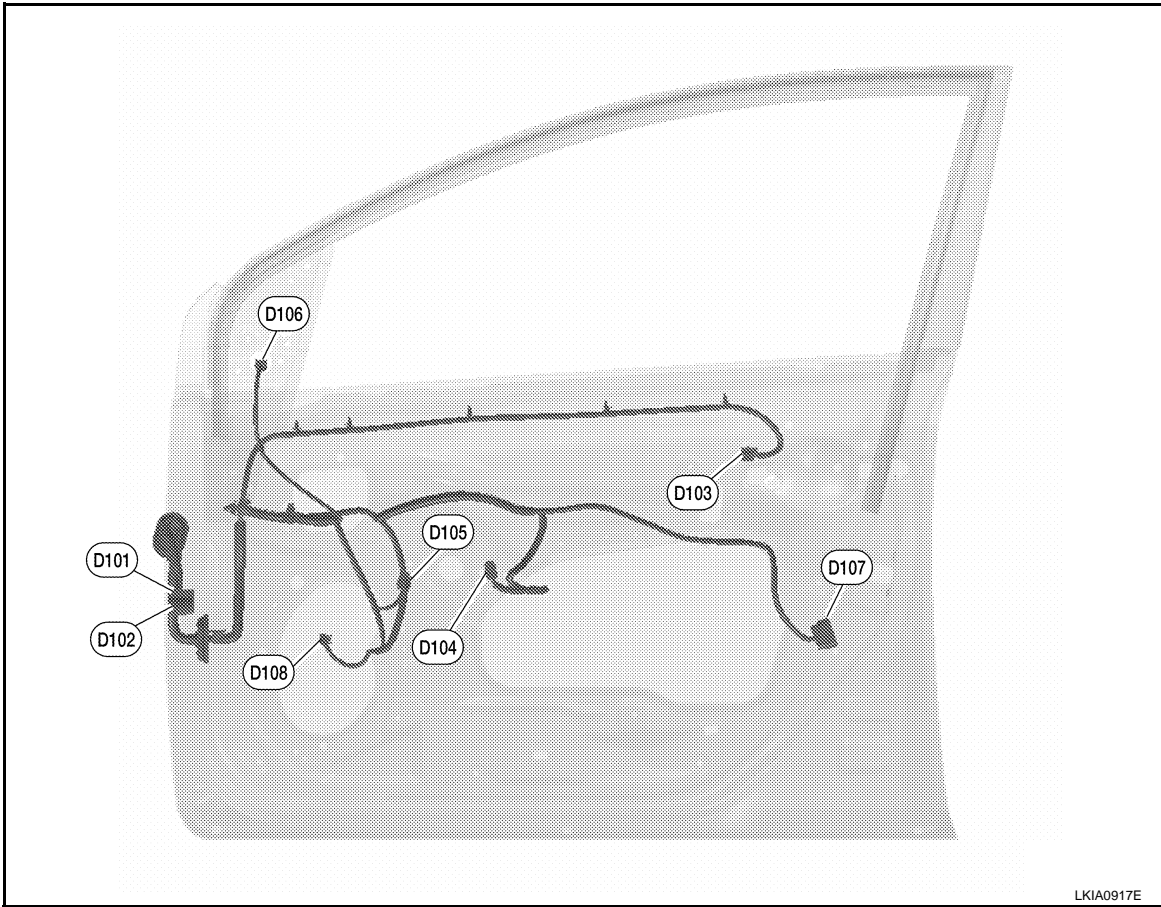
AWMIA0227G8

D1	W/16	: To M12 (with intelligent key)	D7	W/8	: Door mirror LH
D1	W/12	: To M12 (without intelligent key)	D8	B/6	: Front power window motor LH
D2	W/12	: To M13	D9	GR/6	: Front door lock assembly LH
D3	W/10	: Door mirror switch	D10	W/2	: Front door speaker LH
D4	B/4	: Front outside handle LH	D11	W/3	: Main power window and door lock/unlock switch
D5	W/16	: Main power window and door lock/unlock switch			

