

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

PG

SECTION

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

CONTENTS

<p>PRECAUTIONS 3</p> <p> Precautions for Battery Service 3</p> <p>POWER SUPPLY ROUTING CIRCUIT 4</p> <p> Schematic 4</p> <p> Wiring Diagram — POWER — 5</p> <p> BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION 5</p> <p> ACCESSORY POWER SUPPLY — IGNITION SW. IN “ACC” OR “ON” 10</p> <p> IGNITION POWER SUPPLY — IGNITION SW. IN “ON” AND/OR “START” 11</p> <p> Fuse 16</p> <p> Fusible Link 16</p> <p> Circuit Breaker 16</p> <p>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 17</p> <p> System Description 17</p> <p> SYSTEMS CONTROLLED BY IPDM E/R 17</p> <p> CAN COMMUNICATION LINE CONTROL 17</p> <p> IPDM E/R STATUS CONTROL 18</p> <p> CAN Communication System Description 18</p> <p> CAN Communication Unit 18</p> <p> Function of Detecting Ignition Relay Malfunction ... 18</p> <p> CONSULT-II 19</p> <p> CONSULT-II BASIC OPERATION 19</p> <p> SELF-DIAG RESULTS 20</p> <p> DATA MONITOR 21</p> <p> ACTIVE TEST 22</p> <p> Auto Active Test 23</p> <p> DESCRIPTION 23</p> <p> OPERATION PROCEDURE 23</p> <p> INSPECTION IN AUTO ACTIVE TEST MODE... 23</p> <p> Schematic 25</p> <p> IPDM E/R Terminal Arrangement 26</p> <p> IPDM E/R Power/Ground Circuit Inspection 27</p> <p> Inspection With CONSULT-II (Self-Diagnosis) 28</p> <p> Removal and Installation of IPDM E/R 29</p> <p> REMOVAL 29</p> <p> INSTALLATION 29</p>	<p>GROUND 30</p> <p> Ground Distribution 30</p> <p> MAIN HARNESS 30</p> <p> ENGINE ROOM HARNESS 33</p> <p> ENGINE CONTROL HARNESS 35</p> <p> BODY HARNESS 36</p> <p> BODY NO.2 HARNESS 38</p> <p>HARNESS 40</p> <p> Harness Layout 40</p> <p> HOW TO READ HARNESS LAYOUT 40</p> <p> OUTLINE 41</p> <p> MAIN HARNESS 42</p> <p> ENGINE ROOM HARNESS 44</p> <p> ENGINE CONTROL HARNESS 48</p> <p> BODY HARNESS 50</p> <p> BODY NO.2 HARNESS 53</p> <p> ROOM LAMP HARNESS 55</p> <p> DOOR HARNESS 56</p> <p> Wiring Diagram Codes (Cell Codes) 57</p> <p>ELECTRICAL UNITS LOCATION 60</p> <p> Electrical Units Location 60</p> <p> ENGINE COMPARTMENT 60</p> <p> PASSENGER COMPARTMENT 61</p> <p> LUGGAGE COMPARTMENT 63</p> <p>HARNESS CONNECTOR 64</p> <p> Description 64</p> <p> HARNESS CONNECTOR (TAB-LOCKING TYPE) 64</p> <p> HARNESS CONNECTOR (SLIDE-LOCKING TYPE) 65</p> <p>ELECTRICAL UNITS 66</p> <p> Terminal Arrangement 66</p> <p>SMJ (SUPER MULTIPLE JUNCTION) 67</p> <p> Terminal Arrangement 67</p> <p>STANDARDIZED RELAY 69</p> <p> Description 69</p> <p> NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS 69</p> <p> TYPE OF STANDARDIZED RELAYS 69</p>
--	--

FUSE BLOCK - JUNCTION BOX (J/B)	71	FUSE, FUSIBLE LINK AND RELAY BOX	72
Terminal Arrangement	71	Terminal Arrangement	72

PRECAUTIONS

PRECAUTIONS

PPF:00001

Precautions for Battery Service

AKS003RH

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

A

B

C

D

E

F

G

H

I

J

PG

L

M

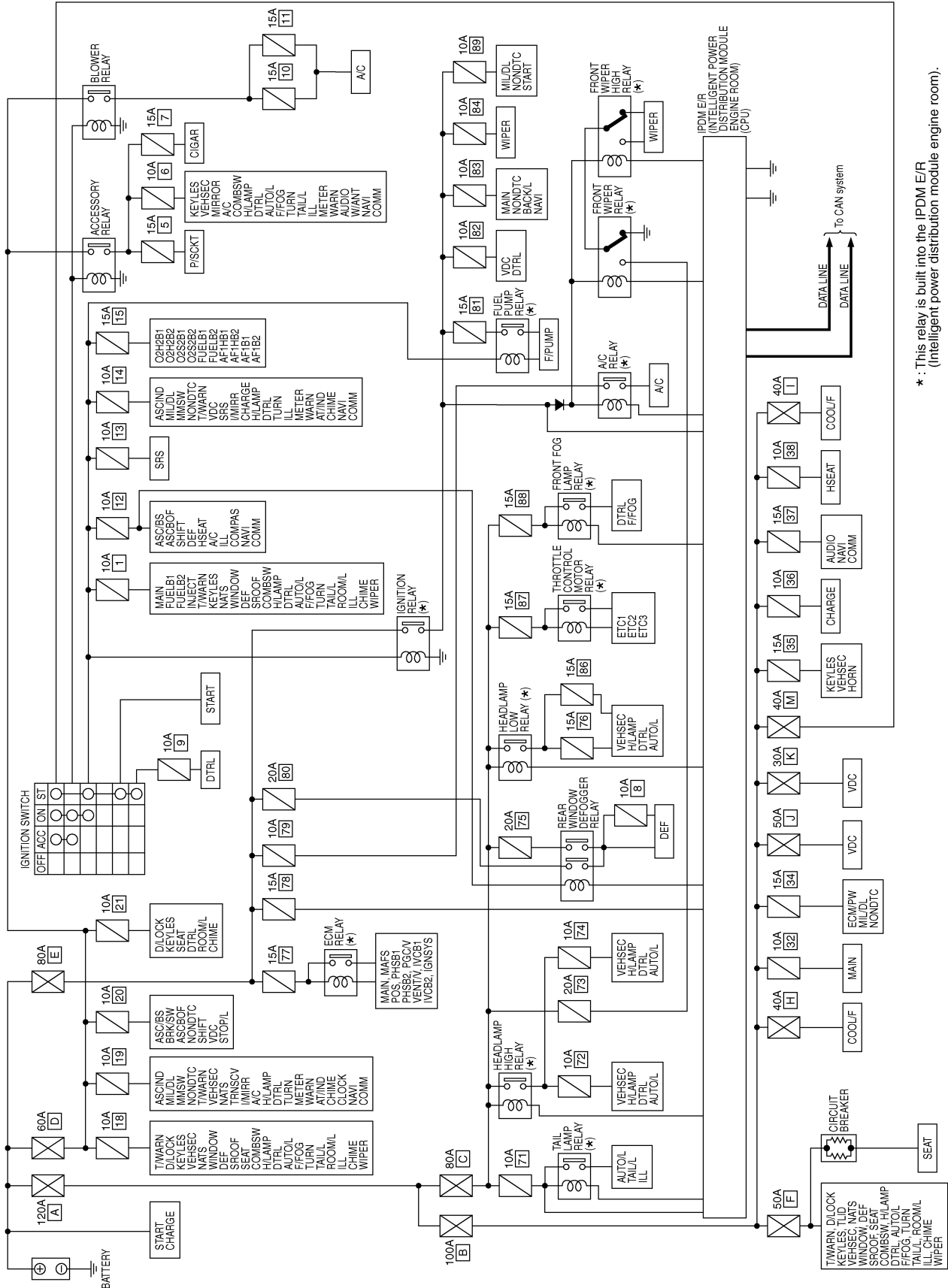
POWER SUPPLY ROUTING CIRCUIT

PFP:24110

POWER SUPPLY ROUTING CIRCUIT

Schematic

AKS003HW



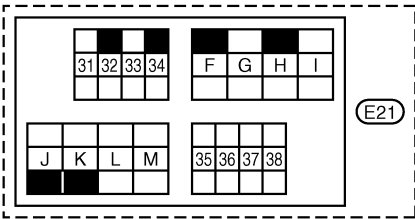
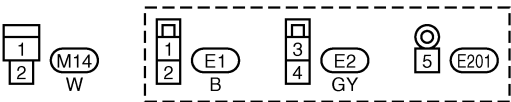
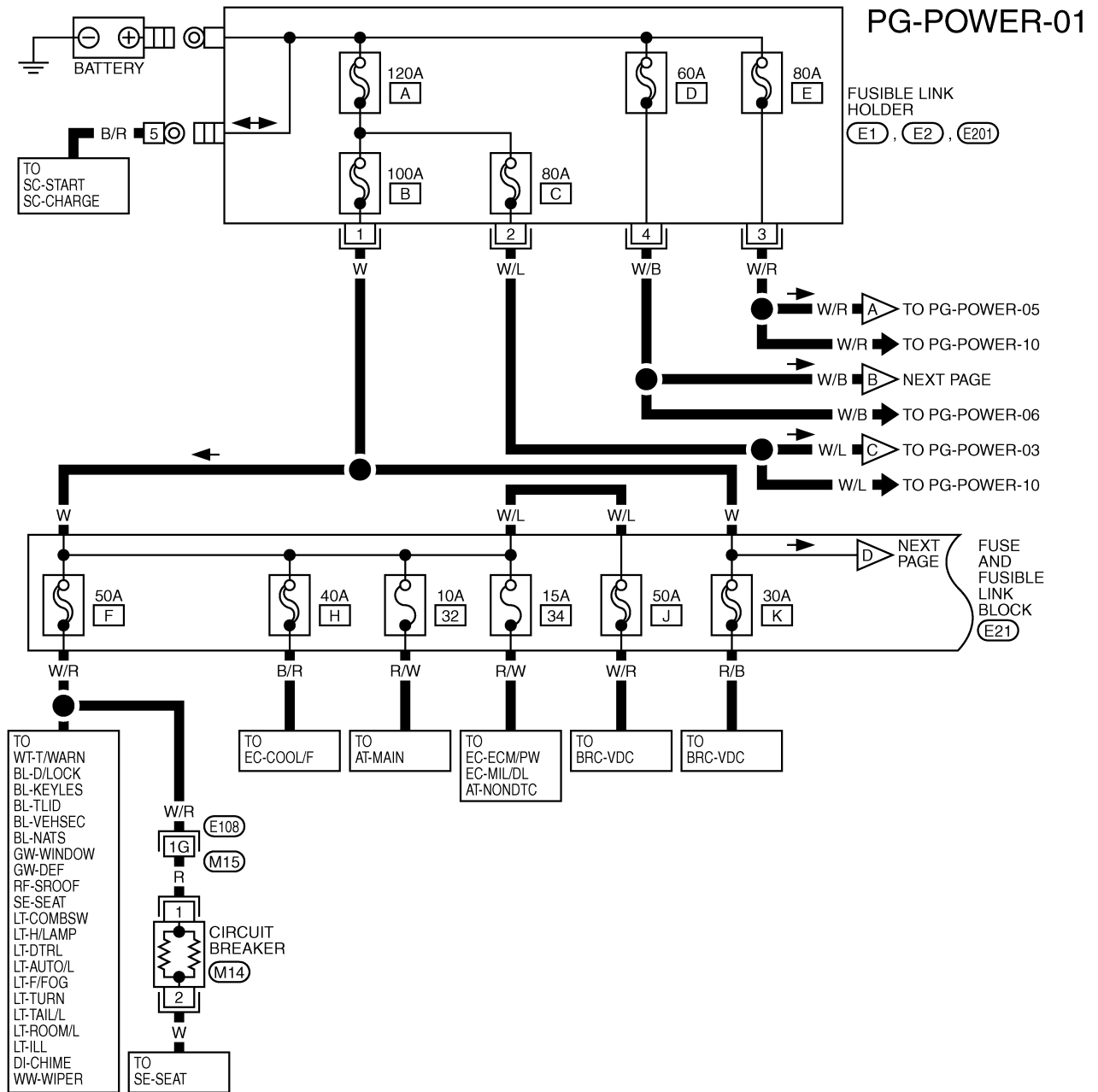
*: This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

TKWM1409E

POWER SUPPLY ROUTING CIRCUIT

AKS003HX

Wiring Diagram — POWER — BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

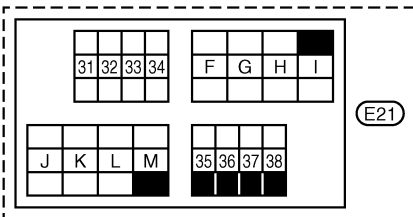
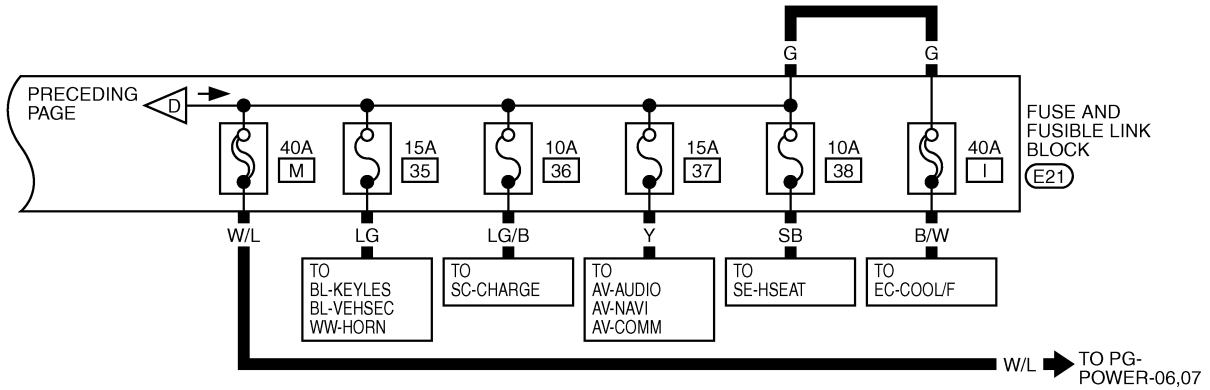
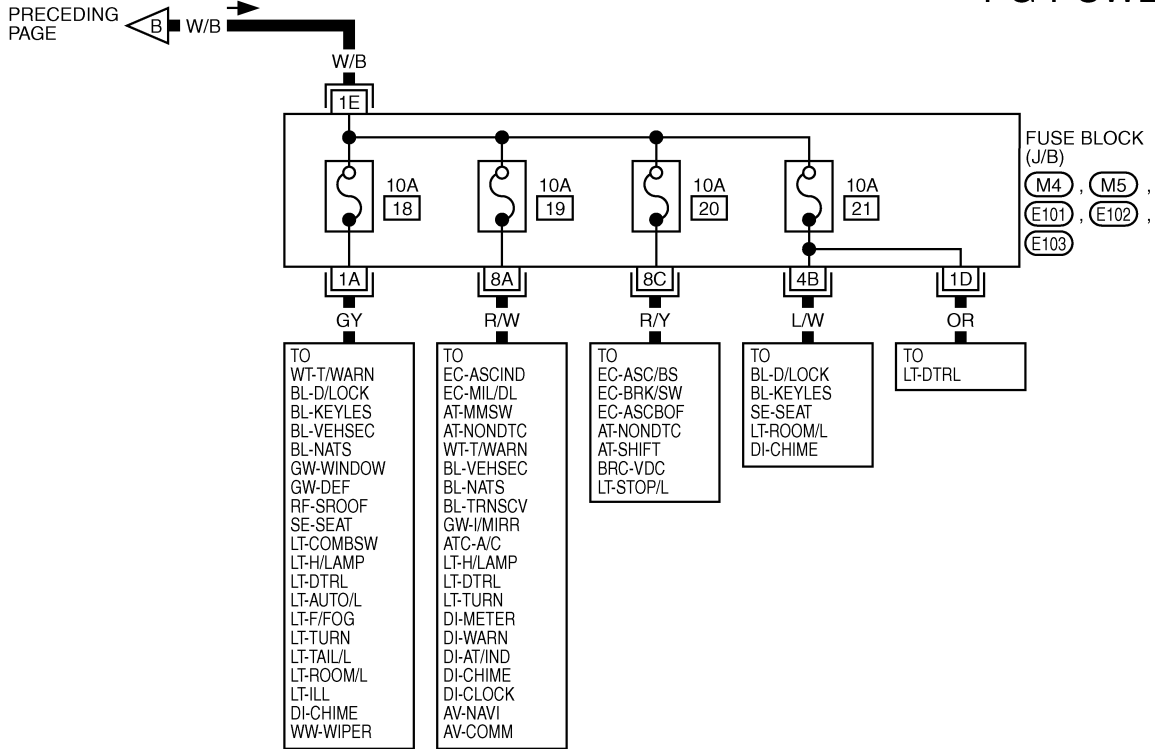


REFER TO THE FOLLOWING.
(E108) -SUPER MULTIPLE JUNCTION (SMJ)

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

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-02



REFER TO THE FOLLOWING.