# HARNESS

< SERVICE INFORMATION >

## FRONT DOOR RH HARNESS



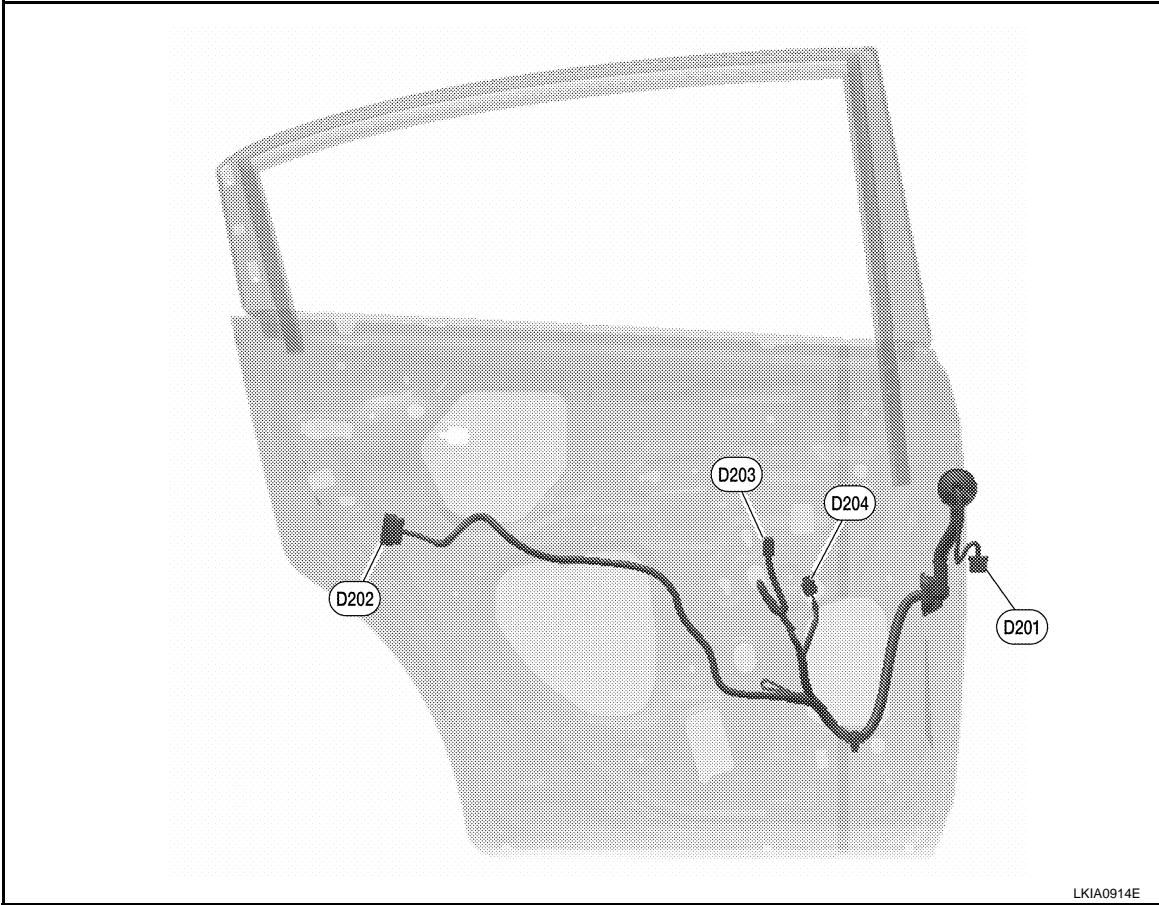
LKIA0917E

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



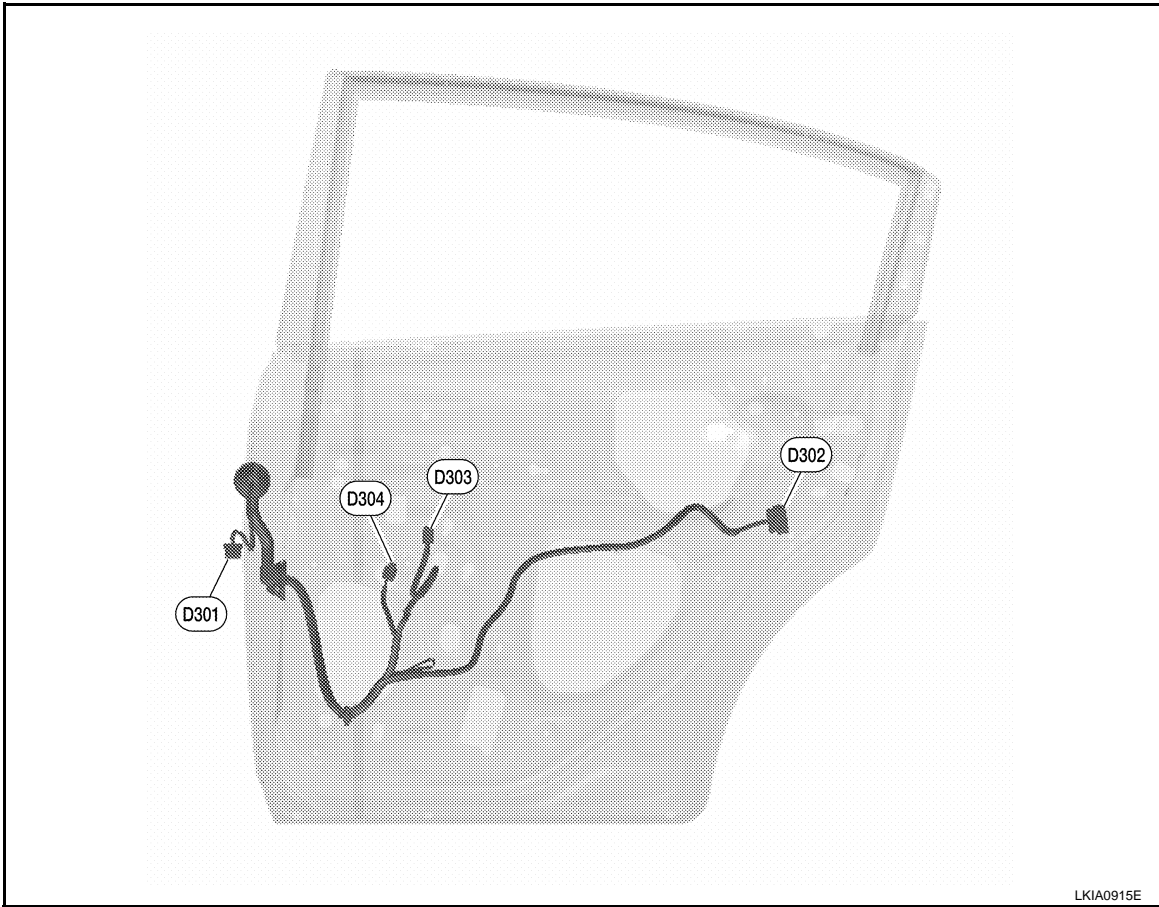
D201	W/8	: To B20	D204	GR/2	: Rear power window motor LH
D202	GR/6	: Rear door lock actuator LH			
D203	W/8	: Rear power window switch LH			

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< SERVICE INFORMATION >

## REAR DOOR RH HARNESS



LKIA0915E

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

### Wiring Diagram Codes (Cell Codes)

INFOID:000000001852205

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

# HARNESS

## < SERVICE INFORMATION >

AUDIO	AV	Audio	
BACK/L	LT	Back-up Lamp	A
BRK/SW	EC	Brake Switch	
CAN	CVT	CAN Communication Line	B
CAN	EC	CAN Communication Line	
CAN	LAN	CAN System	
CHARGE	SC	Charging System	C
CHIME	DI	Warning Chime	
COOL/F	EC	Cooling Fan Control	
COMBSW	LT	Combination Switch	D
COMM	AV	Audio Visual Communication System	
CVTIND	DI	CVT Indicator Lamp	
D/LOCK	BL	Power Door Lock	E
DEF	GW	Rear Window Defogger	
DTRL	LT	Headlamp - With Daytime Light System	
ECM/PW	EC	ECM Power Supply For Back-up	F
ECTS	EC	Engine Coolant Temperature Sensor	
EPS	STC	Electronic Controlled Power Steering	
ETC1	EC	Electric Throttle Control Function	G
ETC2	EC	Throttle Control Motor Relay	
ETC3	EC	Throttle Control Motor	
F/FOG	LT	Front Fog Lamp	H
F/PUMP	EC	Fuel Pump	
FTS	CVT	CVT Fluid Temperature Sensor Circuit	
FTTS	EC	Fuel Tank Temperature Sensor	I
FUEL	EC	Fuel Ignition System Function	
FUELB1	EC	Fuel Ignition System Function Bank1	
FUELB2	EC	Fuel Ignition System Function Bank2	J
HEATER	MTC	Heater System	
H/LAMP	LT	Headlamp	
H/PHON	AV	Hands Free Telephone	PG
HORN	WW	Horn	
HO2S2	EC	Heated Oxygen Sensor 2	
HO2S2H	EC	Heated Oxygen Sensor 2 Heater	L
IATS	EC	Intake Air Temperature Sensor	
IGNSYS	EC	Ignition System	
I/KEY	BL	Intelligent Key System	M
ILL	LT	Illumination	
INJECT	EC	Injector	
INT/L	LT	Room/Map, Vanity and Luggage Lamps	N
INF/D	AV	Vehicle Information and Integrated Switch System	
IVC	EC	Intake Valve Timing Control Solenoid Valve	
KEYLES	BL	Remote Keyless Entry System	O
KS	EC	Knock Sensor	
LPSV	CVT	Line Pressure Solenoid Valve	
L/USSV	CVT	Lock-up Select Solenoid Valve	P
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	

# HARNESSES

## < SERVICE INFORMATION >

MMSW	CVT	Manual Mode Switch
NATS	BL	Nissan Anti-Theft System
NONDTC	CVT	Non-detectable Item
ODSW	CVT	Overdrive Control Switch
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
O2S2B2	EC	Heated Oxygen Sensor 2 Bank 2
P/SCKT	WW	Power Socket
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHASE	EC	Camshaft Position Sensor (PHASE)
PNP/SW	CVT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (POS)
POWER	CVT	Transmission Control Module (Power Supply)
PRE/SE	EC	EVAP Control System Pressure Sensor
PRIPS	CVT	Primary Pressure Sensor
PRSCVT	CVT	Primary Speed Sensor CVT (Revolution Sensor)
RP/SEN	EC	Refrigerant Pressure Sensor
SECPS	CVT	Secondary Pressure Sensor
SECPSV	CVT	Secondary Speed Sensor CVT (Revolution Sensor)
SEN/PW	EC	Sensor Power Supply
SESCVT	CVT	Secondary Pressure Sensor Solenoid Valve
SHIFT	CVT	CVT Shift Lock System
SROOF	RF	Sunroof
SRS	SRS	Supplemental Restraint System
START	SC	Starting System
STM	CVT	Step Motor
STOP/L	LT	Stop Lamp
TCV	CVT	Torque Converter Clutch Solenoid Valve
T/LID	BL	Trunk Lid Opener
T/WARN	WT	Low Tire Pressure Warning System
TAIL/L	LT	Parking, License and Tail Lamps
TPS1	EC	Throttle Position Sensor
TPS2	EC	Throttle Position Sensor
TPS3	EC	Throttle Position Sensor
TURN	LT	Turn Signal and Hazard Warning Lamps
VEHSEC	BL	Vehicle Security (Theft Warning) System
VENT/V	EC	EVAP Canister Vent Control Valve
WARN	DI	Warning Lamps
WINDOW	GW	Power Window
WIPER	WW	Front Wiper and Washer