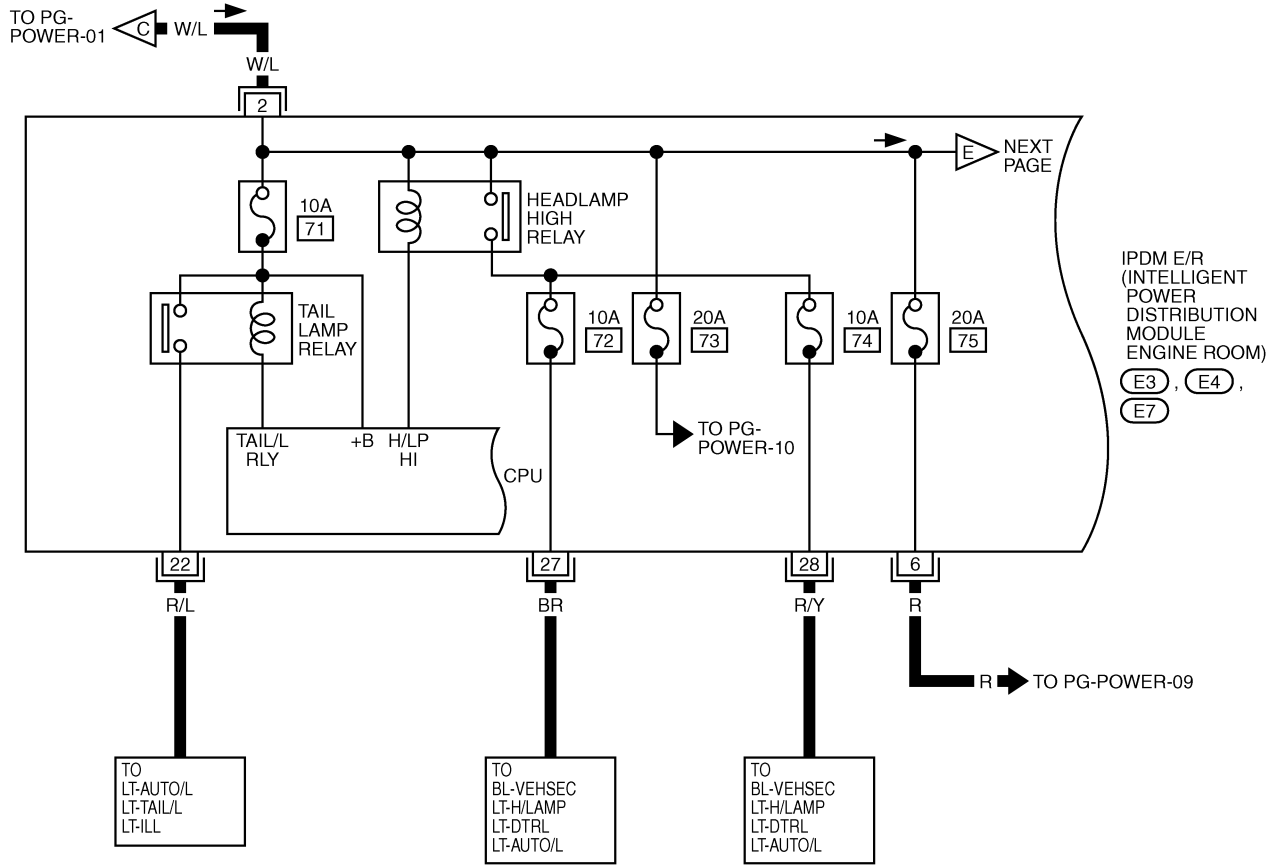
M4, M5, E101, E102,
E103 - FUSE BLOCK-
JUNCTION BOX (J/B)

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

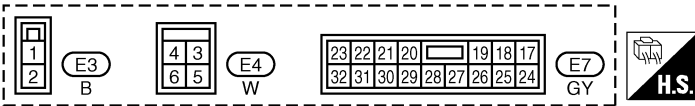
TKWM1411E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-03



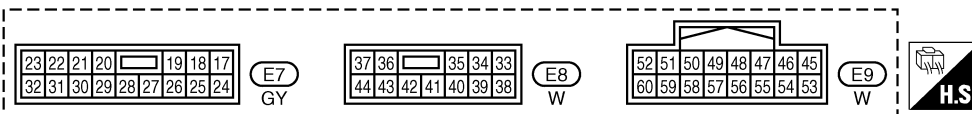
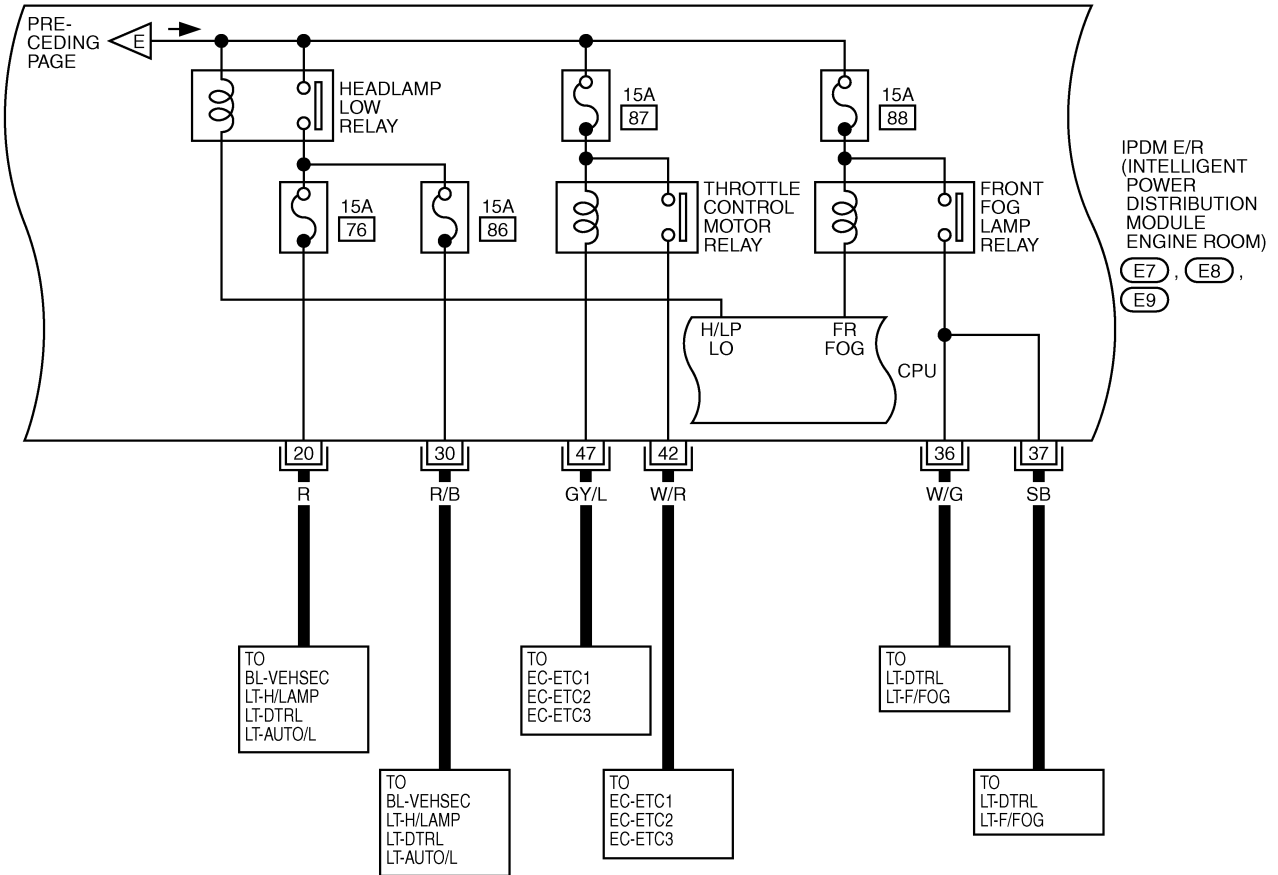
A
B
C
D
E
F
G
H
I
J
PG
L
M



TKWM0937E

POWER SUPPLY ROUTING CIRCUIT

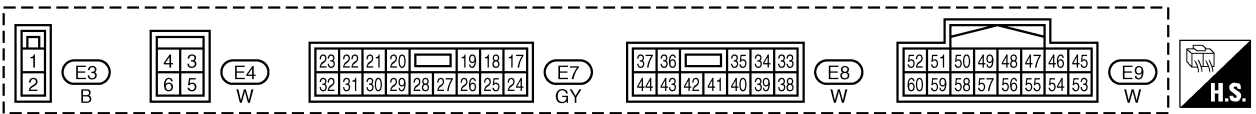
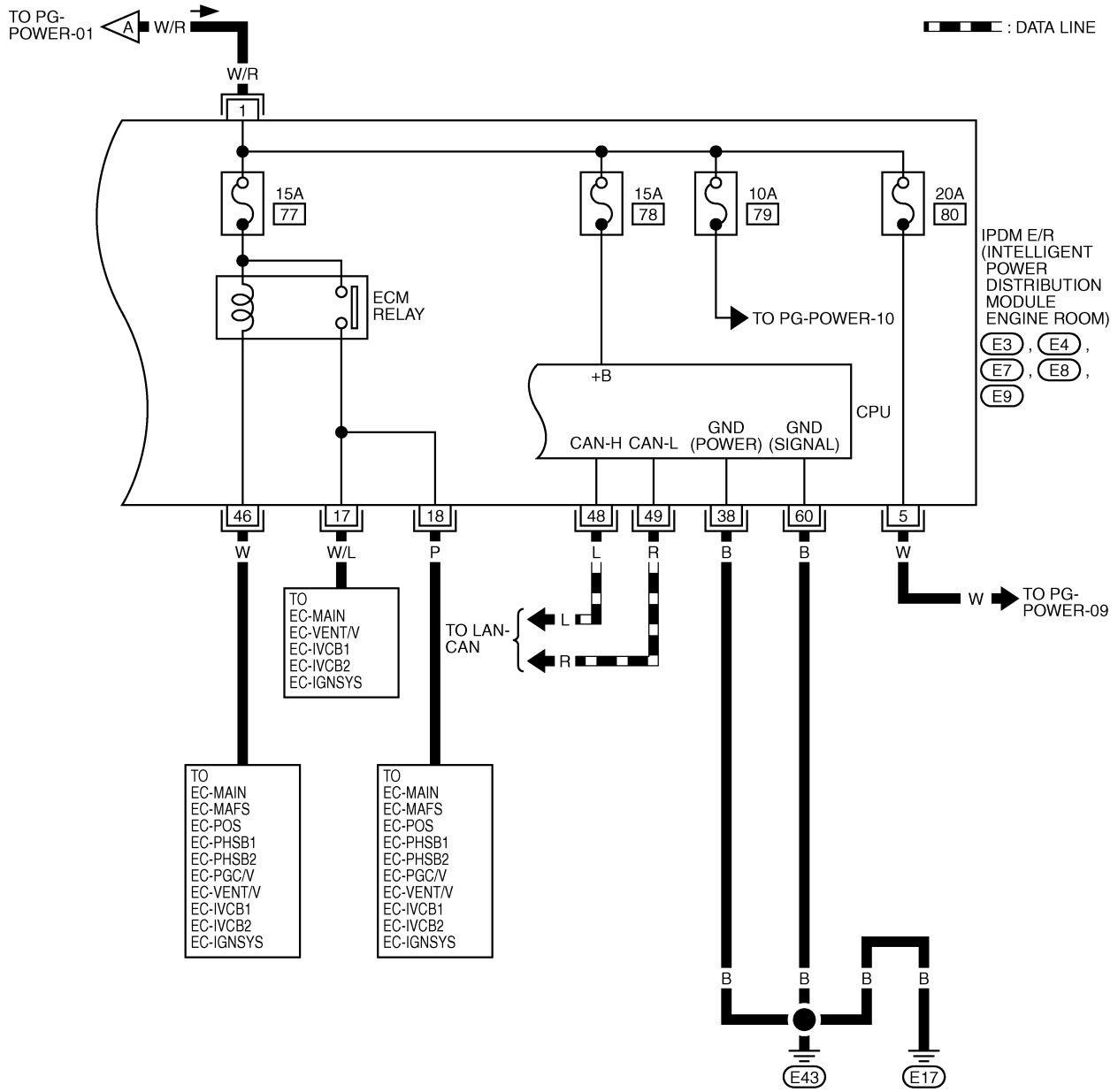
PG-POWER-04



TKWM0938E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-05

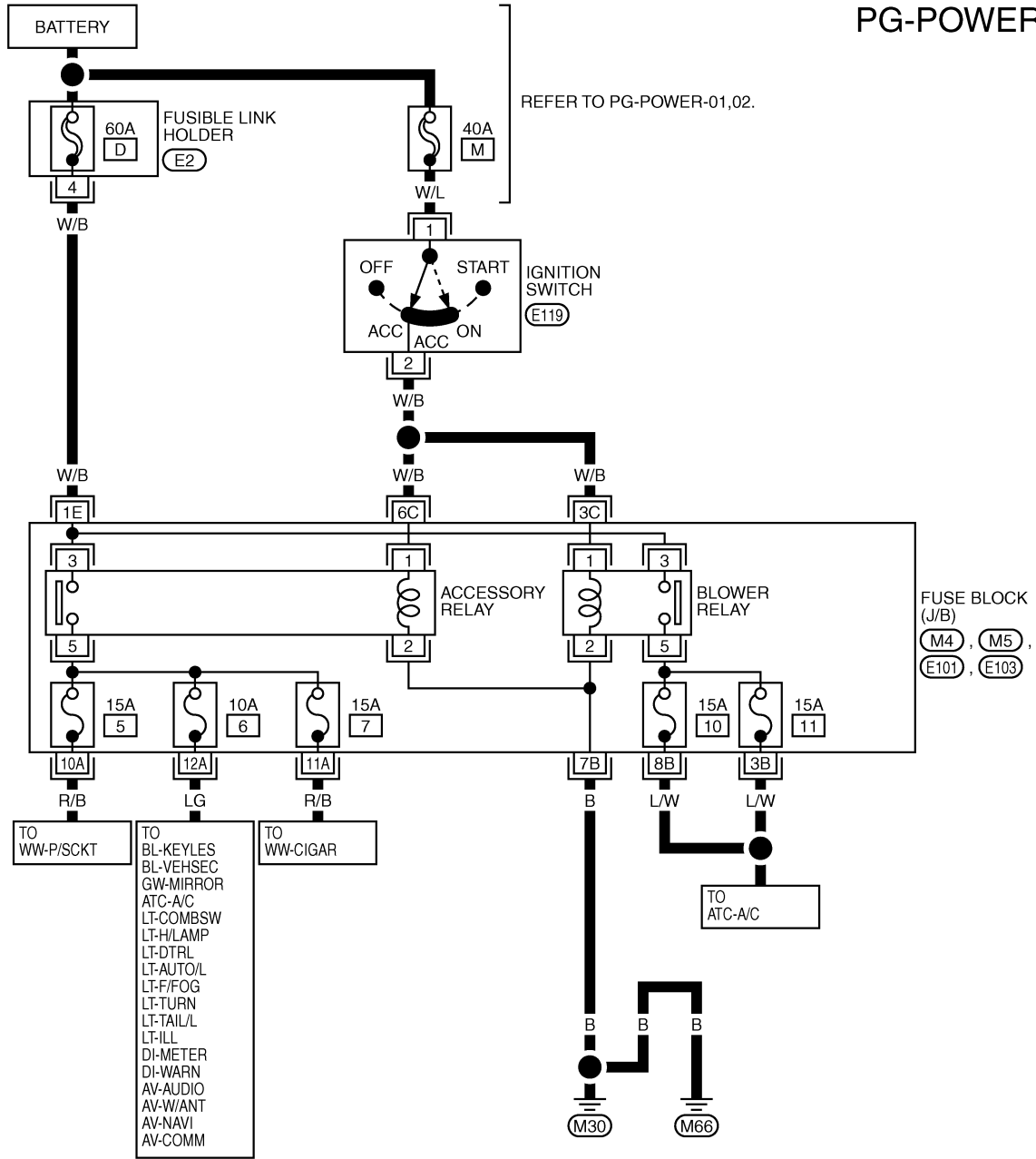


A
B
C
D
E
F
G
H
I
J
PG
L
M

POWER SUPPLY ROUTING CIRCUIT

ACCESSORY POWER SUPPLY — IGNITION SW. IN “ACC” OR “ON”

PG-POWER-06



(E2)
GY



(E119)
W

REFER TO THE FOLLOWING.

(M4), (M5), (E101), (E103)

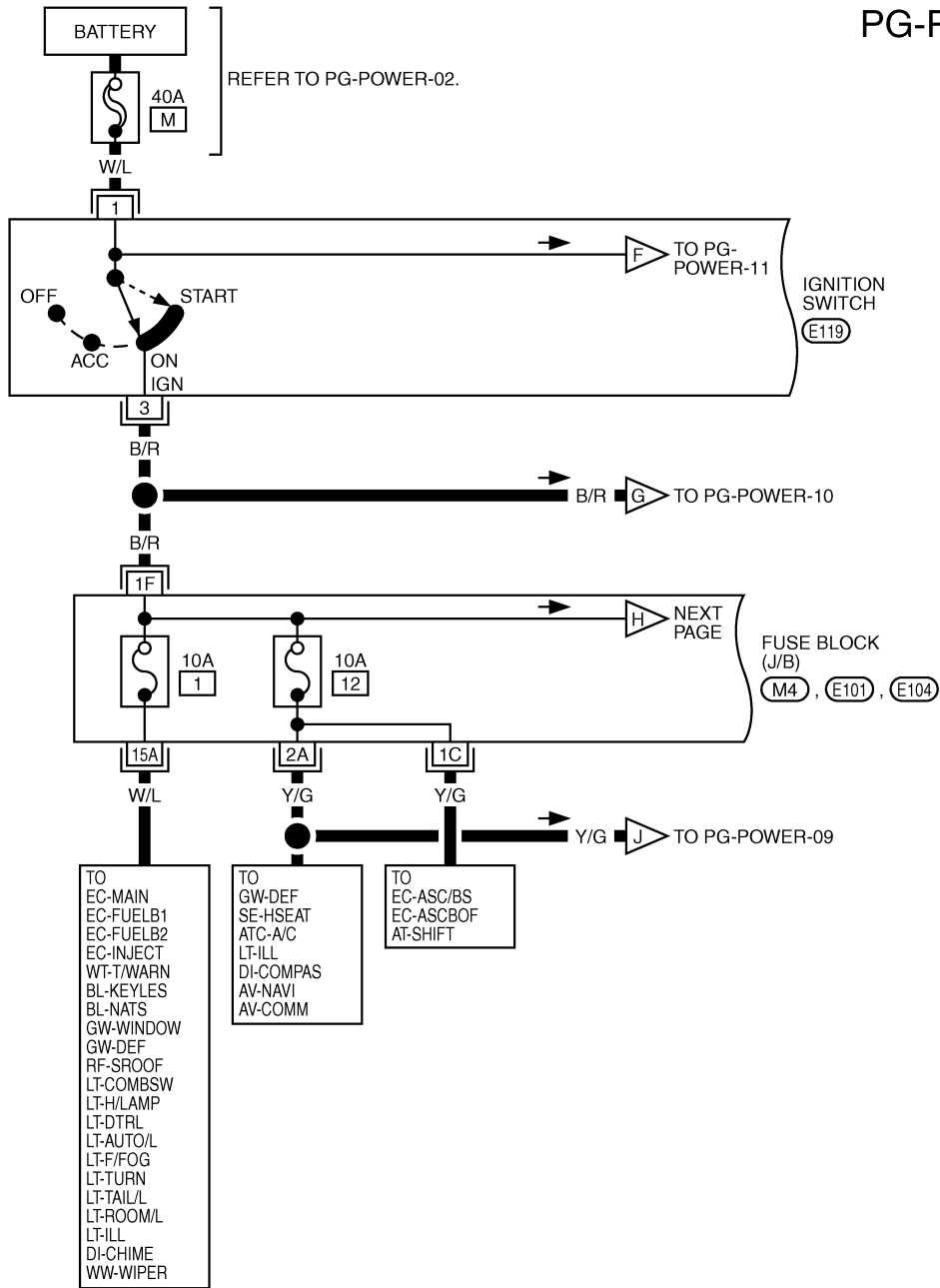
- FUSE BLOCK-JUNCTION BOX (J/B)

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

POWER SUPPLY ROUTING CIRCUIT

IGNITION POWER SUPPLY — IGNITION SW. IN “ON” AND/OR “START”

PG-POWER-07



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

3	5	1
4	2	6

(E119)
W

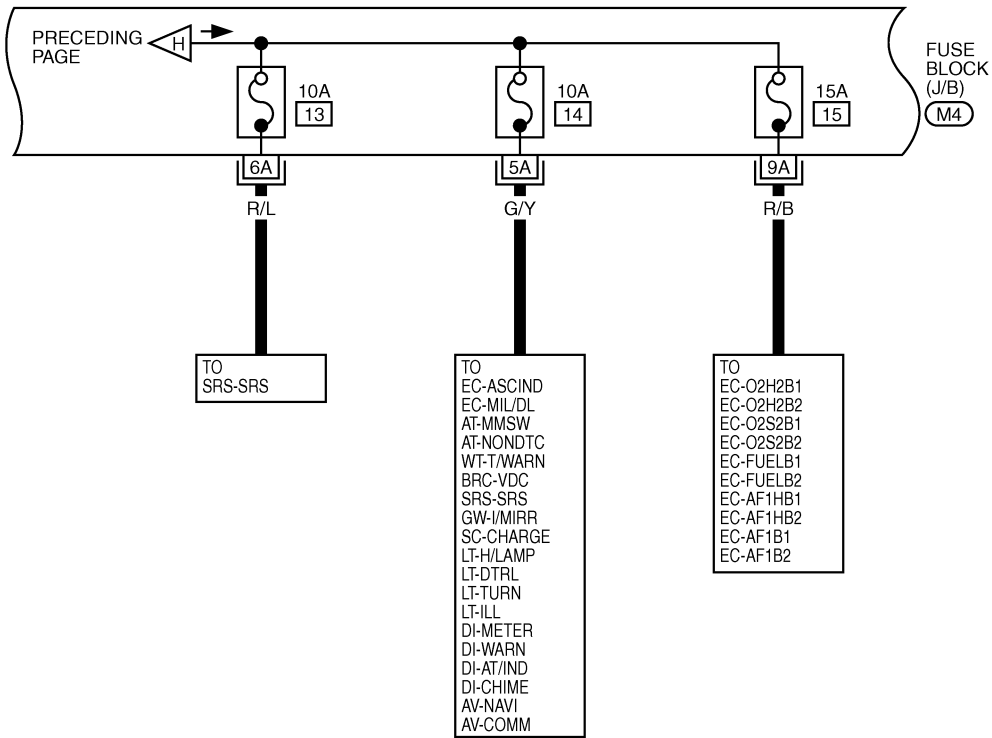
REFER TO THE FOLLOWING.

(M4), (E101), (E104) - FUSE BLOCK-JUNCTION BOX (J/B)

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

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-08



REFER TO THE FOLLOWING.

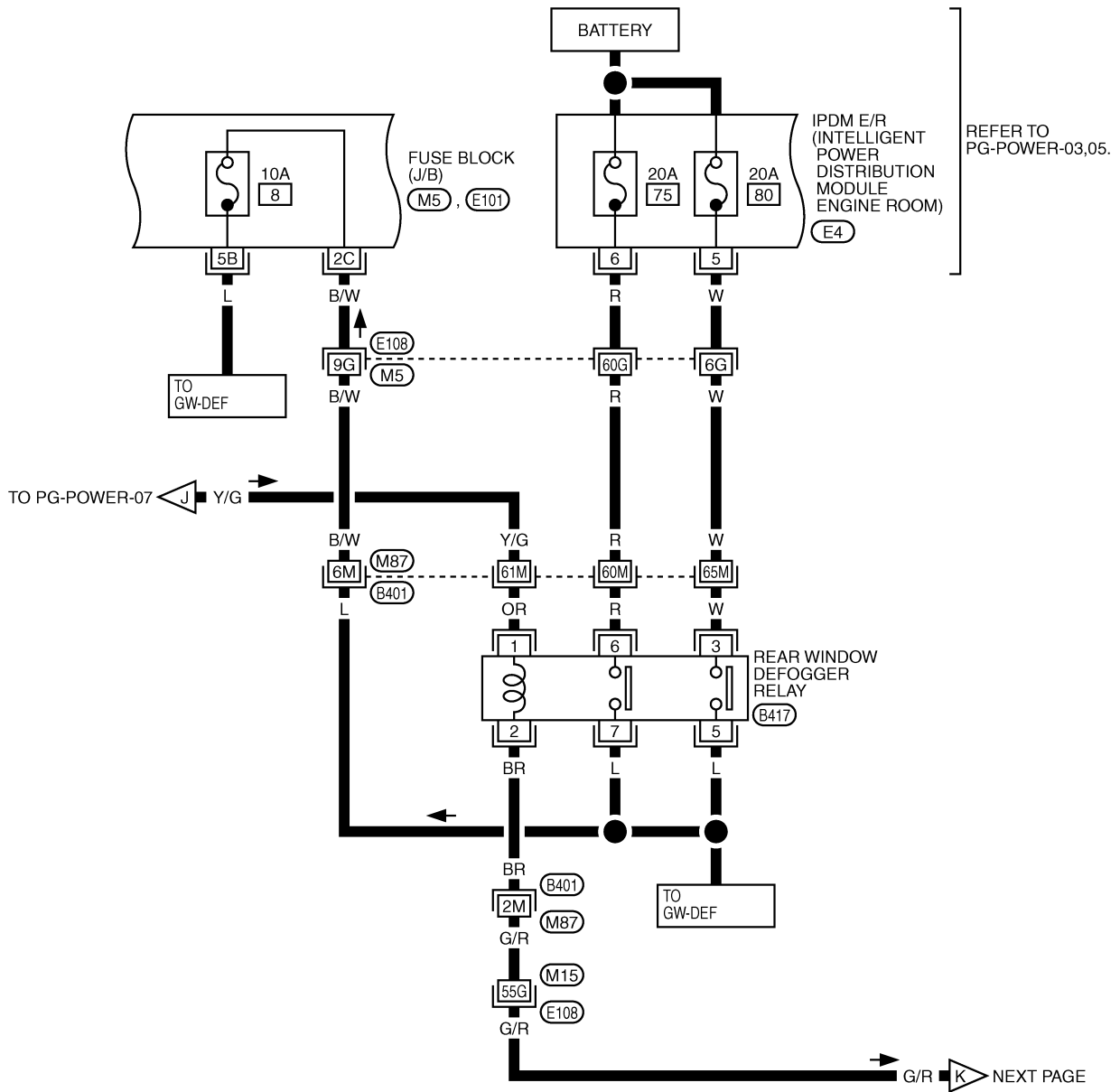
(M4) - FUSE BLOCK-
JUNCTION BOX (J/B)

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

TKWM1412E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-09



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

PG



REFER TO THE FOLLOWING.
 (E108), (B401) -SUPER MULTIPLE JUNCTION (SMJ)

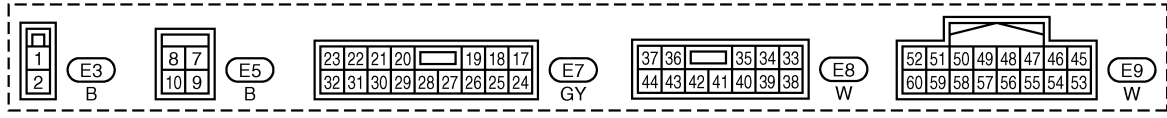
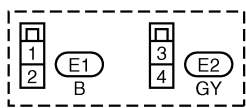
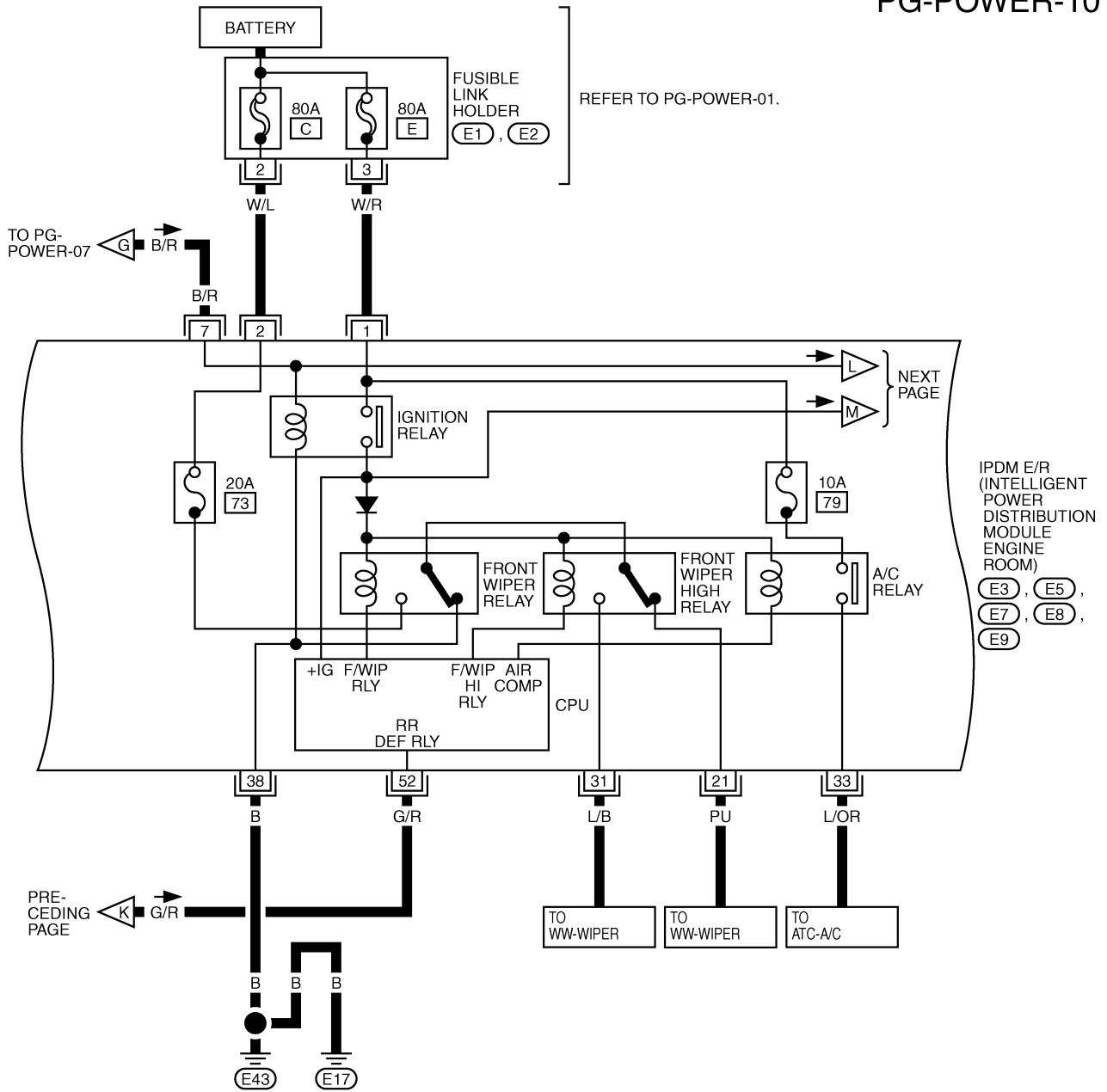
(M5), (E101) -FUSE BLOCK-JUNCTION BOX (J/B)

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

TKWM0944E

POWER SUPPLY ROUTING CIRCUIT

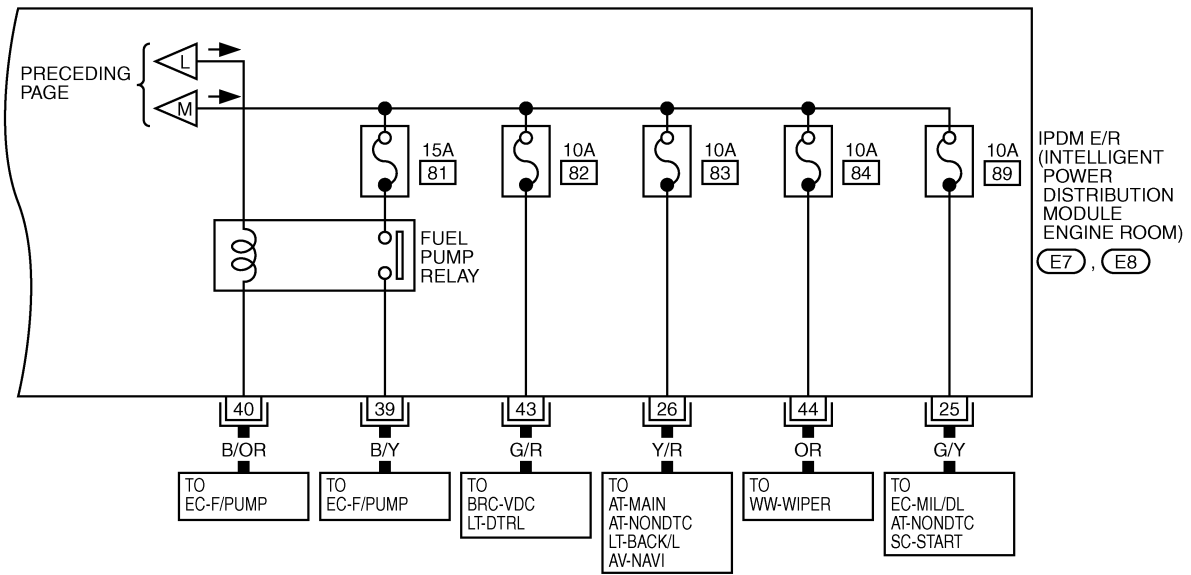
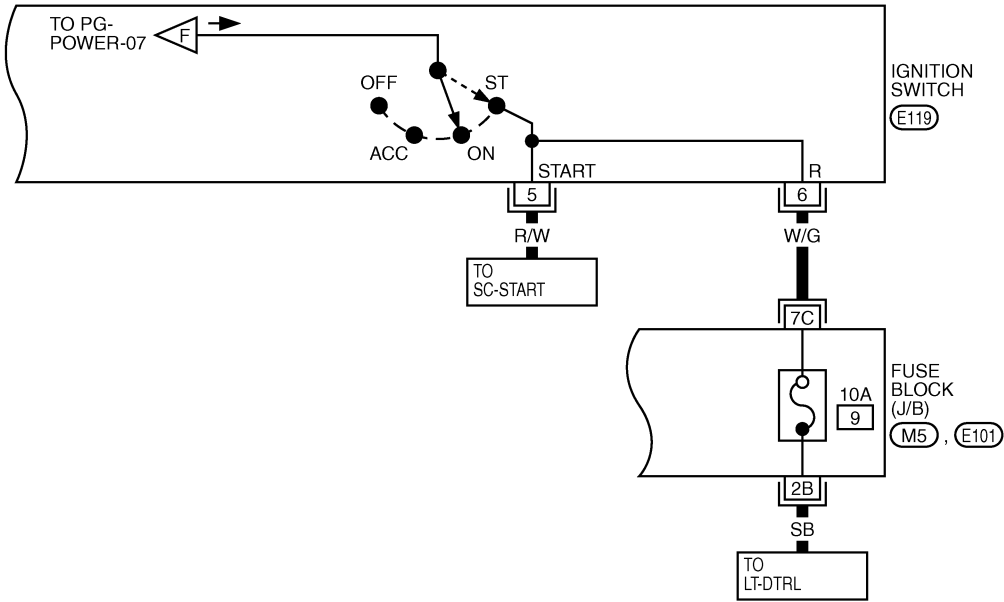
PG-POWER-10



TKWM0945E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-11



23	22	21	20	19	18	17		
32	31	30	29	28	27	26	25	24

(E7) GY

37	36	35	34	33		
44	43	42	41	40	39	38

(E8) W



3	5	1
4	2	6

(E119) W

REFER TO THE FOLLOWING.