# ELECTRICAL UNITS LOCATION

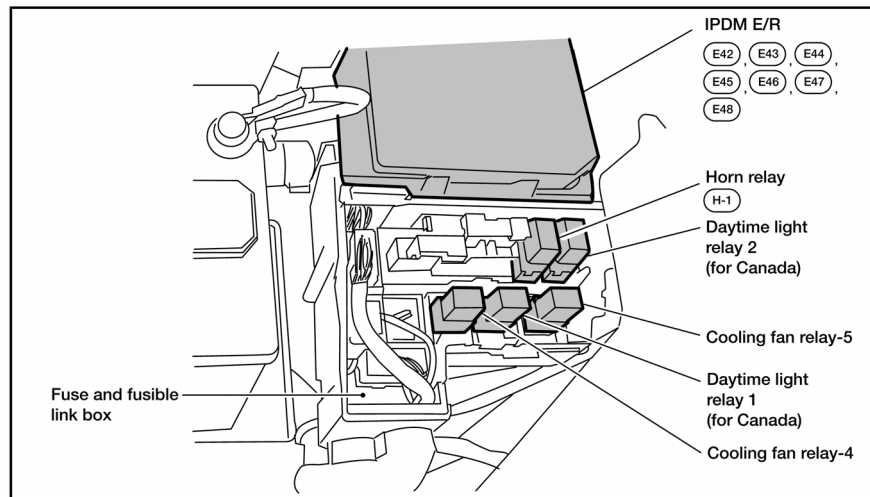
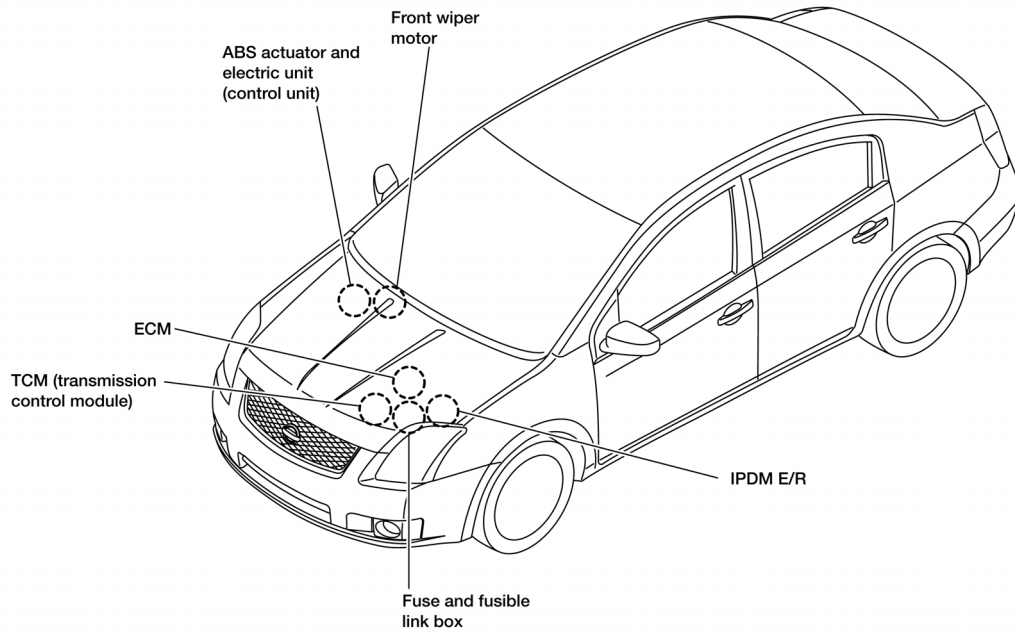
< SERVICE INFORMATION >

## ELECTRICAL UNITS LOCATION

### Electrical Units Location

INFOID:000000001852206

### ENGINE COMPARTMENT



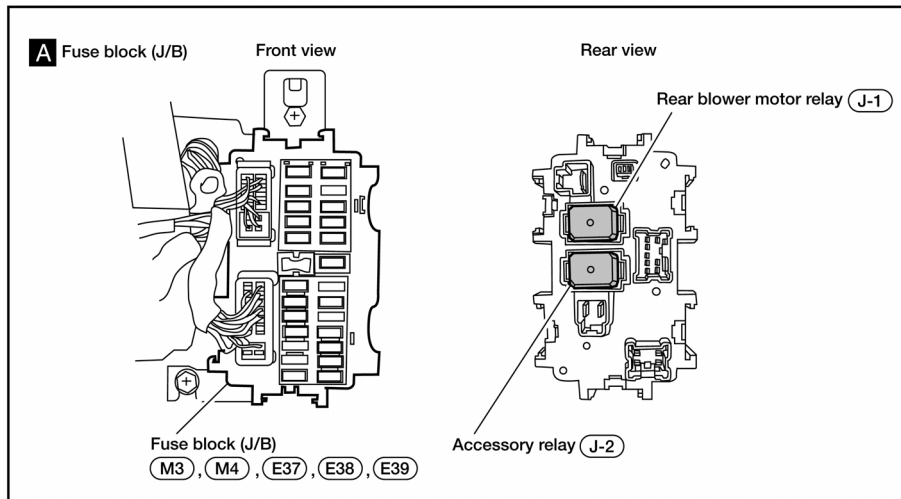
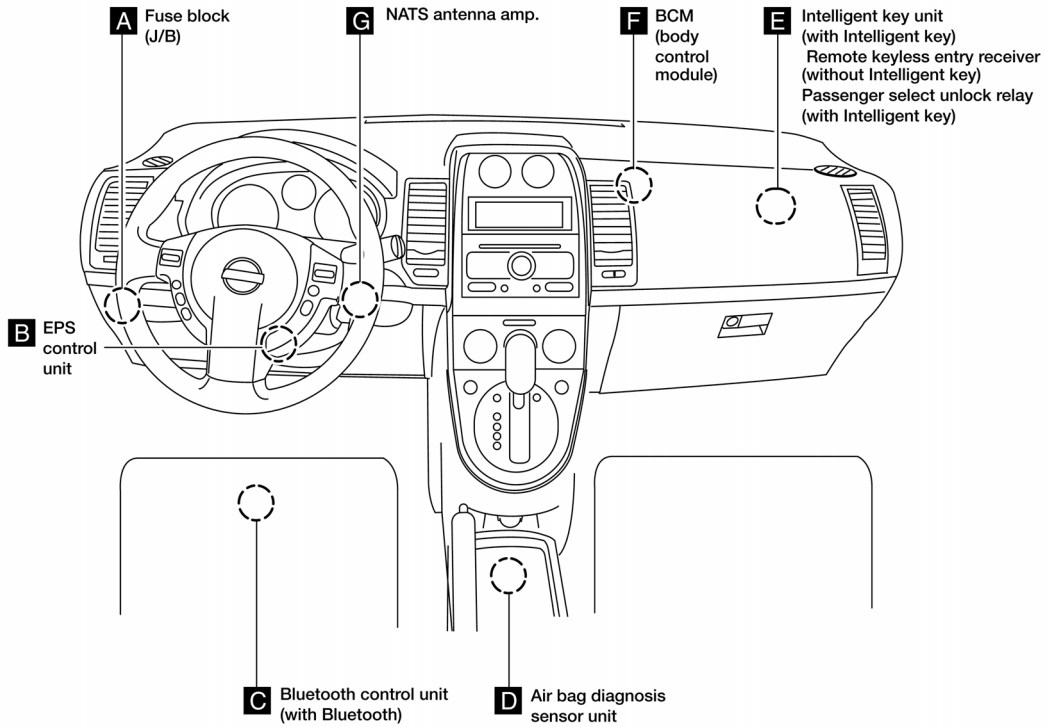
WKIA6038E