(M5), (E101) - FUSE BLOCK-JUNCTION BOX (J/B)

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

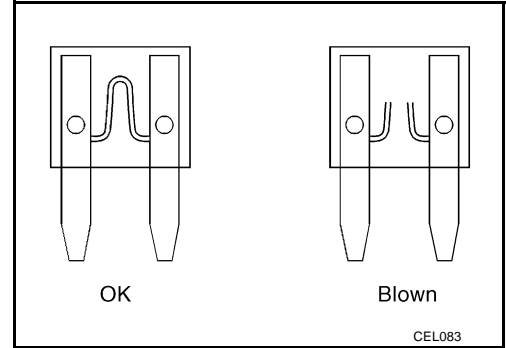
TKWM1413E

POWER SUPPLY ROUTING CIRCUIT

Fuse

AKS003HY

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



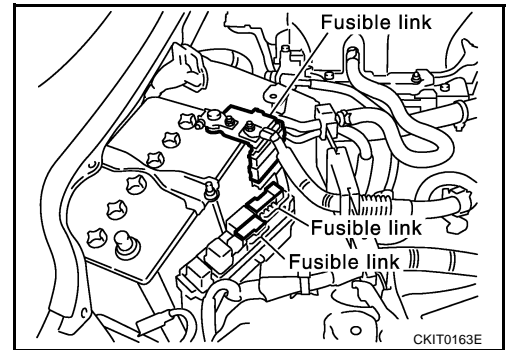
Fusible Link

AKS003HZ

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:

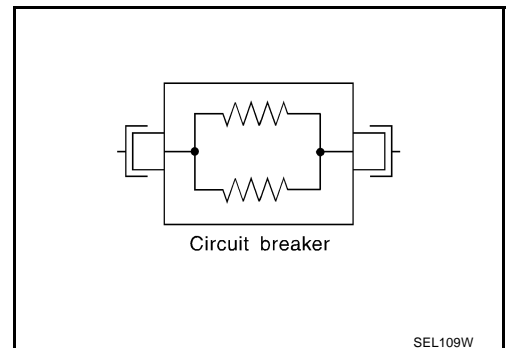
- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of incident.
- Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring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



Circuit Breaker

AKS003J0

The PTC thermistor generates heat in response to current flow. The temperature (and resistance) of the thermistor element varies with current flow. Excessive current flow will cause the element's temperature to rise. When the temperature reaches a specified level, the electrical resistance will rise sharply to control the circuit current. Reduced current flow will cause the element to cool. Resistance falls accordingly and normal circuit current flow is allowed to resume.



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

PFP:284B7

System Description

AKS00A37

- 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 relay via IPDM E/R control circuit.
- IPDM E/R-integrated control circuit performs ON-OFF operation of relay, CAN communication control, oil pressure switch signal reception, etc.
- It controls operation of each electrical part 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 line, it receives signal from BCM and controls the following lamps:
 - Head lamps (Hi, Lo)
 - Parking lamps
 - Tail lamps
 - Front fog lamps
2. Wiper control
Using CAN communication line, it receives signals from BCM and controls the front wipers.
3. Rear window defogger relay control
Using CAN communication line, it receives signals from BCM and controls the rear window defogger relay.
4. A/C compressor control
Using CAN communication line, it receives signals from ECM and controls the A/C relay.
5. Cooling fan control
Using CAN communication line, it receives signals from ECM and controls cooling fan relay.
6. Horn control
Using CAN communication line, it receives signals from BCM and controls horn 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 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 recovers normally, 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"> ● With the ignition switch ON, the headlamp (low) is ON. ● With the ignition switch OFF, the headlamp (low) is OFF.
Tail and parking lamps	<ul style="list-style-type: none"> ● With the ignition switch ON, the tail and parking lamps is ON. ● With the ignition switch OFF, the tail and parking lamps is OFF.
Cooling fan	<ul style="list-style-type: none"> ● With the ignition switch ON, the cooling fan HI operates. ● With the ignition switch OFF, the cooling fan stops.
Front wiper	Until the ignition switch is turned off, the front wiper LO and HI remains in the same status it was in just before fail-safe control was initiated.
Rear window defogger	Rear window defogger relay OFF
A/C compressor	A/C compressor OFF
Front fog lamps	Front fog lamp relay OFF

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

IPDM E/R STATUS CONTROL

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

1. 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.
2. Sleep waiting status
 - Process to stop CAN communication is activated.
 - All systems controlled by IPDM E/R are stopped. When 1 seconds have elapsed after CAN communication with other control units is stopped, mode switches to sleep status.
3. Sleep status
 - IPDM E/R operates in low current-consumption mode.
 - CAN communication is stopped.
 - When a change in CAN communication line is detected, mode switches to CAN communication status.
 - When a change hood switch or ignition switch signal is detected, mode switches to CAN communication status.

CAN Communication System Description

AKS00A38

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

CAN Communication Unit

AKS00A39

Refer to [LAN-4, "CAN Communication Unit"](#) .

Function of Detecting Ignition Relay Malfunction

AKS00A3A

- When contact point of integrated ignition relay is stuck and cannot be turned OFF, IPDM E/R turns ON tail and parking lamps for 10 minutes to indicate IPDM E/R malfunction.
- When a state of ignition relay having built-in does not agree with a state of Ignition switch signal input by a CAN communication from BCM, IPDM E/R lets tail lamp relay operate.

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 lamp is OFF.

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

CONSULT-II

AKS00A3B

CONSULT-II performs the following functions with combination of data receiving, command and transmission using the CAN communication line from the IPDM E/R.

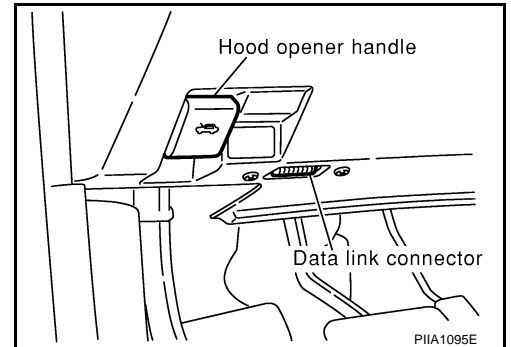
Inspection Item, Diagnosis Mode	Description
SELF-DIAG RESULTS	The IPDM E/R performs diagnosis of the CAN communication and self-diagnosis.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	The IPDM E/R sends a drive signal to electronic components to check their operation.

CONSULT-II BASIC OPERATION

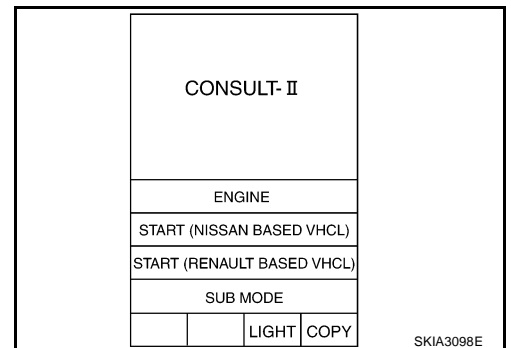
CAUTION:

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

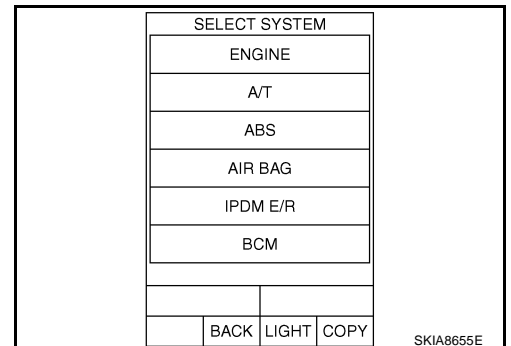
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".

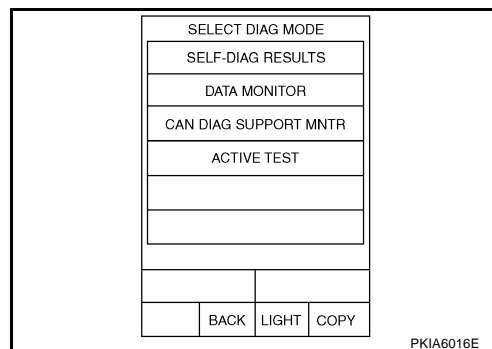


3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
 - If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-39, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



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

- Select the desired part to be diagnosed on the “SELECT DIAG MODE” screen.



SELF-DIAG RESULTS

Operation Procedure

- Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
- Check display content in self-diagnostic results.

Display Item List

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

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 memorized with IPDM E/R.

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

DATA MONITOR

Operation Procedure

1. Touch "DATA MONITOR" on "SELECT MONITOR ITEM" screen.
2. Touch "ALL SIGNALS", "MAIN SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

ALL SIGNALS	All items will be monitored.
MAIN SIGNALS	Monitor the predetermined item.
SELECTION FROM MENU	Select any item for monitoring.

3. Touch "START".
4. Touch the required monitoring item on "SELECTION FROM MENU". In "ALL SIGNALS", all items are monitored. In "MAIN SIGNALS", predetermined items are monitored.
5. Touch "RECORD" while monitoring to record the status of the item being monitored. To stop recording, touch "STOP".

All Signals, Main Signals, Selection From Menu

Item name	CONSULT-II 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	×	×	×	Signal status input from ECM
Compressor request	AC COMP REQ	ON/OFF	×	×	×	Signal status input from ECM
Tail & clear request	TAIL&CLR REQ	ON/OFF	×	×	×	Signal status input from BCM
H/L LO request	HL LO REQ	ON/OFF	×	×	×	Signal status input from BCM
H/L HI request	HL HI REQ	ON/OFF	×	×	×	Signal status input from BCM
FR fog request	FR FOG REQ	ON/OFF	×	×	×	Signal status input from BCM
H/L washer request	HL WASHER REQ ^{NOTE}	OFF	×		×	—
FR wiper request	FR WIP REQ	STOP/1LOW/LOW/HI	×	×	×	Signal status input from BCM
Wiper auto stop	WIP AUTO STOP	ACT P/STOP P	×	×	×	Output status of IPDM E/R
Wiper protection	WIP PROT	OFF/Block	×	×	×	Control status of IPDM E/R
Starter request	ST RLY REQ	ON/OFF	×		×	Status of input signal ^{NOTE}
Ignition relay status	IGN RLY	ON/OFF	×	×	×	Ignition relay status monitored with IPDM E/R
Rear window defogger request	RR DEF REQ	ON/OFF	×	×	×	Signal status input from BCM
Oil pressure switch	OIL P SW	OPEN/CLOSE	×		×	Signal status input in IPDM E/R
DTLR request	DTRL REQ ^{NOTE}	ON/OFF	×		×	—
Hood switch	HOOD SW	ON/OFF	×		×	Input signal status
Theft warning horn request	THFT HRN REQ	ON/OFF	×		×	Signal status input from BCM
Horn chirp	HORN CHIRP	ON/OFF	×		×	Output status of IPDM E/R

NOTE:

- Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is at ACC, the display may not be correct.
- This item is displayed, but cannot monitor it.

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

ACTIVE TEST

Operation Procedure

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.
3. Touch "START".
4. Touch "STOP" while testing to stop the operation.

Test item	CONSULT-II screen display	Description
Tail lamp output	TAIL LAMP	With a certain ON-OFF operation, the tail lamp relay can be operated.
Rear window defogger output	REAR DEFOGGER	With a certain ON-OFF operation, the rear window defogger relay can be operated.
Front wiper (HI, LO) output	FRONT WIPER	With a certain operation (OFF, HI ON, LO ON), the front wiper relay (Lo, Hi) can be operated.
Cooling fan output	MOTOR FAN	With a certain operation (1,2,3,4), the cooling fan can be operated.
Headlamp washer output	HEAD LAMP WASHER ^{NOTE}	—
Lamp (HI, LO, FOG) output	LAMPS	With a certain operation (OFF, HI ON, LO ON, FOG ON), the lamp relay (Lo, Hi, Fog) can be operated.
Horn output	HORN	Push "ON" button, horn relay operates 20ms.

NOTE:

This items are displayed, but they cannot be tested.

Auto Active Test 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 and parking lamps
 - Front fog lamps
 - Headlamps (Hi, Lo)
 - A/C compressor (magnetic clutch)
 - Cooling fan

OPERATION PROCEDURE

1. Close hood front door RH and 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 10 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:

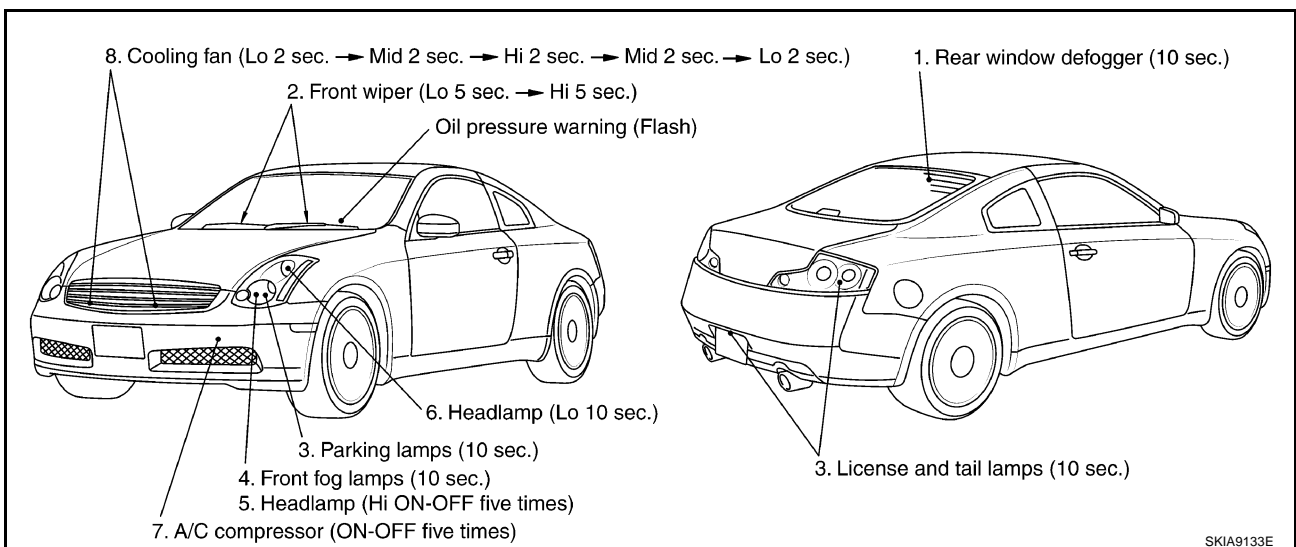
When auto active test mode has to be cancelled halfway, turn ignition switch OFF.

CAUTION:

Be sure to inspect **BL-33. "Check Door Switch (With Navigation System)"** or **BL-35. "Check Door Switch (Without Navigation System)"** when the auto active test cannot be performed.

INSPECTION IN AUTO ACTIVE TEST MODE

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



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

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 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

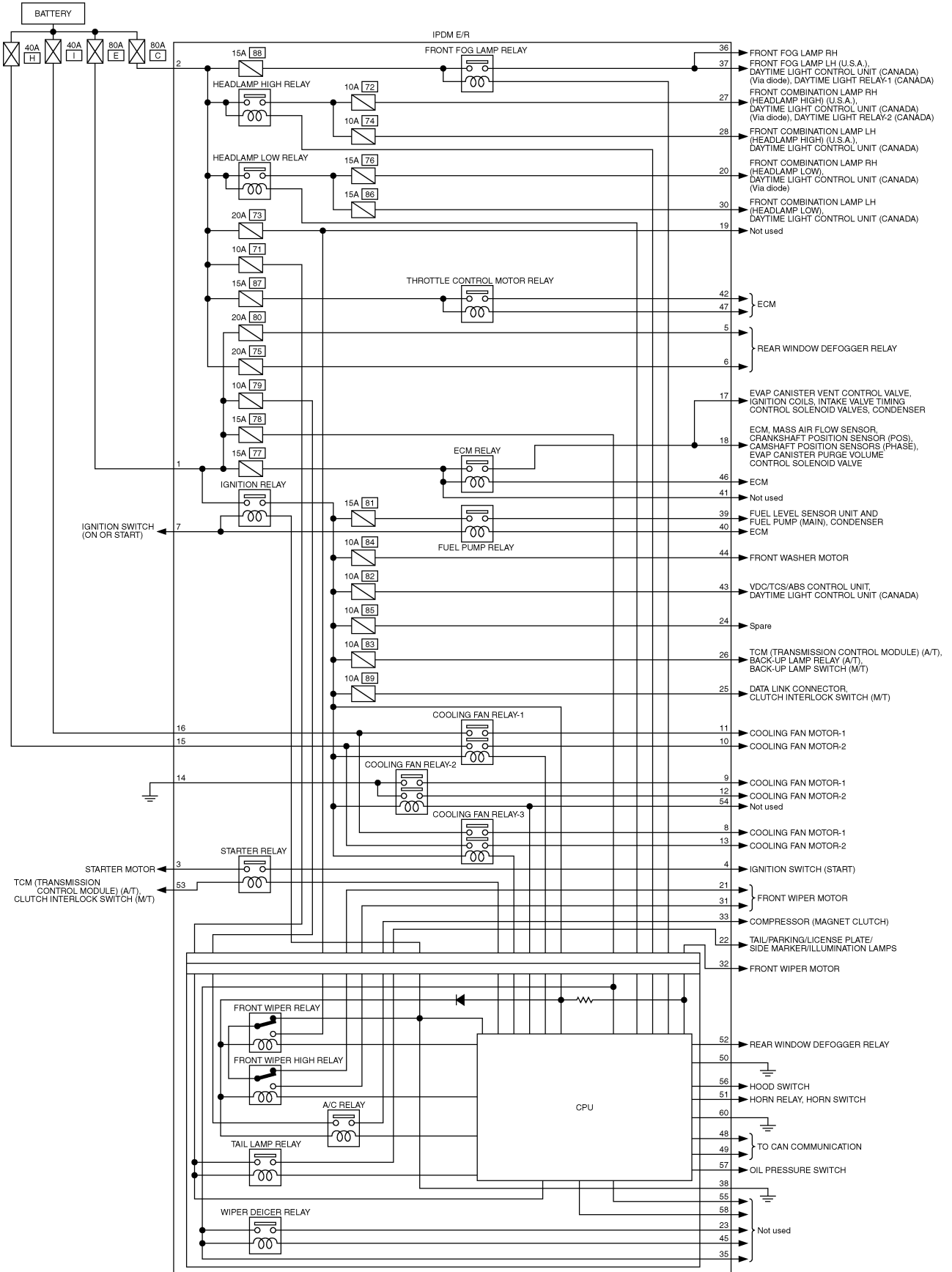
Symptom	Inspection contents	Possible cause	
Rear window defogger does not operate.	Perform auto active test. Does rear window defogger operate?	YES	● BCM signal input circuit
		NO	<ul style="list-style-type: none"> ● Rear window defogger relay ● Harness/connector malfunction between IPDM E/R and rear window defogger ● Open circuit of rear window defogger ● IPDM E/R malfunction
Any of front wipers, tail and parking lamps, front fog lamps, and head lamps (Hi, Lo) do not operate.	Perform auto active test. Does system in question operate?	YES	● BCM signal input system
		NO	<ul style="list-style-type: none"> ● 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
A/C compressor does not operate.	Perform auto active test. Does magnetic clutch operate?	YES	<ul style="list-style-type: none"> ● BCM signal input circuit ● CAN communication signal between BCM and ECM. ● CAN communication signal between ECM and IPDM E/R
		NO	<ul style="list-style-type: none"> ● Magnetic clutch malfunction ● Harness/connector malfunction between IPDM E/R and magnetic clutch ● IPDM E/R (integrated relay) malfunction
Cooling fan does not operate.	Perform auto active test. Does cooling fan operate?	YES	<ul style="list-style-type: none"> ● ECM signal input circuit ● CAN communication signal between ECM and IPDM E/R
		NO	<ul style="list-style-type: none"> ● Cooling fan motor malfunction ● Harness/connector malfunction between IPDM E/R and cooling fan motor ● IPDM E/R (integrated relay) malfunction
Oil pressure warning lamp does not operate.	Perform auto active test. Does oil pressure warning lamp blink?	YES	<ul style="list-style-type: none"> ● Harness/connector malfunction between IPDM E/R and oil pressure switch ● Oil pressure switch malfunction ● IPDM E/R malfunction
		NO	<ul style="list-style-type: none"> ● CAN communication signal between IPDM E/R and combination meter ● Combination meter

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

Schematic

AKS00A3D

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



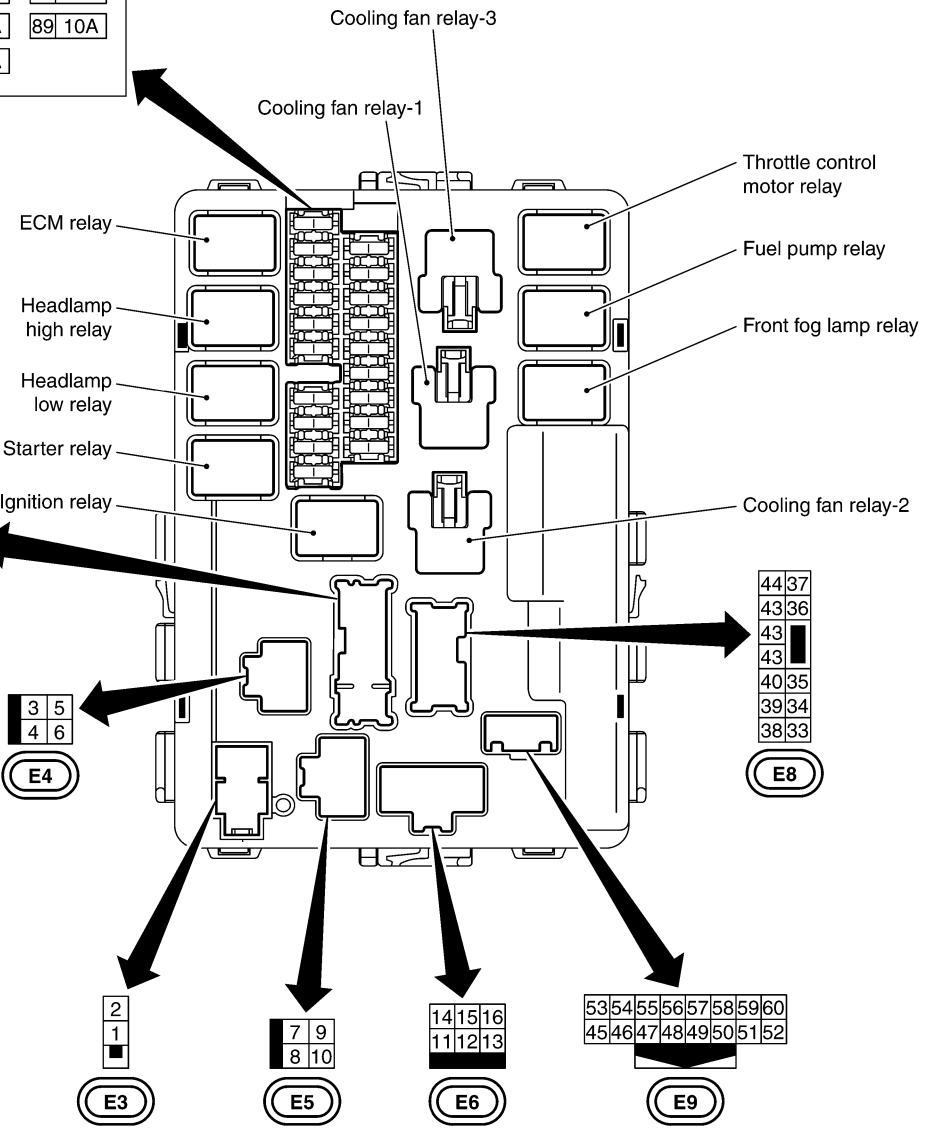
TKWM1072E

IPDM E/R Terminal Arrangement

AKS00A3E

71	10A
72	10A
73	20A
74	10A
75	20A
76	15A
77	15A
78	15A
79	10A
80	20A
81	15A
82	10A
83	10A
84	10A
85	15A
86	15A
87	15A
88	15A
89	10A

17	24
18	25
19	26
27	
28	
20	29
21	30
22	31
23	32



3	5
4	6

44	37
43	36
43	
40	35
39	34
38	33

2
1

7	9
8	10

14	15	16
11	12	13

53	54	55	56	57	58	59	60
45	46	47	48	49	50	51	52

To engine room harness

CKIM0267E

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

IPDM E/R Power/Ground Circuit Inspection

AKS00A3G

1. CHECK FUSE AND FUSIBLE LINK

- Make sure the following fusible links or IPDM E/R fuses are not blown.

Terminal No.	Signal name	Fuse, fusible link No.
1, 2	Battery power	F/L-C, F/L-E, Fuse No. 71,78

OK or NG

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

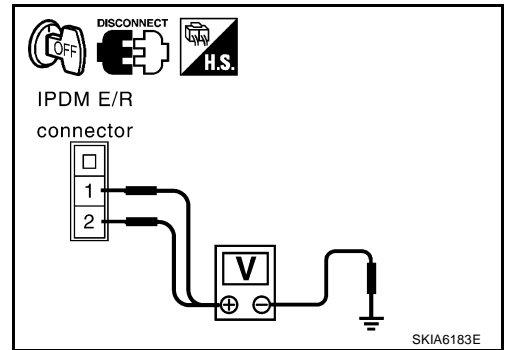
2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector E3.
3. Check voltage between IPDM E/R harness connector E3 terminals 1 (W/R), 2 (W/L) and ground.

1 (W/R), 2 (W/L) – Ground : Battery voltage should exist

OK or NG

- OK >> GO TO 3.
 NG >> Replace IPDM E/R power supply circuit harness.



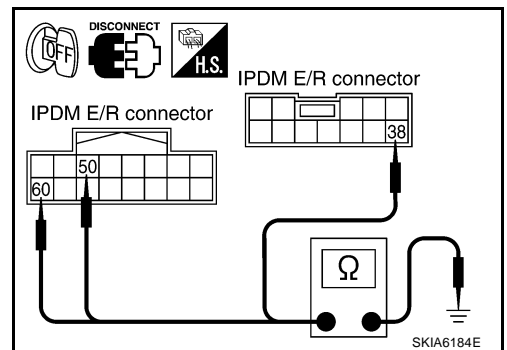
3. CHECK GROUND CIRCUIT

1. Disconnect IPDM E/R harness connectors E8 and E9.
2. Check continuity between IPDM E/R harness connectors E8 terminal 38 (B), E9 terminal 50 (B), 60 (B) and ground.

38 (B), 50 (B), 60 (B) – Ground : Continuity should exist

OK or NG

- OK >> INSPECTION END
 NG >> Replace ground circuit harness of IPDM E/R.



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

Inspection With CONSULT-II (Self-Diagnosis)

AKS00A3H

CAUTION:

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

1. CHECK SELF DIAGNOSTIC RESULT

1. Connect CONSULT-II and select "IPDM E/R" on the Diagnosis System Selection screen.
2. Select "SELF-DIAG RESULTS" on the "SELECT DIAG MODE" screen.
3. Check display content in self diagnostic results.

CONSULT-II display	CONSULT-II display code	TIME		Details of diagnosis result
		CRNT	PAST	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	-	-	-	No malfunction
CAN COMM CIRC	U1000	×	×	Any of or several items below have errors. <ul style="list-style-type: none"> ● TRANSMIT DIAG ● ECM ● BCM/SEC

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 memorized with IPDM E/R.

Contents displayed

NO DTC IS DETECTED.FURTHER TESTING MAY BE REQUIRED.>>INSPECTION END

CAN COMM CIRC>>After print-out of the monitor items, refer to [LAN-2. "Precautions When Using CONSULT-II"](#) .

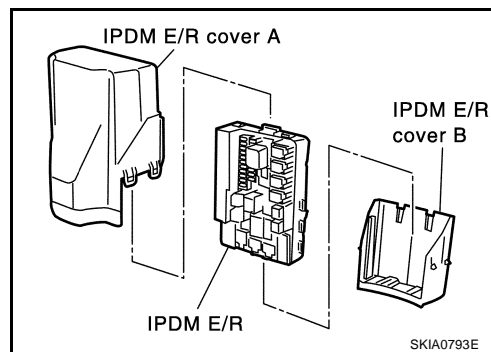
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

AKS00A3I

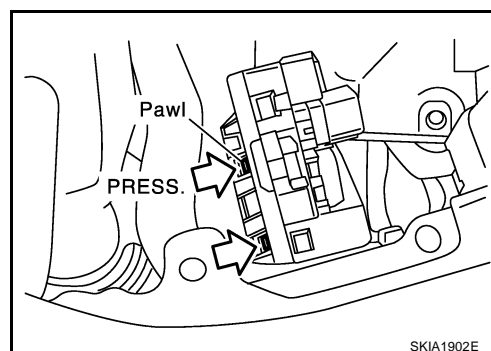
Removal and Installation of IPDM E/R

REMOVAL

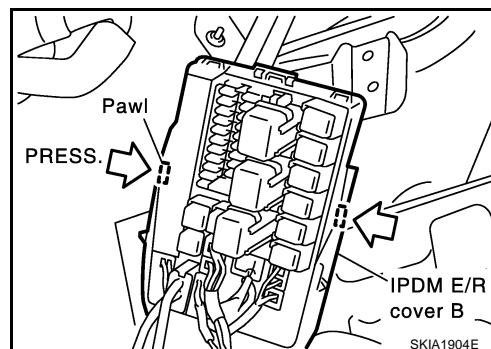
1. Remove battery. Refer to [SC-9, "Removal and Installation"](#) in "Starting and Charging System (SC)" section.



2. Remove IPDM E/R cover A. While pushing pawl on backside of IPDM E/R cover B toward vehicle front to unlock, lift up IPDM E/R.



3. While pushing tabs on right and left side of IPDM E/R, remove IPDM E/R cover B from IPDM E/R.
4. Remove harness connector from IPDM E/R.



INSTALLATION

Install in the reverse order of removal.

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

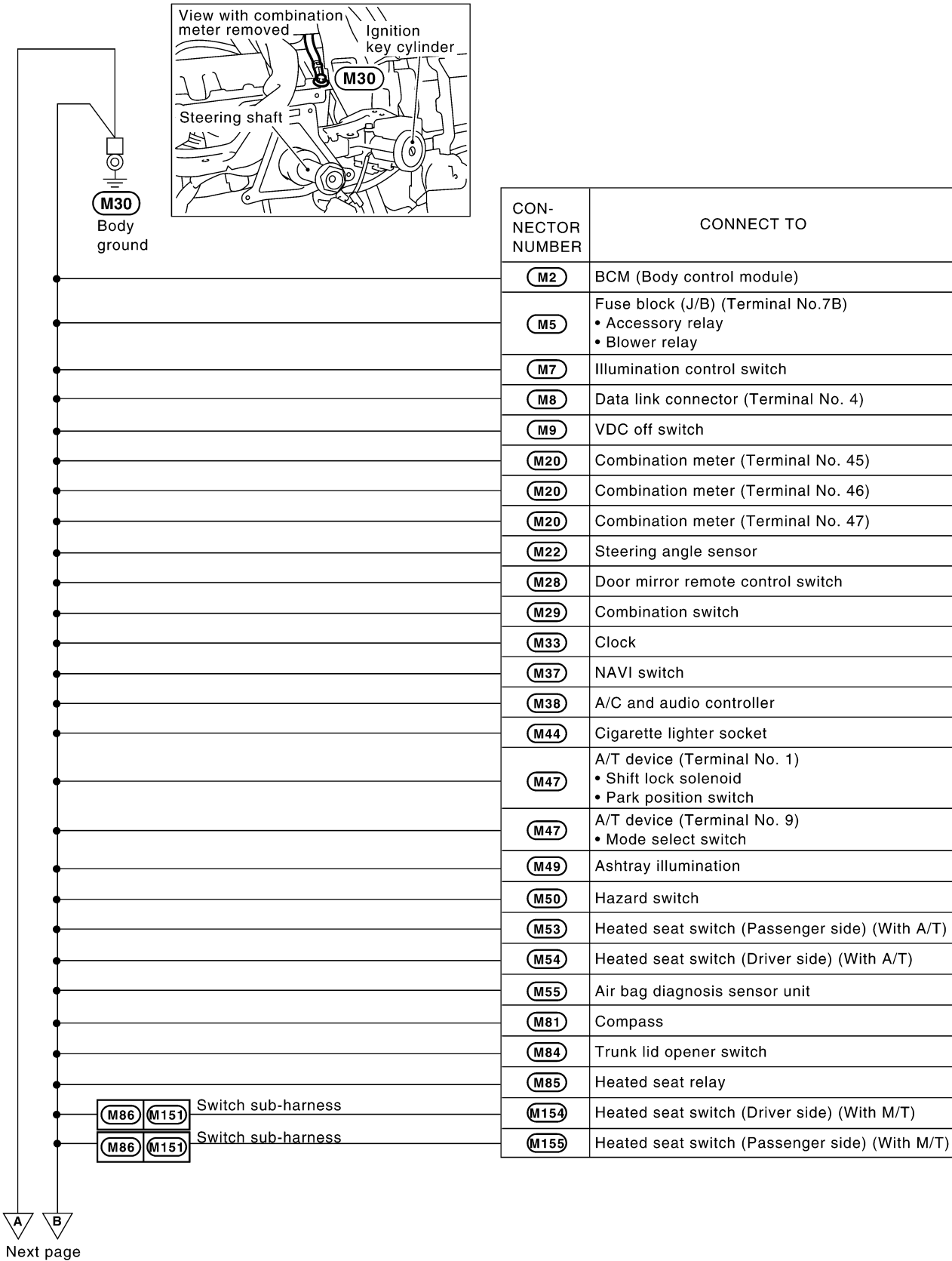
GROUND

PF0:00011

AKS0031A

GROUND

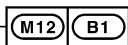
Ground Distribution MAIN HARNESS



A B
Next page

GROUND

Preceding page



Body harness

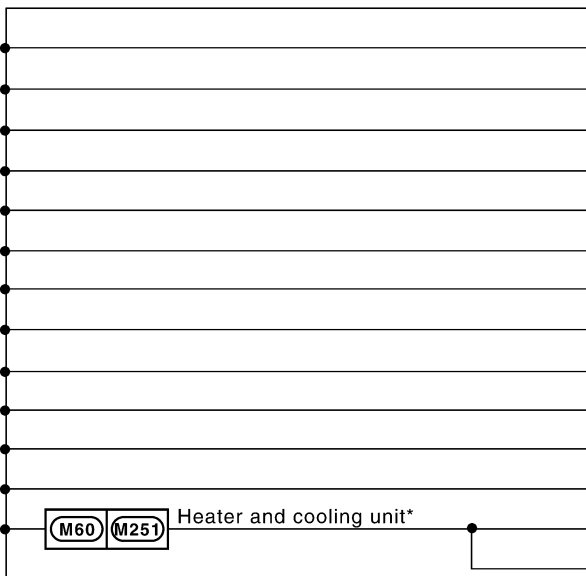


Driver door harness

CON-NECTOR NUMBER	CONNECT TO
(B27)	Fuel level sensor unit and fuel pump (Terminal No. 5) • Fuel level sensor (Main) • Fuel tank temperature sensor
(D2)	Door mirror (Driver side) (Door mirror defogger)
(D7)	Power window main switch • CPU • Power window lock switch • Door lock and unlock switch • Illumination
(D15)	Driver side door lock assembly • Door key cylinder switch



Next page



CON-NECTOR NUMBER	CONNECT TO
(M8)	Data link connector (Terminal No. 5)
(M17)	Air mix door motor (Driver side)
(M32)	Display and A/C auto amp. (Terminal No. 24)
(M35)	Display unit (Terminal No. 22)
(M35)	Display unit (Terminal No. 24)
(M52)	Power socket (Floor console box) (With A/T)
(M57)	NAVI control unit (Terminal No. 1)
(M57)	NAVI control unit (Terminal No. 4)
(M62)	Blower motor
(M64)	Glove box lamp
(M67)	Intake door motor
(M68)	Upper glove box lamp
(M88)	Power socket (Instrument side panel RH)
(M252)	Mode door motor
(M253)	Air mix door motor (Passenger side)

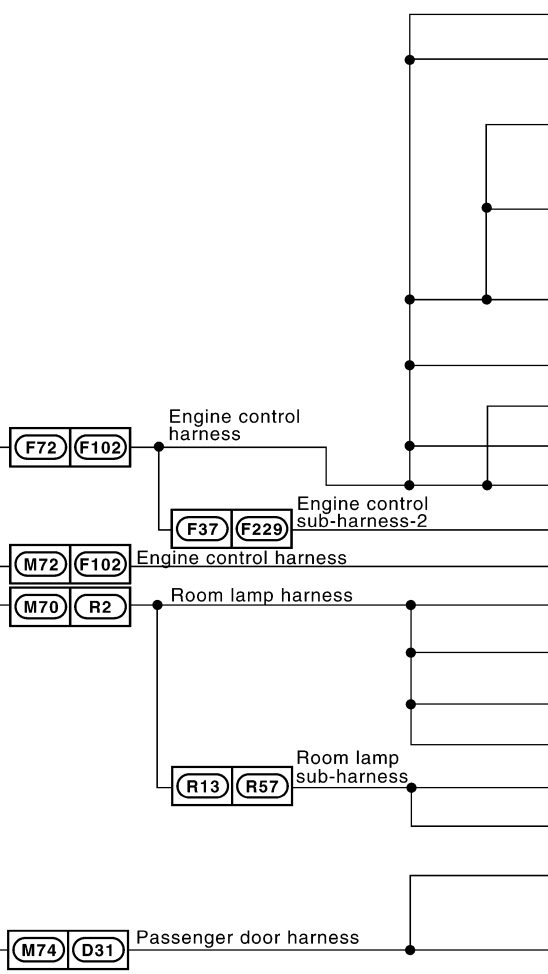
* : This sub-harness is not shown in "HARNESS LAYOUT".