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# ELECTRICAL UNITS LOCATION

< SERVICE INFORMATION >

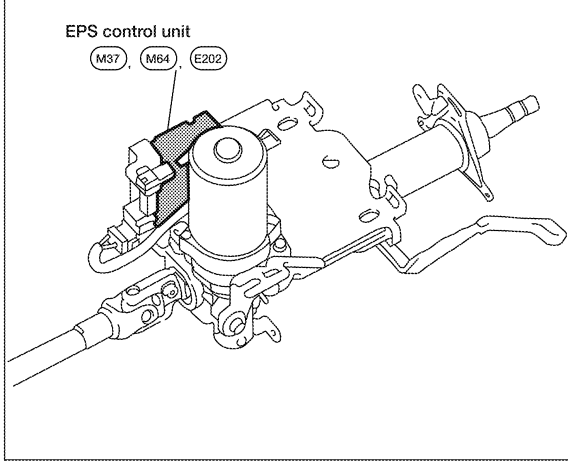
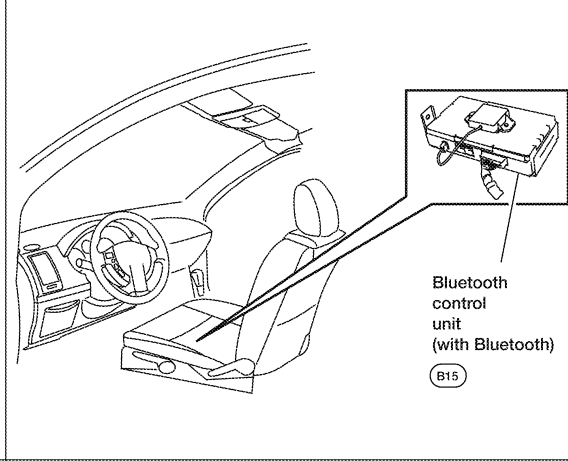
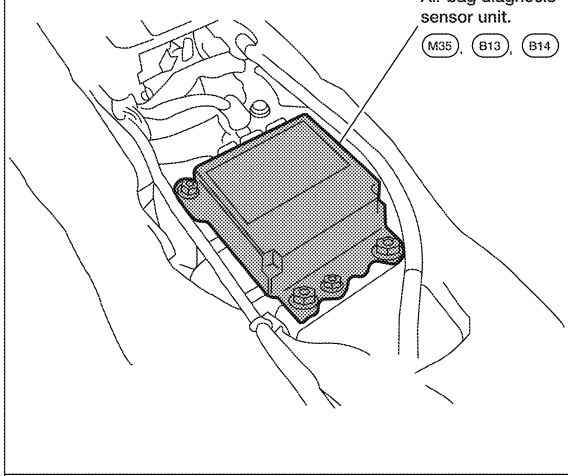
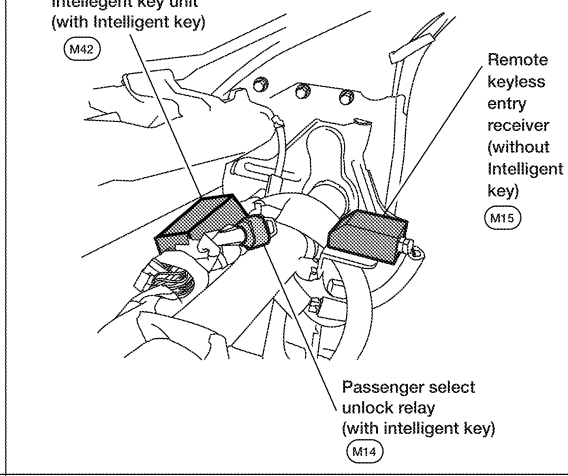
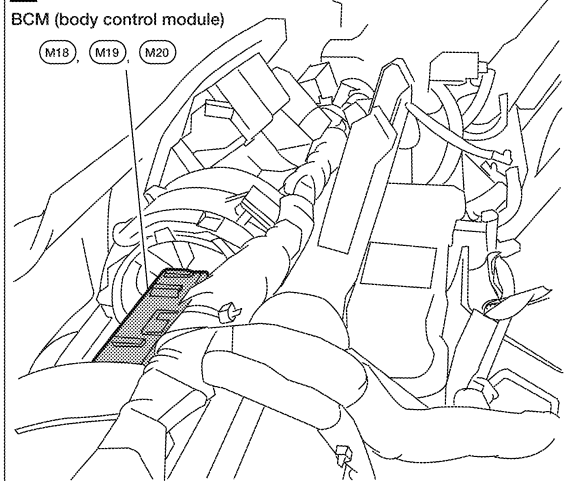
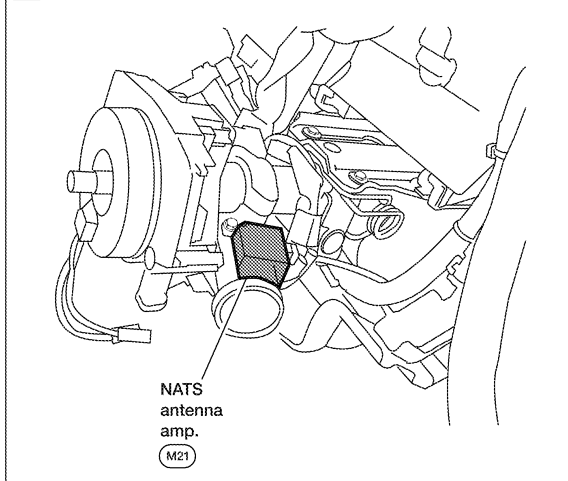
## PASSENGER COMPARTMENT



WKIA6039E

# ELECTRICAL UNITS LOCATION

< SERVICE INFORMATION >

<p><b>B</b> View with steering column assembly removed.</p> <p>EPS control unit          (M37) (M84) (E202)</p> 	<p><b>C</b> View from under driver seat.</p> <p>Bluetooth control unit (with Bluetooth)          (B15)</p> 
<p><b>D</b> View with center console assembly removed.</p> <p>Air bag diagnosis sensor unit.          (M35) (B13) (B14)</p> 	<p><b>E</b> View with instrument panel removed.</p> <p>Intelligent key unit (with intelligent key)          (M42)</p> <p>Remote keyless entry receiver (without intelligent key)          (M15)</p> <p>Passenger select unlock relay (with intelligent key)          (M14)</p> 
<p><b>F</b> View with instrument panel removed.</p> <p>BCM (body control module)          (M18) (M19) (M20)</p> 	<p><b>G</b> View with lower driver instrument panel removed.</p> <p>NATS antenna amp.          (M21)</p> 