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

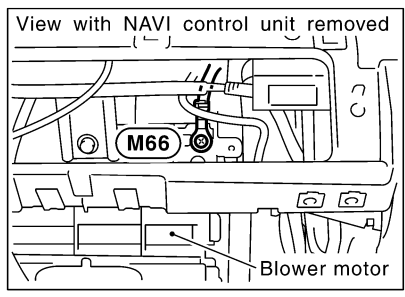
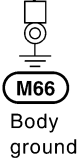
PG

GROUND

Preceding page

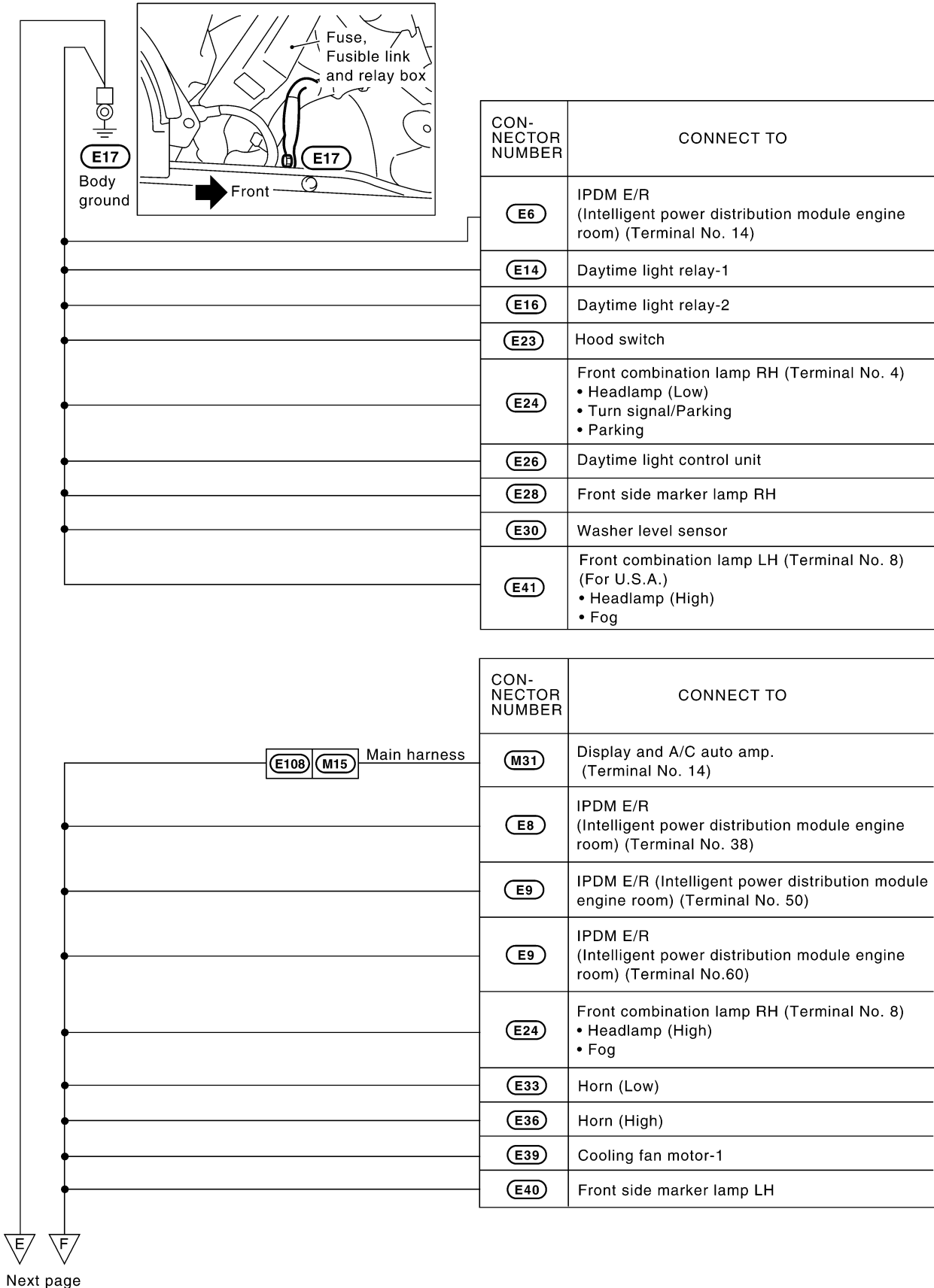


CON-NECTOR NUMBER	CONNECT TO
F4	Camshaft position sensor (PHASE) (BANK 1)
F10	Crankshaft position sensor (POS)
F31	Shield wire [Electric throttle control actuator (Throttle position sensor 1)] (For circuit from terminal No. 1)
F31	Shield wire [Electric throttle control actuator (Throttle position sensor 1, 2)] (For circuit from terminal No. 2,4,5)
F31	Shield wire [Electric throttle control actuator (Throttle control motor)] (For circuit from terminal No. 3,6)
F32	Camshaft position sensor (PHASE) (BANK 2)
F35	Park/Neutral position switch (With M/T)
F108	ECM (Terminal No. 1)
F108	ECM (Terminal No. 116)
F228	Shield wire (Knock sensor)
F108	ECM (Terminal No. 115)
R4	Vanity mirror lamp (Passenger side)
R7	Auto anti-dezozling inside mirror • Homelink universal transceiver
R9	Vanity mirror lamp (Driver side)
R12	Sunroof motor assembly
R52	Map lamp
R53	Sunroof switch
D32	Door mirror (Passenger side) (Door mirror defogger)
D43	Power window sub-switch • CPU • Door lock and unlock switch



GROUND

ENGINE ROOM HARNESS

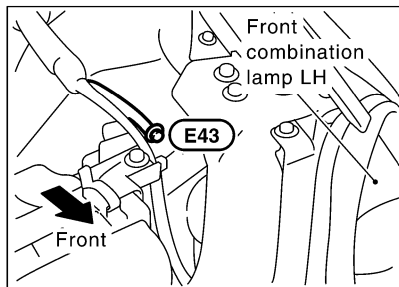
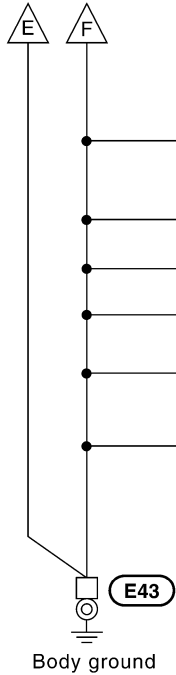


E F
Next page

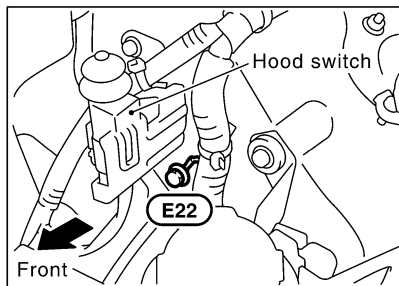
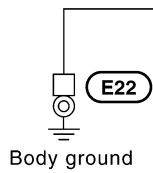
A
B
C
D
E
F
G
H
I
J
PG
L
M

GROUND

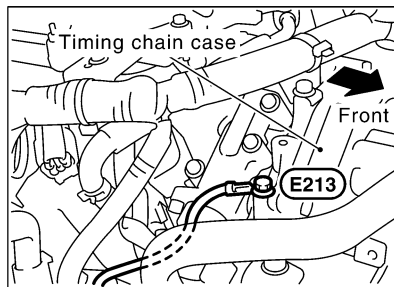
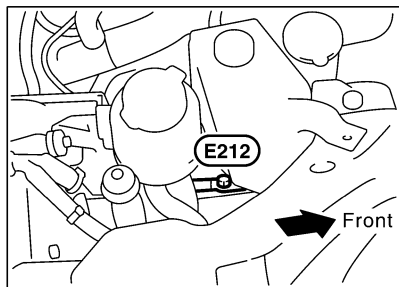
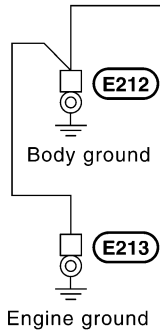
Preceding page



CON-NECTOR NUMBER	CONNECT TO
E41	Front combination lamp LH (Terminal No. 4) • Headlamp (Low) • Turn signal/Parking • Parking
E44	Brake fluid level switch
E52	Front wiper motor
E53	Cooling fan motor-2
E118	VDC/TCS/ABS control unit (Terminal No. 28)
E118	VDC/TCS/ABS control unit (Terminal No. 29)



CON-NECTOR NUMBER	CONNECT TO
E37	Shield wire (Crash zone sensor)



CON-NECTOR NUMBER	CONNECT TO
E211	Alternator (E)

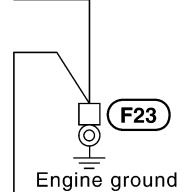
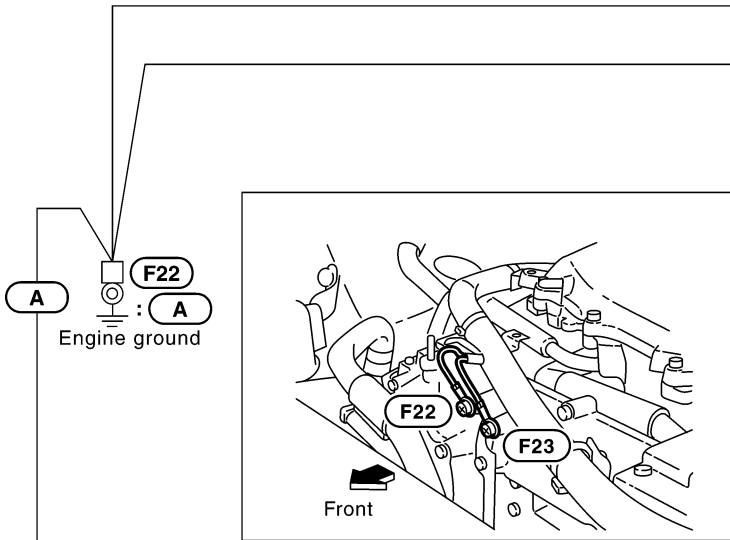
CKIM0261E

GROUND

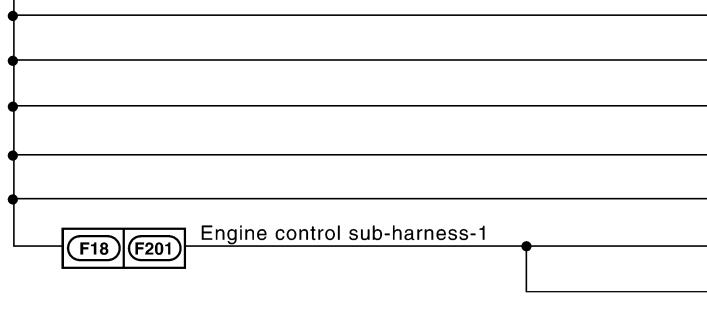
ENGINE CONTROL HARNESS

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

CON-NECTOR NUMBER	CONNECT TO
F40	A/T assembly (Terminal No.5) (With A/T)
F40	A/T assembly (Terminal No.10) (With A/T)



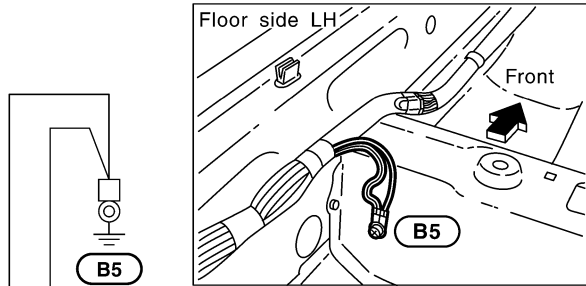
CON-NECTOR NUMBER	CONNECT TO
F15	Ignition coil No. 5 (With power transistor)
F27	Ignition coil No. 2 (With power transistor)
F28	Ignition coil No. 4 (With power transistor)
F29	Ignition coil No. 6 (With power transistor)
F38	Condenser
F202	Ignition coil No. 3 (With power transistor)
F203	Ignition coil No. 1 (With power transistor)



A : With A/T

GROUND

BODY HARNESS



B5
Body ground

B6 **B321**

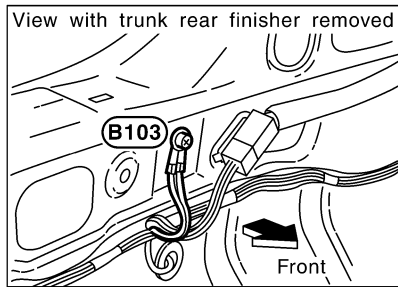
Power seat sub-harness (Driver side)*

CON-NECTOR NUMBER	CONNECT TO
B324	Driver side seat control unit
B326	Power seat switch (Sliding switch) (Driver side)
B332	Front seat cushion heater (Driver side)
B8	Seat belt buckle switch (Driver side)

B126 **B151**

License plate sub-harness

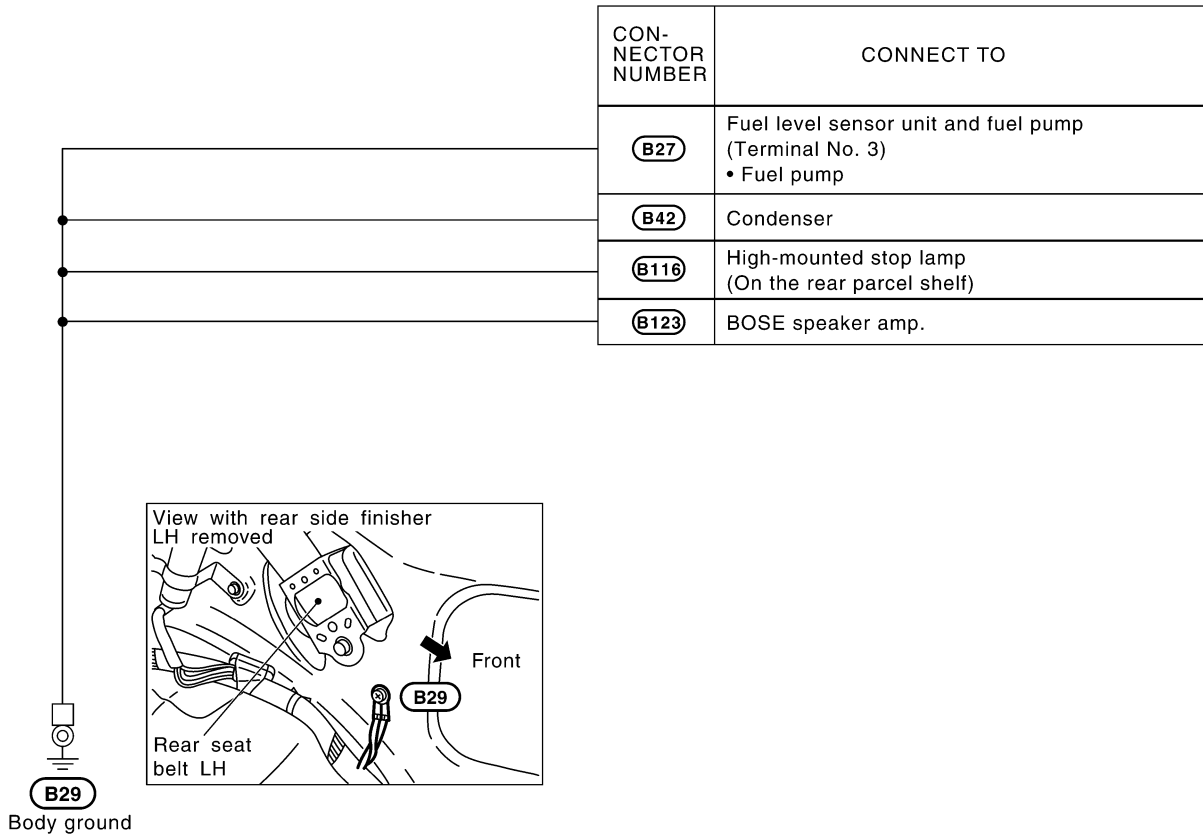
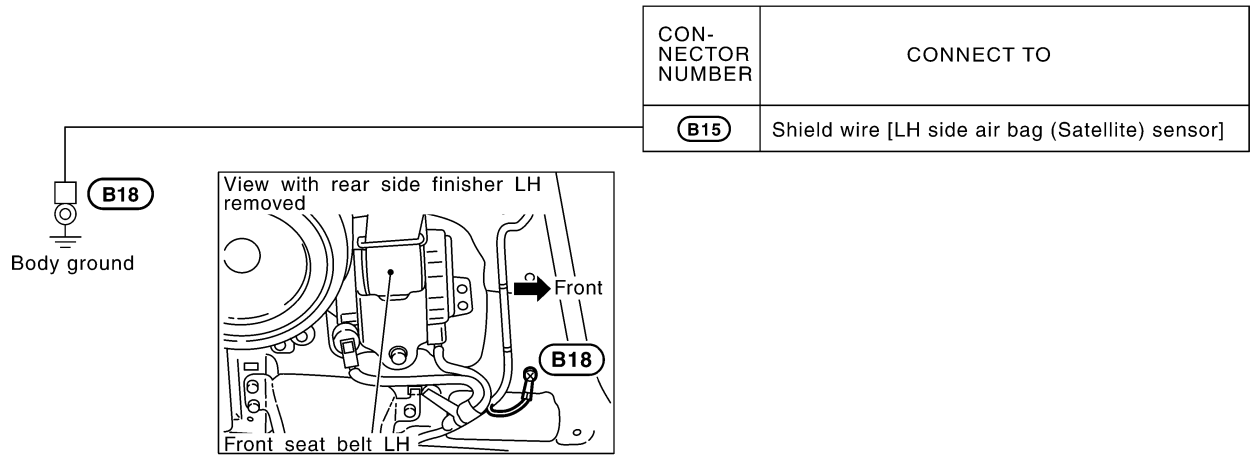
CON-NECTOR NUMBER	CONNECT TO
B152	Licence plate lamp LH
B153	Licence plate lamp RH
B125	Rear combination lamp LH • Tail and stop • Turn signal • Back-up • Side marker
B127	Rear combination lamp RH • Tail and stop • Turn signal • Back-up • Side marker



B103
Body ground

*:This sub-harness is not shown in "HARNESS LAYOUT" .

GROUND

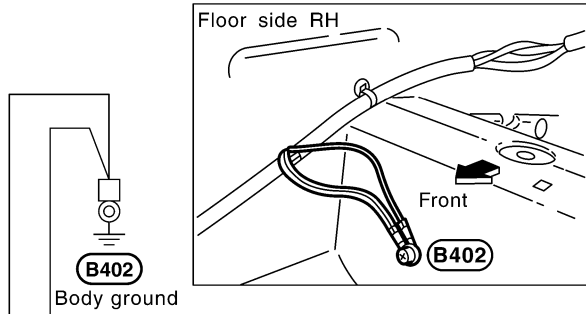


CKIM0263E

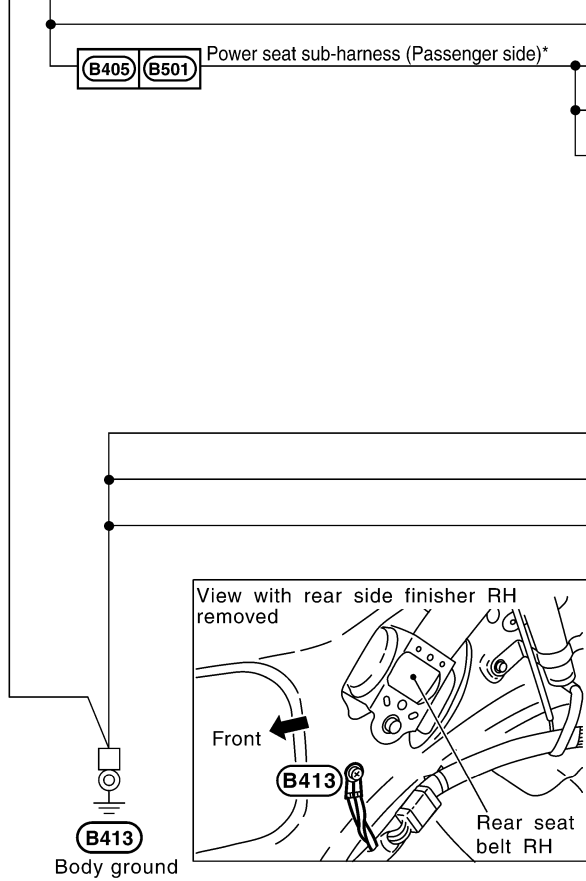
A
B
C
D
E
F
G
H
I
J
PG
L
M

GROUND

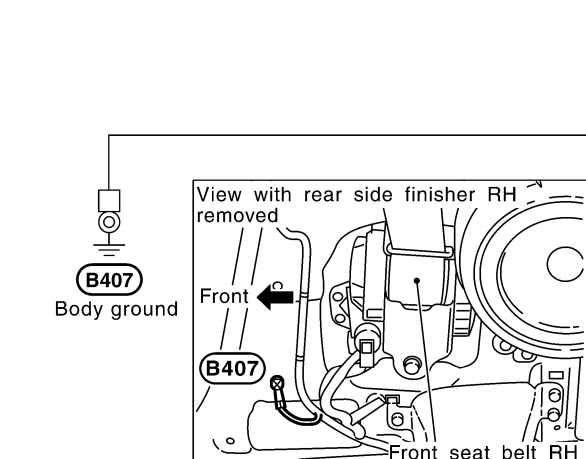
BODY NO.2 HARNESS



CON-NECTOR NUMBER	CONNECT TO
B406	Seat belt buckle switch (Passenger side)
B502	Passenger side seat control unit
B503	Power seat switch (Sliding switch) (Passenger side)
B505	Front seat cushion heater (Passenger side)



CON-NECTOR NUMBER	CONNECT TO
B419	Trunk lid opener actuator
B420	Trunk Room lamp switch
B421	High-mounted stop lamp (In the rear air spoiler)



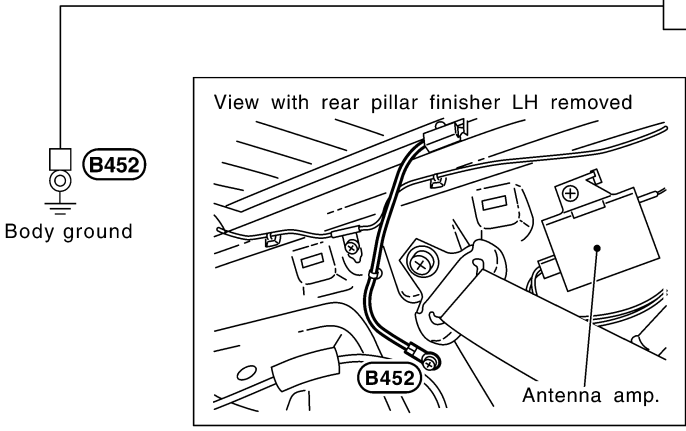
CON-NECTOR NUMBER	CONNECT TO
B409	Shield wire [RH side air bag (Satellite) sensor]

* : This sub-harness is not shown in "HARNES LAYOUT".

GROUND

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

CON-NECTOR NUMBER	CONNECT TO
B451	Rear window defogger (-)



HARNESS

PPF:00011

Harness Layout HOW TO READ HARNESS LAYOUT

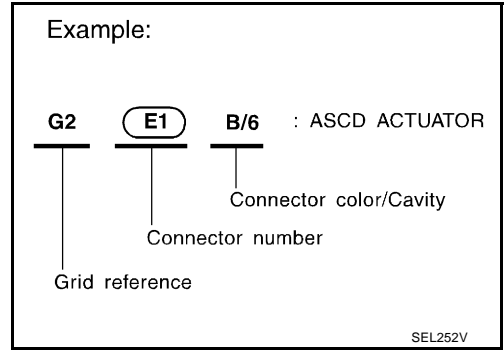
AKS003/B

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

- Main Harness
- Engine Room Harness (Engine Compartment)
- Engine Control Harness
- Body Harness (Passenger Compartment)
- Body No. 2 Harness














To use the grid reference

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



CONNECTOR SYMBOL

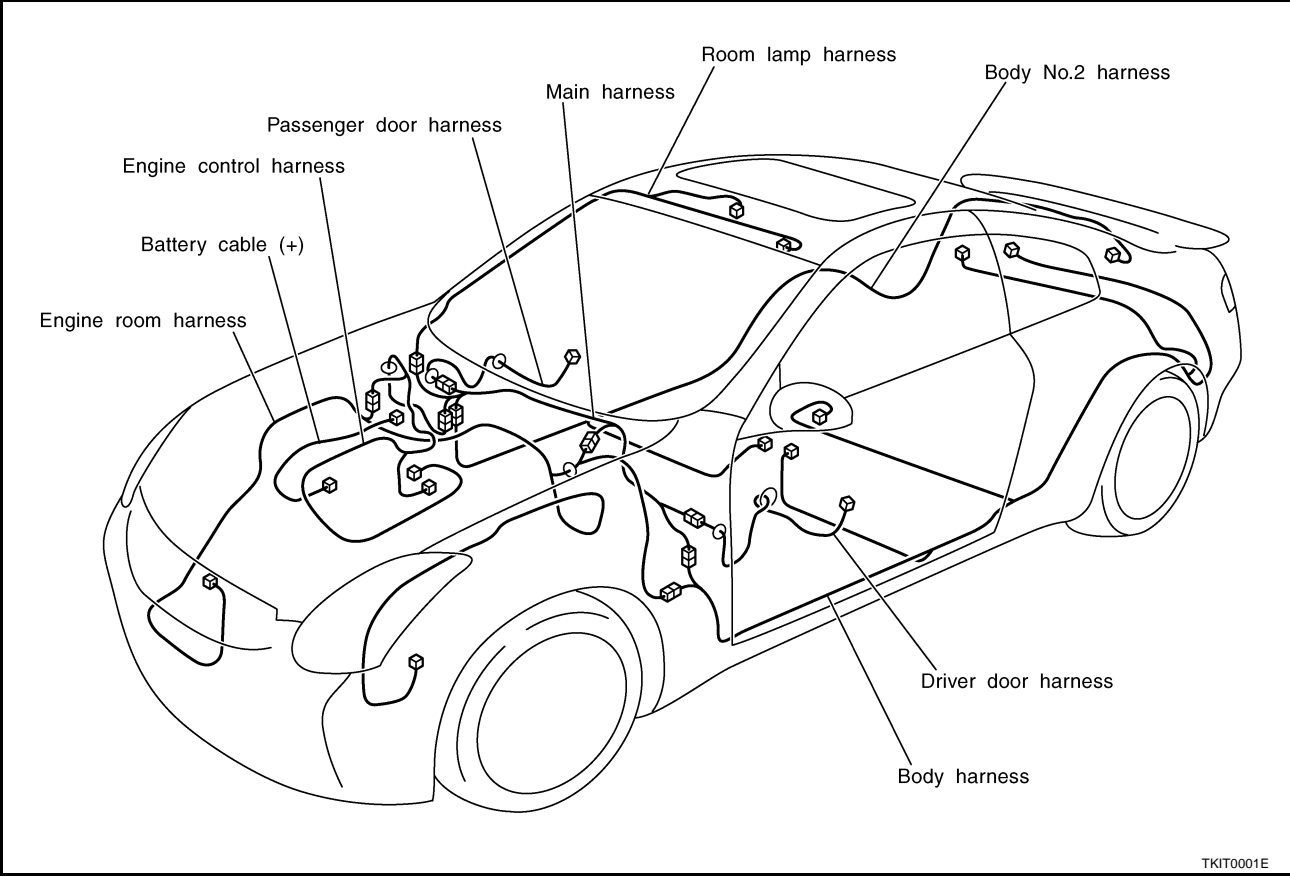
Main symbols of connector (in Harness Layout) are indicated in the below.

Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
<ul style="list-style-type: none"> • Cavity: Less than 4 • Relay connector 				
<ul style="list-style-type: none"> • Cavity: From 5 to 8 				
<ul style="list-style-type: none"> • Cavity: More than 9 				
<ul style="list-style-type: none"> • Ground terminal etc. 	—			