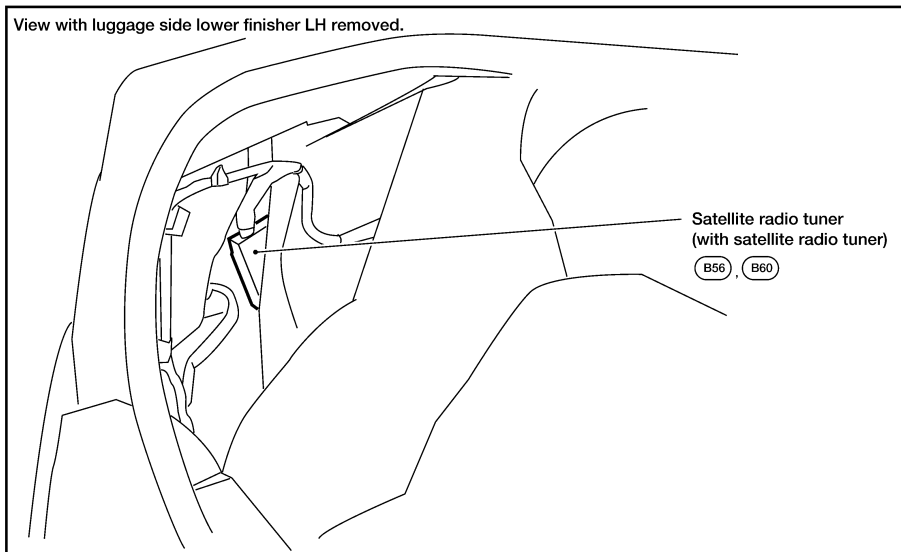
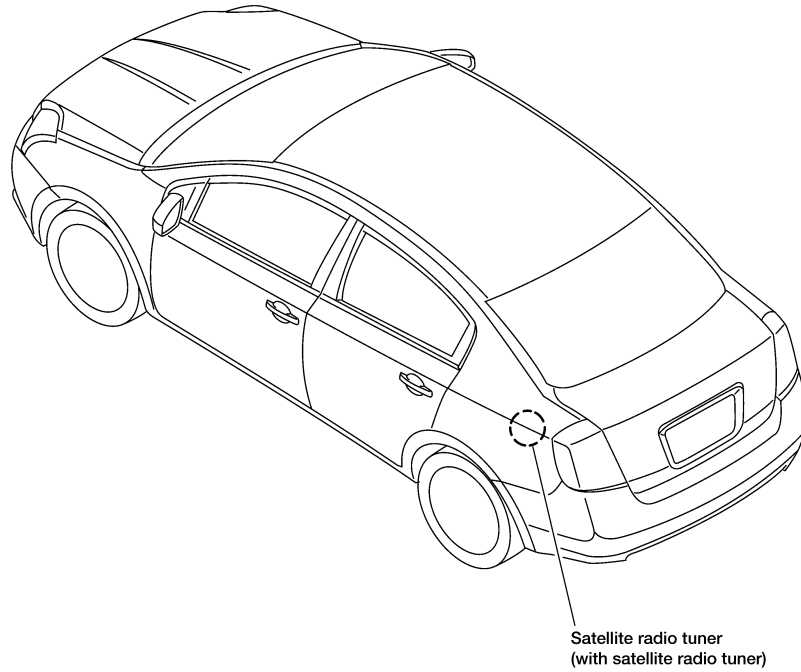
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# ELECTRICAL UNITS LOCATION

< SERVICE INFORMATION >

LUGGAGE COMPARTMENT



LKIA0901E

# HARNESS CONNECTOR

< SERVICE INFORMATION >

## HARNESS CONNECTOR

### Description

INFOID:000000001852207

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

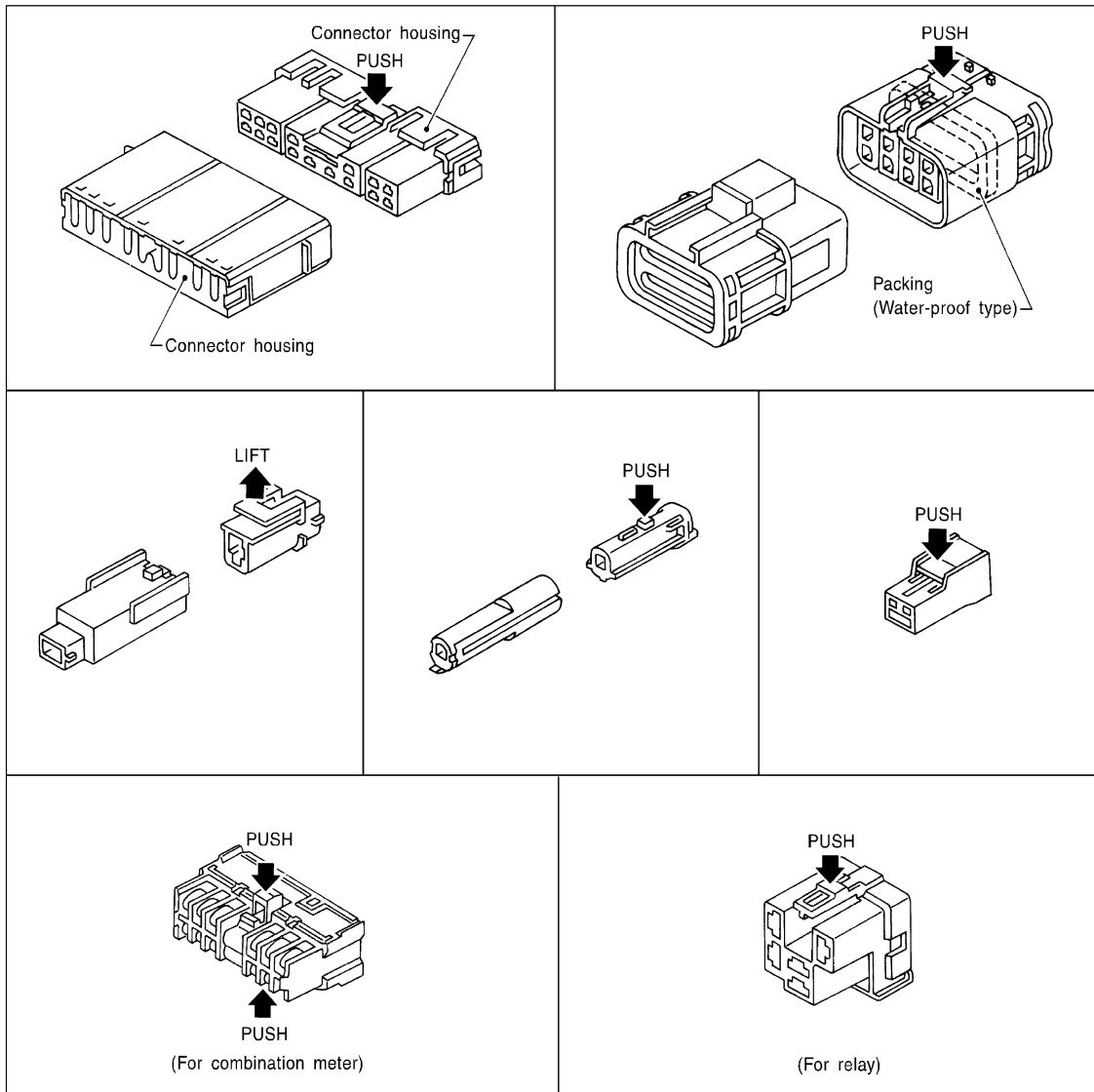
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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.

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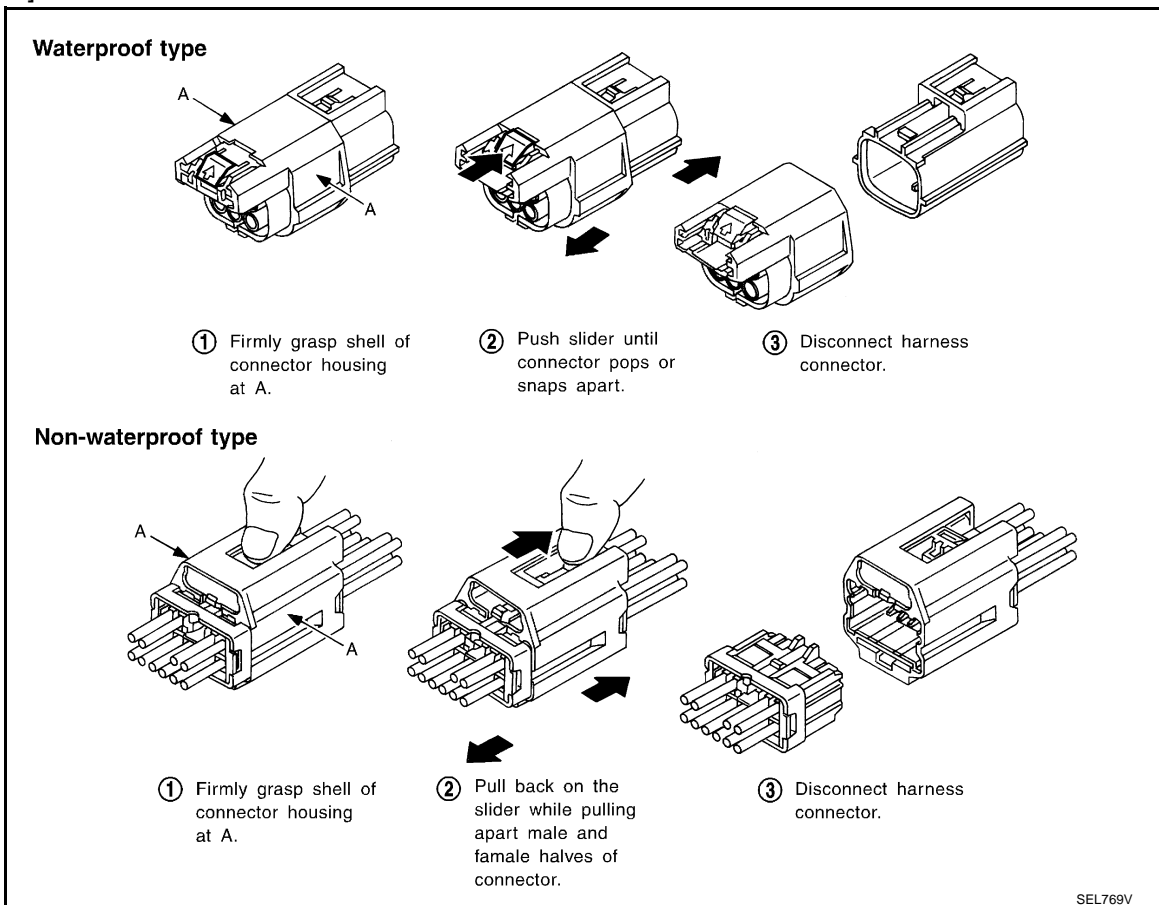
# HARNESS CONNECTOR

## < 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)

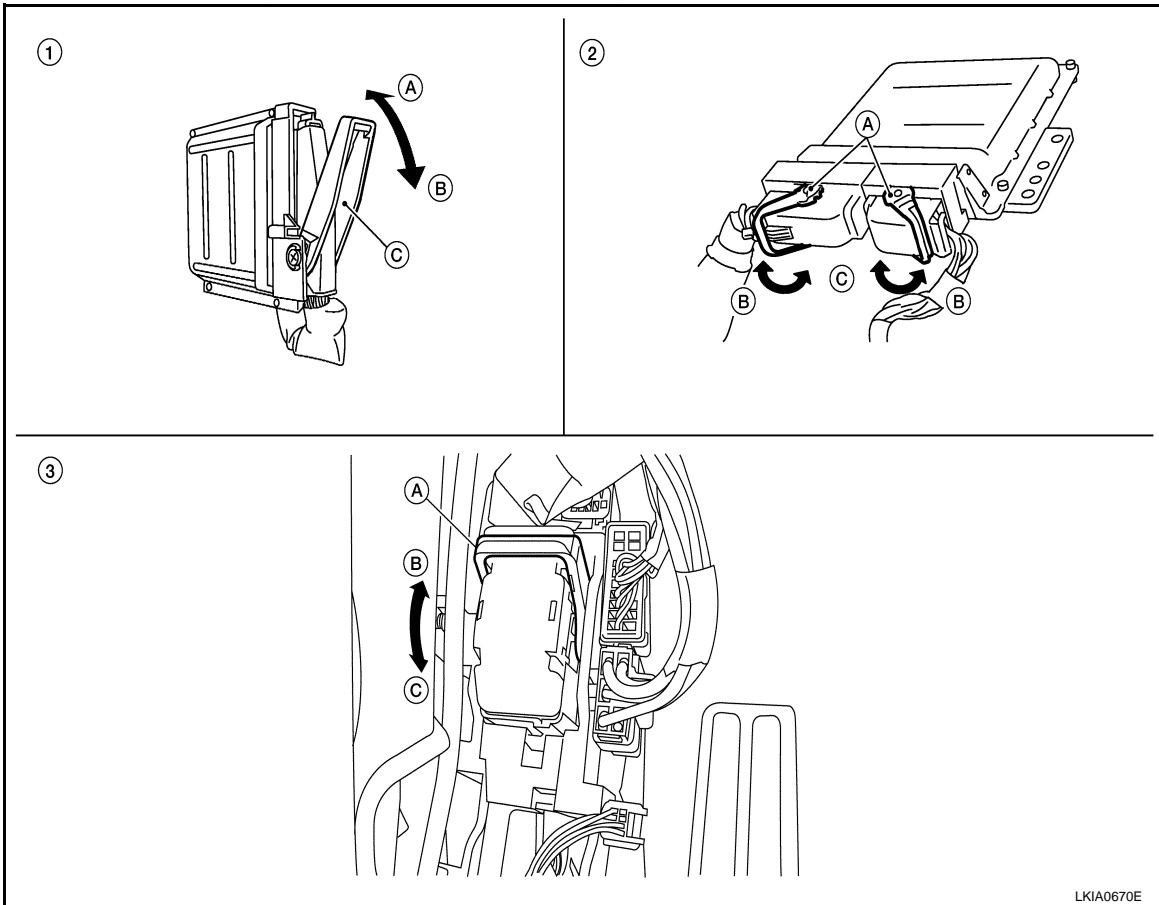
- Lever locking type harness connectors are used on certain control units and control modules such as ECM, ABS actuator and electric unit (control unit), etc.
- Lever locking type harness connectors are also used on super multiple junction (SMJ) connectors.
- Always confirm the lever is fully locked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

### CAUTION:

# 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.



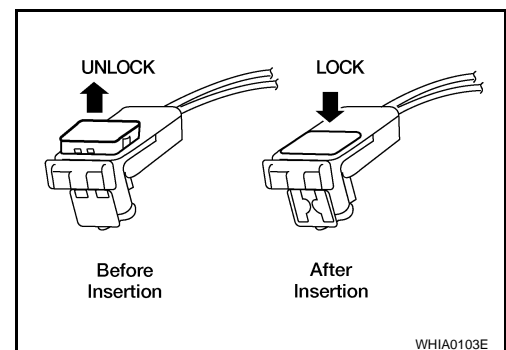
- |  |  |   |
|--|--|---|
| <p>1. Control unit with single lever</p> <p>A. Fasten</p> <p>B. Loosen</p> <p>C. Lever</p> | <p>2. Control unit with dual levers</p> <p>A. Levers</p> <p>B. Fasten</p> <p>C. Loosen</p> | <p>3. SMJ connector</p> <p>A. Lever</p> <p>B. Fasten</p> <p>C. Loosen</p> |
|--|--|---|

## 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.



# ELECTRICAL UNITS

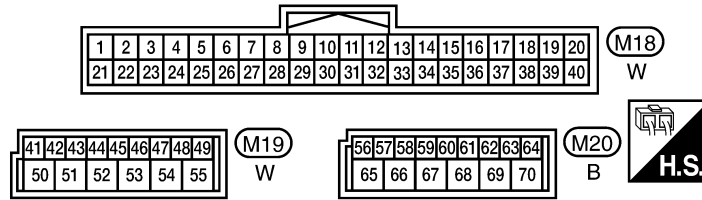
< SERVICE INFORMATION >

## ELECTRICAL UNITS

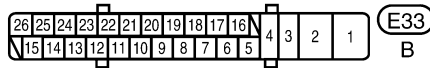
### Terminal Arrangement

INFOID:000000001852208

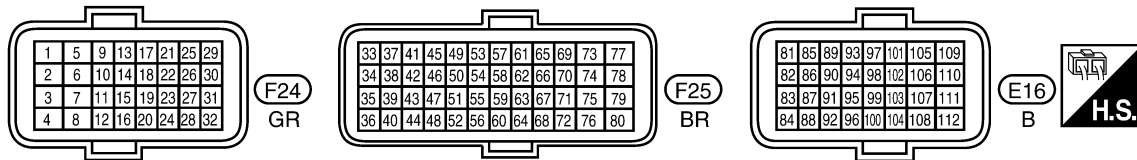
BCM (BODY CONTROL MODULE)



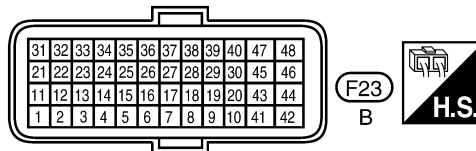
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)



ECM



TCM (TRANSMISSION CONTROL MODULE)



WKIA5901E



# STANDARDIZED RELAY

< SERVICE INFORMATION >

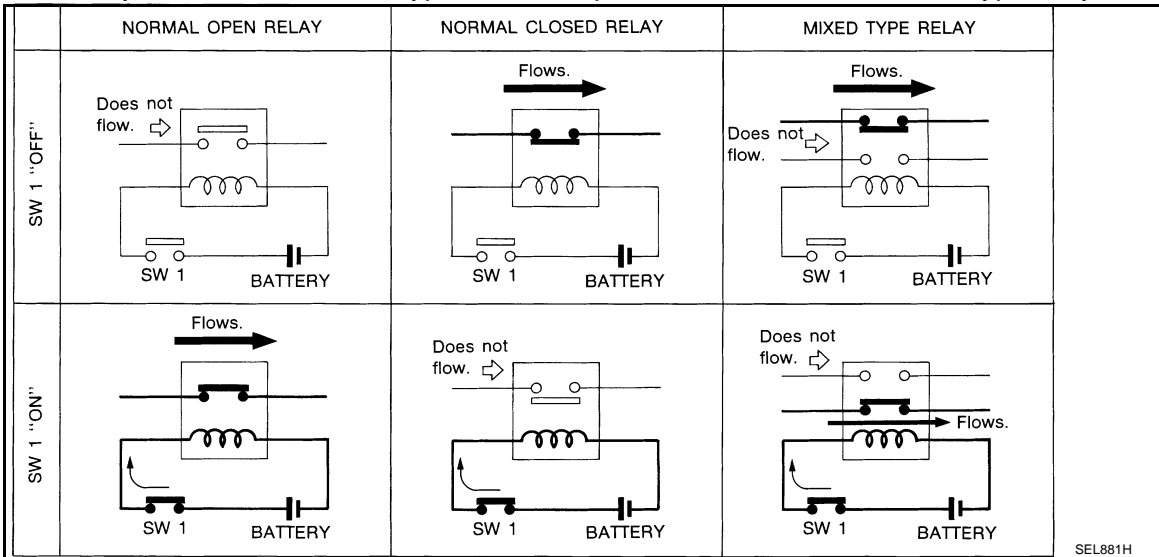
## STANDARDIZED RELAY

### Description

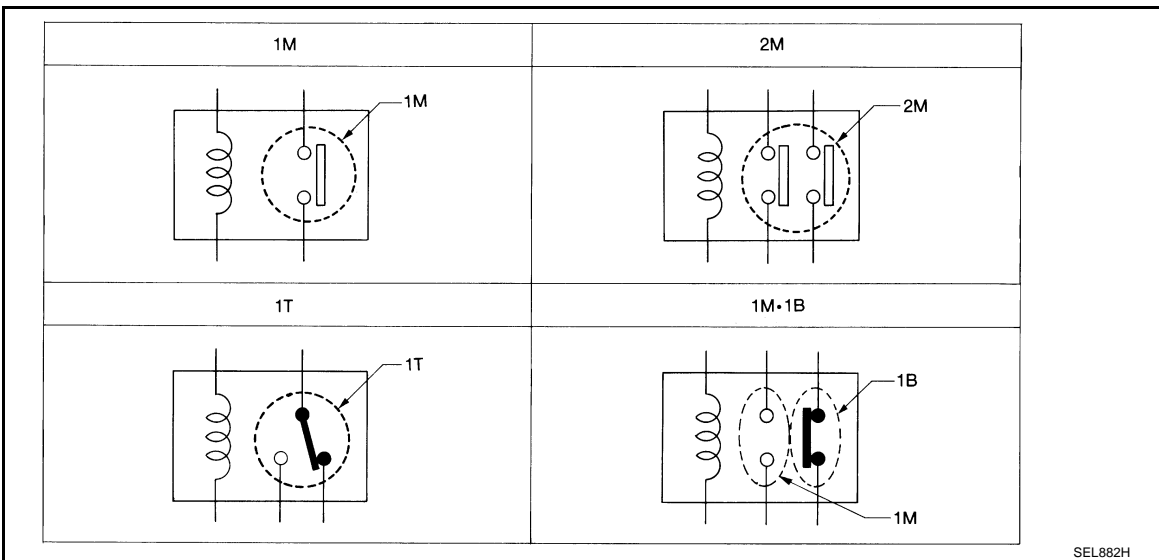
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### NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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



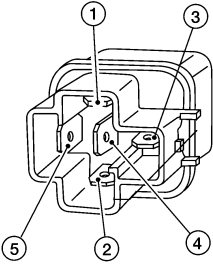
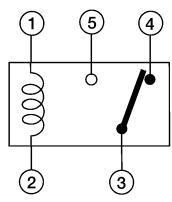
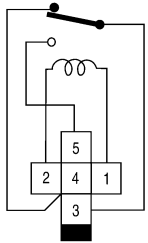
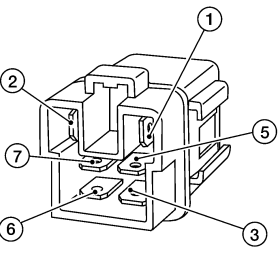
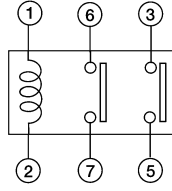
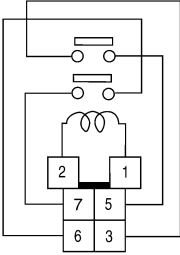
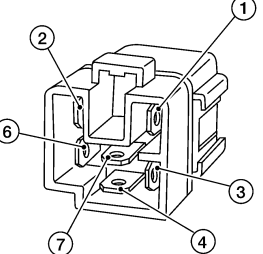
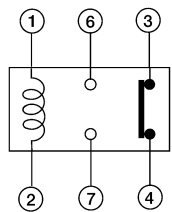
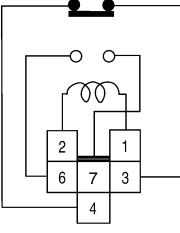
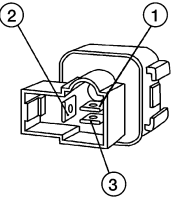
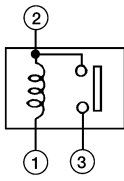
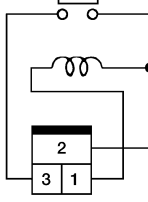
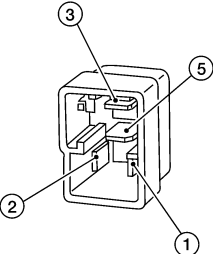
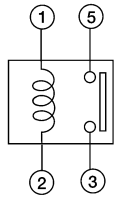
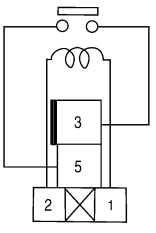
### TYPE OF STANDARDIZED RELAYS



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

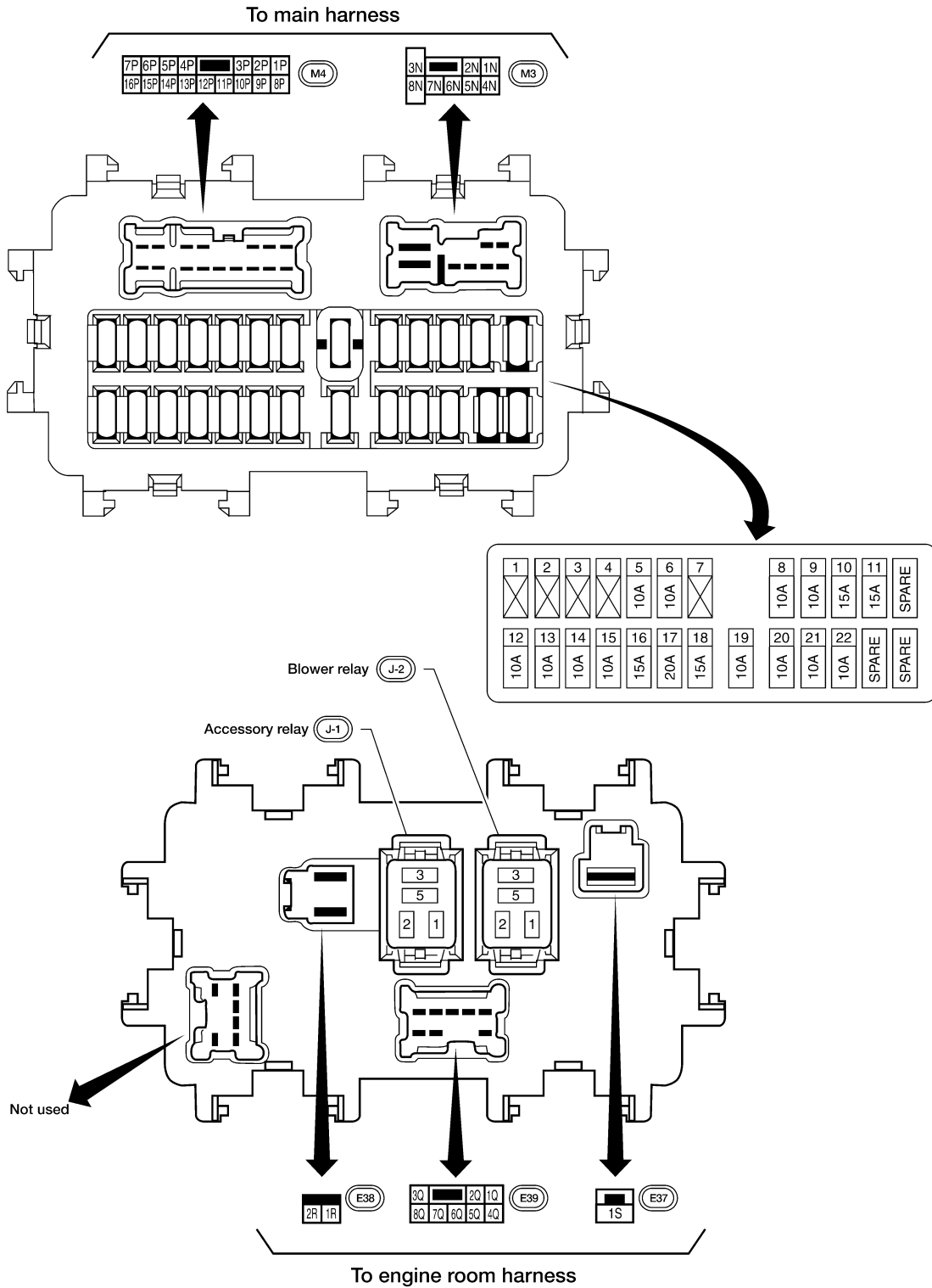
# FUSE BLOCK-JUNCTION BOX (J/B)

< SERVICE INFORMATION >

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

### Terminal Arrangement

INFOID:000000001852210



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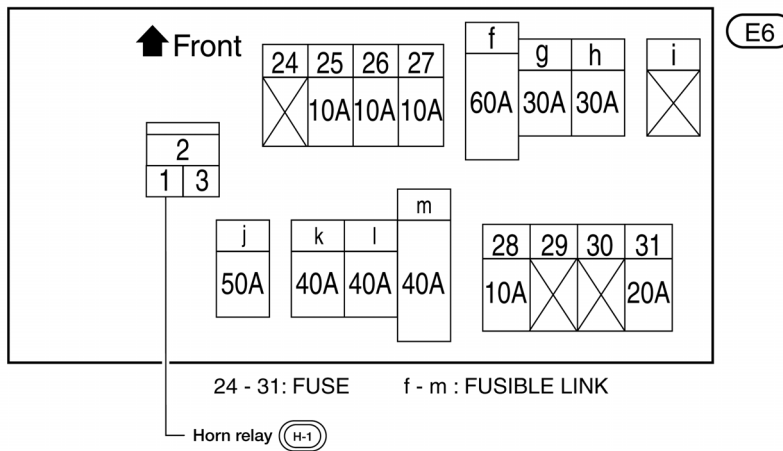
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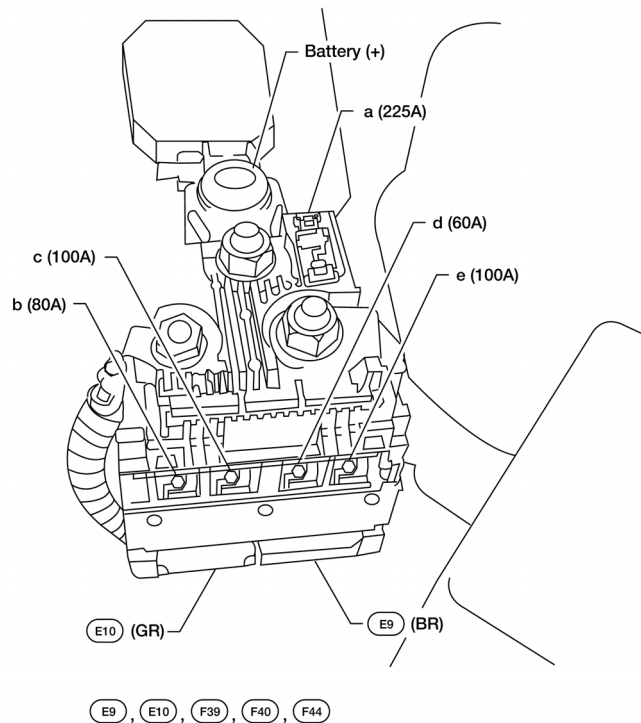
## FUSE AND FUSIBLE LINK BOX

### Terminal Arrangement

INFOID:000000001852211



### FUSIBLE LINK BOX (BATTERY)



WKIA6041E