CKIT0108E

HARNESS

OUTLINE



A

B

C

D

E

F

G

H

I

J

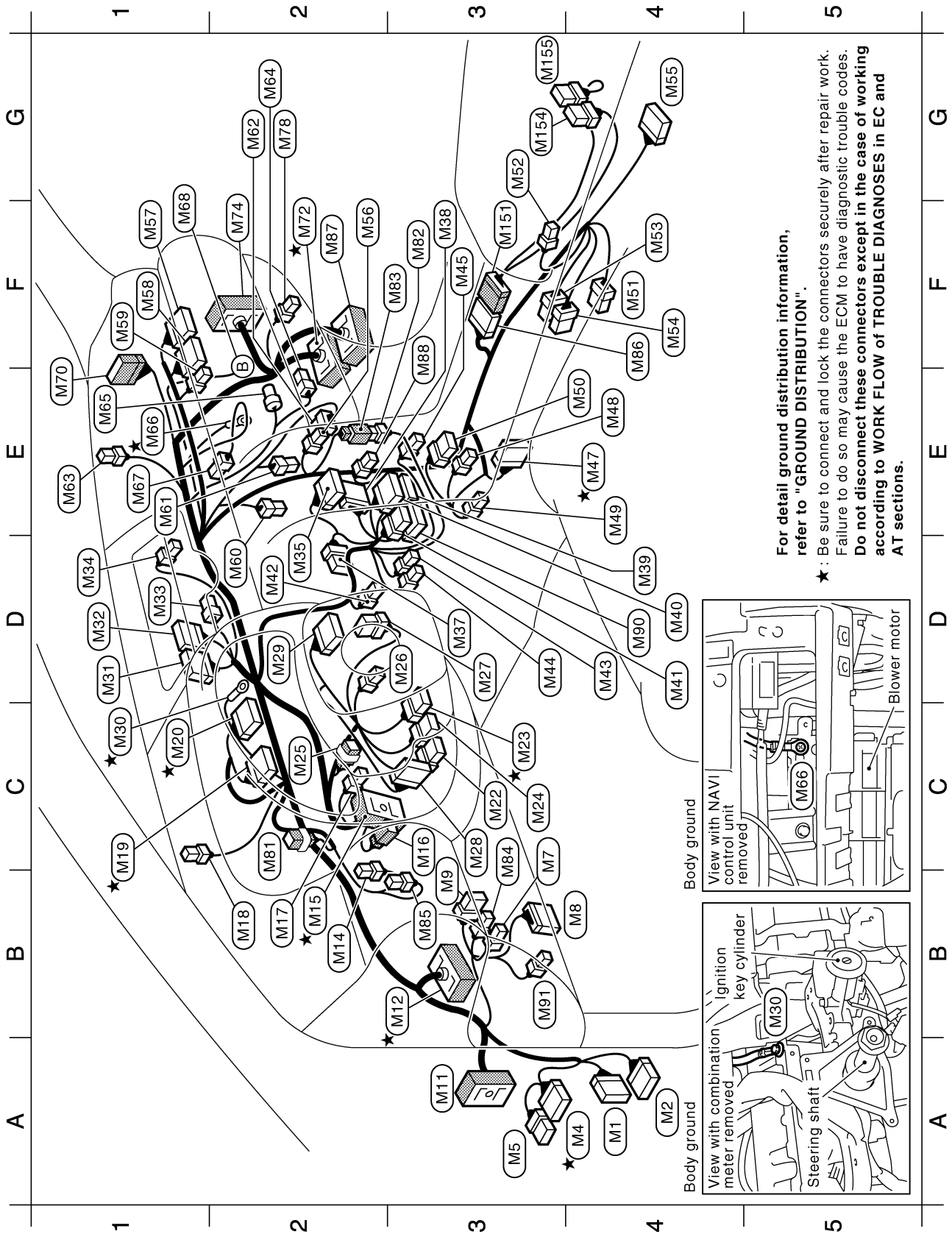
PG

L

M

HARNESS

MAIN HARNESS



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

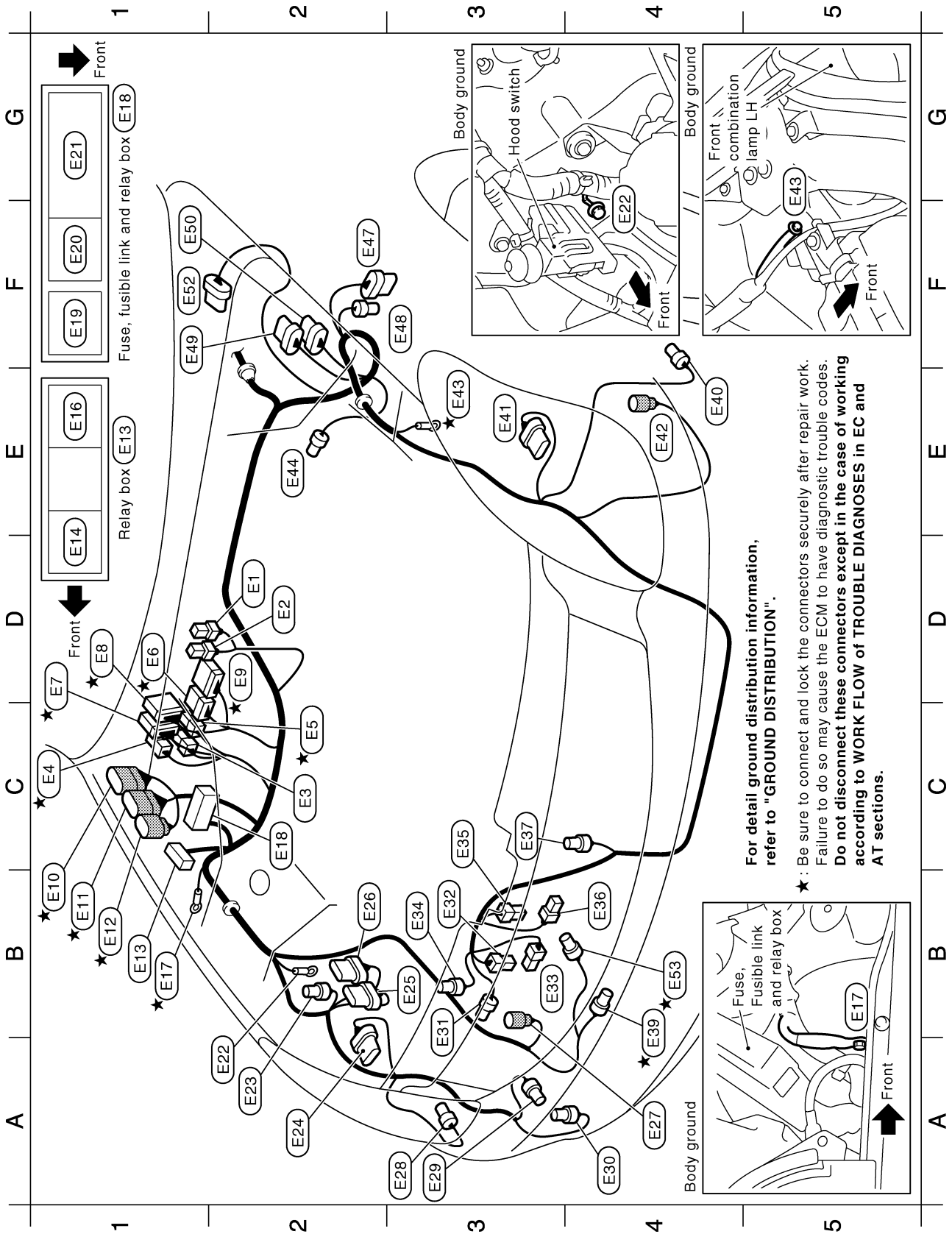
A4	(M1)	W/40	:	BCM (Body control module)	F3	(M38)	W/12	:	A/C and audio controller	E1	(M63)	W/3	:	Optical sensor
A4	(M2)	B/15	:	BCM (Body control module)	D4	(M39)	W/16	:	Audio unit	G2	(M64)	W/2	:	Glove box lamp
A4	(M4)	W/16	:	Fuse block (J/B)	D4	(M40)	W/10	:	Audio unit	E1	(M65)	Y/4	:	Front passenger air bag module
A3	(M5)	W/8	:	Fuse block (J/B)	D4	(M41)	W/6	:	Audio unit	E1	(M66)	—	:	Body ground
C3	(M7)	W/3	:	Illumination control switch	D2	(M42)	W/2	:	In-vehicle sensor	E1	(M67)	W/3	:	Intake door motor
B4	(M8)	W/16	:	Data link connector	D4	(M43)	W/2	:	Cigarette lighter illumination	F1	(M68)	Bulb	:	Upper glove box lamp (Without navigation system)
B3	(M9)	GY/6	:	VDC off switch	D3	(M44)	B/2	:	Cigarette lighter socket	E1	(M70)	W/18	:	To (R2)
A3	(M11)	SMJ	:	To (D1)	F3	(M45)	BR/2	:	Antenna amp. (Via sub-harness)	F2	(M72)	SMJ	:	To (F102)
B3	(M12)	SMJ	:	To (B1)	E4	(M47)	W/10	:	A/T device (With A/T)	F2	(M74)	SMJ	:	To (D31)
B2	(M14)	W/2	:	Circuit breaker	E4	(M48)	BR/2	:	A/T illumination (With A/T)	G2	(M78)	W/4	:	Remote keyless entry receiver
B2	(M15)	SMJ	:	To (E108)	E4	(M49)	W/2	:	Ashtray illumination	C2	(M81)	W/4	:	Compass
C3	(M16)	Y/4	:	To (E109)	E4	(M50)	W/8	:	Hazard switch	F3	(M82)	W/4	:	To (M83) (With navigation system)
B2	(M17)	W/3	:	Air mix door motor (Driver side)	F4	(M51)	B/6	:	Yaw rate/side G sensor	F3	(M82)	W/4	:	To (M82) (With navigation system)
B2	(M18)	B/2	:	Sunload sensor	G3	(M52)	B/2	:	Power socket	C3	(M84)	B/2	:	Trunk lid opener switch
C1	(M19)	BR/24	:	Combination meter	F4	(M53)	BR/6	:	(Floor console box) (With A/T)	B3	(M85)	L/4	:	Heated seat relay (With heated seat)
C1	(M20)	W/24	:	Combination meter	F4	(M54)	W/6	:	Heated seat switch (Passenger side)	F4	(M86)	W/12	:	To (M157) (With M/T)
C3	(M22)	W/8	:	Steering angle sensor	F4	(M54)	W/6	:	Heated seat switch (Driver side)	F2	(M87)	SMJ	:	To (E401)
C3	(M23)	GY/8	:	Combination switch (Spiral cable)	F4	(M54)	W/6	:	Heated seat switch (With A/T and heated seat)	F3	(M88)	B/2	:	Power socket (Instrument side panel RH)
C3	(M24)	Y/6	:	Combination switch (Spiral cable)	G4	(M55)	Y/28	:	With A/T and heated seat	D4	(M90)	W/12	:	Audio unit
C2	(M25)	BR/2	:	Key switch	F2	(M56)	W/2	:	Air bag diagnosis sensor unit	B3	(M91)	W/2	:	Tire pressure warning check switch
D3	(M26)	W/2	:	Ignition key hole illumination	F1	(M57)	W/24	:	Trunk lid opener cancel switch					
D3	(M27)	W/8	:	NATS antenna amp.	F1	(M57)	W/24	:	NAVI control unit					
C3	(M28)	W/10	:	Door mirror remote control switch	F1	(M58)	GY/24	:	NAVI control unit (With navigation system)	F3	(M157)	W/12	:	To (M86)
D2	(M29)	W/16	:	Combination switch	F1	(M59)	GY/2	:	NAVI control unit (With navigation system)	G3	(M154)	W/6	:	Heated seat switch (Driver side)
C1	(M30)	—	:	Body ground	D2	(M60)	W/3	:	NAVI control unit (With navigation system)	G3	(M155)	BR/6	:	Heated seat switch (Passenger side)
D1	(M31)	GY/20	:	Display and A/C auto amp.	E1	(M61)	W/4	:	Heater and cooling unit (Via sub-harness)					
D1	(M32)	GY/16	:	Display and A/C auto amp.	E1	(M61)	W/4	:	Intake sensor					
D1	(M33)	W/4	:	Clock	G2	(M62)	W/6	:	Blower motor					
D1	(M34)	W/2	:	Security indicator lamp										
D2	(M35)	W/24	:	Display unit										
D3	(M37)	W/8	:	(With navigation system)										
			:	NAVI switch										
			:	(With navigation system)										

Switch sub-harness (With M/T)

★ : Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNESS

ENGINE ROOM HARNESS Engine Compartment



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

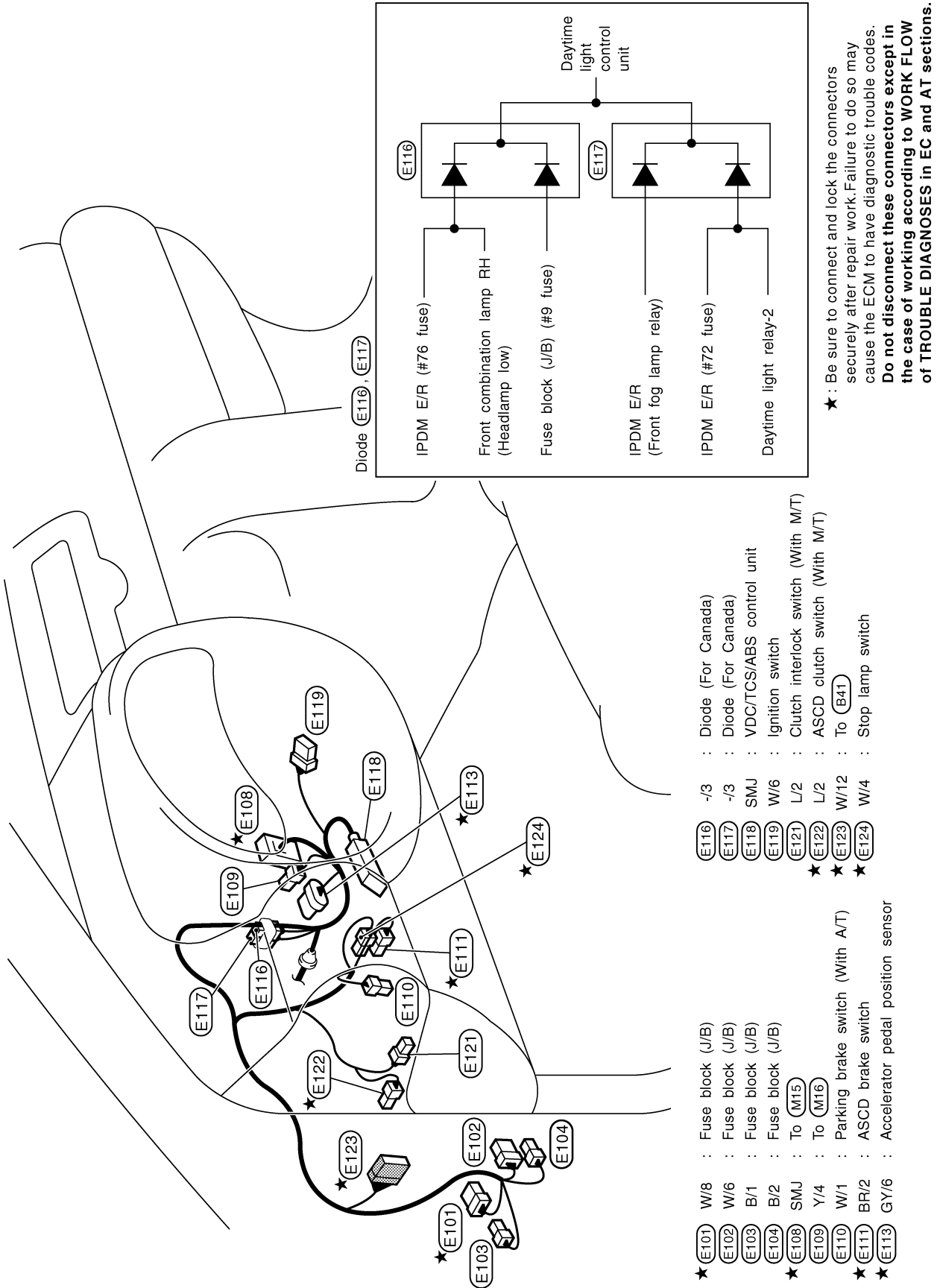
★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

D2	(E1)	B/2	: Fusible link holder		(E42)	GY/2	: Front wheel sensor LH
D2	(E2)	GY/2	: Fusible link holder		(E43)	—	: Body ground
C2	(E3)	B/2	: IPDM E/R (Intelligent power distribution module engine room)		(E44)	GY/2	: Brake fluid level switch
C1	(E4)	W/4	: IPDM E/R (Intelligent power distribution module engine room)		(E47)	B/8	: VDC relay box
C2	(E5)	B/4	: IPDM E/R (Intelligent power distribution module engine room)		(E48)	B/2	: VDC relay box
D1	(E6)	W/6	: IPDM E/R (Intelligent power distribution module engine room)		(E49)	GY/8	: VDC actuator
D1	(E7)	GY/16	: IPDM E/R (Intelligent power distribution module engine room)		(E50)	B/8	: VDC actuator
D1	(E8)	W/12	: IPDM E/R (Intelligent power distribution module engine room)		(E52)	GY/5	: Front wiper motor
D2	(E9)	W/16	: IPDM E/R (Intelligent power distribution module engine room)		(E53)	GY/4	: Cooling fan motor-2
B1	(E10)	GY/9	: To (F1)				
B1	(E11)	GY/10	: To (F2)				
B1	(E12)	B/8	: To (F3)				
B1	(E13)	—	: Relay box (For Canada)				
D1	(E14)	L/4	: Daytime light relay-1 (For Canada)				
E1	(E16)	L/4	: Daytime light relay-2 (For Canada)				
B1	(E17)	—	: Body ground				
C2	(E18)	—	: Fuse, fusible link and relay box				
F1	(E19)	L/4	: Back-up lamp relay (With A/T)				
F1	(E20)	W/3	: Horn relay				
G1	(E21)	—	: Fuse and fusible link block				
A2	(E22)	—	: Body ground				
A2	(E23)	GY/2	: Hood switch				
A2	(E24)	B/8	: Front combination lamp RH				
B3	(E25)	GY/6	: Daytime light control unit (For Canada)				
B2	(E26)	GY/8	: Daytime light control unit (For Canada)				
A4	(E27)	GY/2	: Front wheel sensor RH				
A3	(E28)	GY/2	: Front side marker lamp RH				
A3	(E29)	GY/2	: Front washer motor				
A4	(E30)	BR/2	: Washer level sensor				
B3	(E31)	B/3	: Refrigerant pressure sensor				
B3	(E32)	B/1	: Horn (Low)				
B3	(E33)	B/1	: Horn (Low)				
B3	(E34)	B/2	: Ambient sensor				
C3	(E35)	B/1	: Horn (High)				
B4	(E36)	B/1	: Horn (High)				
C3	(E37)	Y/2	: Crash zone sensor				
B4	(E39)	GY/4	: Cooling fan motor-1				
E4	(E40)	GY/2	: Front side marker lamp LH				
E3	(E41)	B/8	: Front combination lamp LH				

★ : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNESS

Passenger Compartment

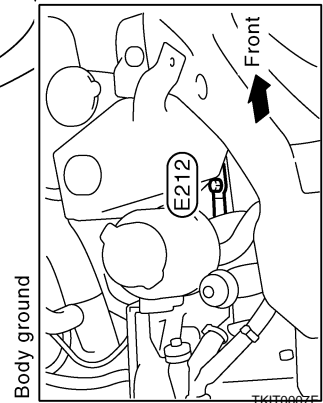
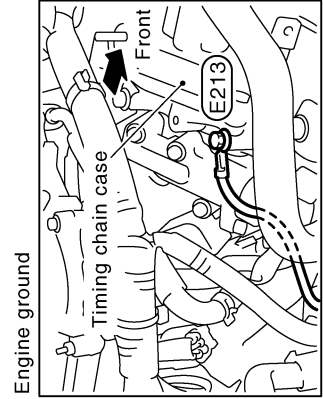
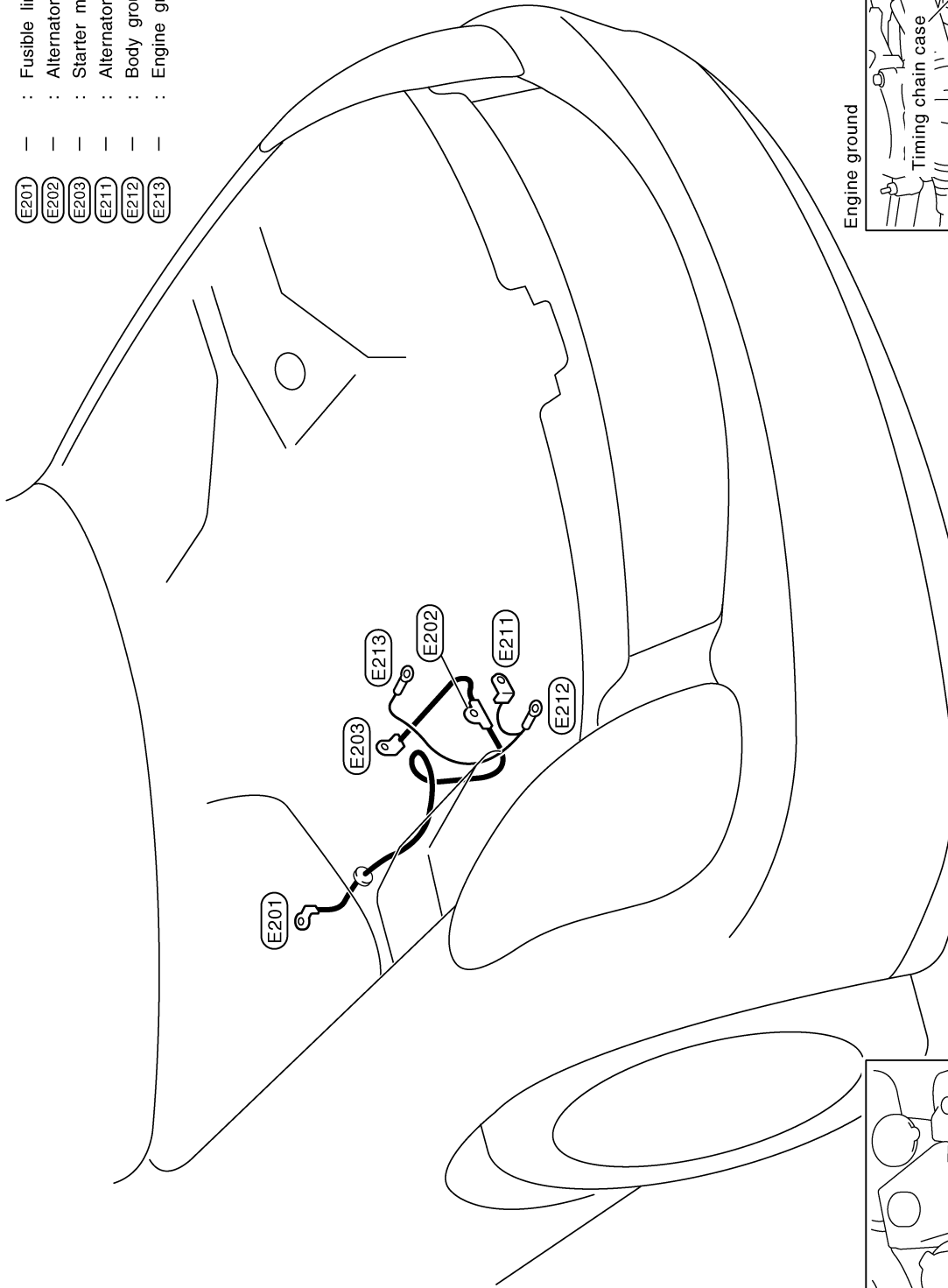


HARNESS

Battery Cable

- : Fusible link holder
- : Alternator (B)
- : Starter motor
- : Alternator (E)
- : Body ground
- : Engine ground

- (E201)
- (E202)
- (E203)
- (E211)
- (E212)
- (E213)

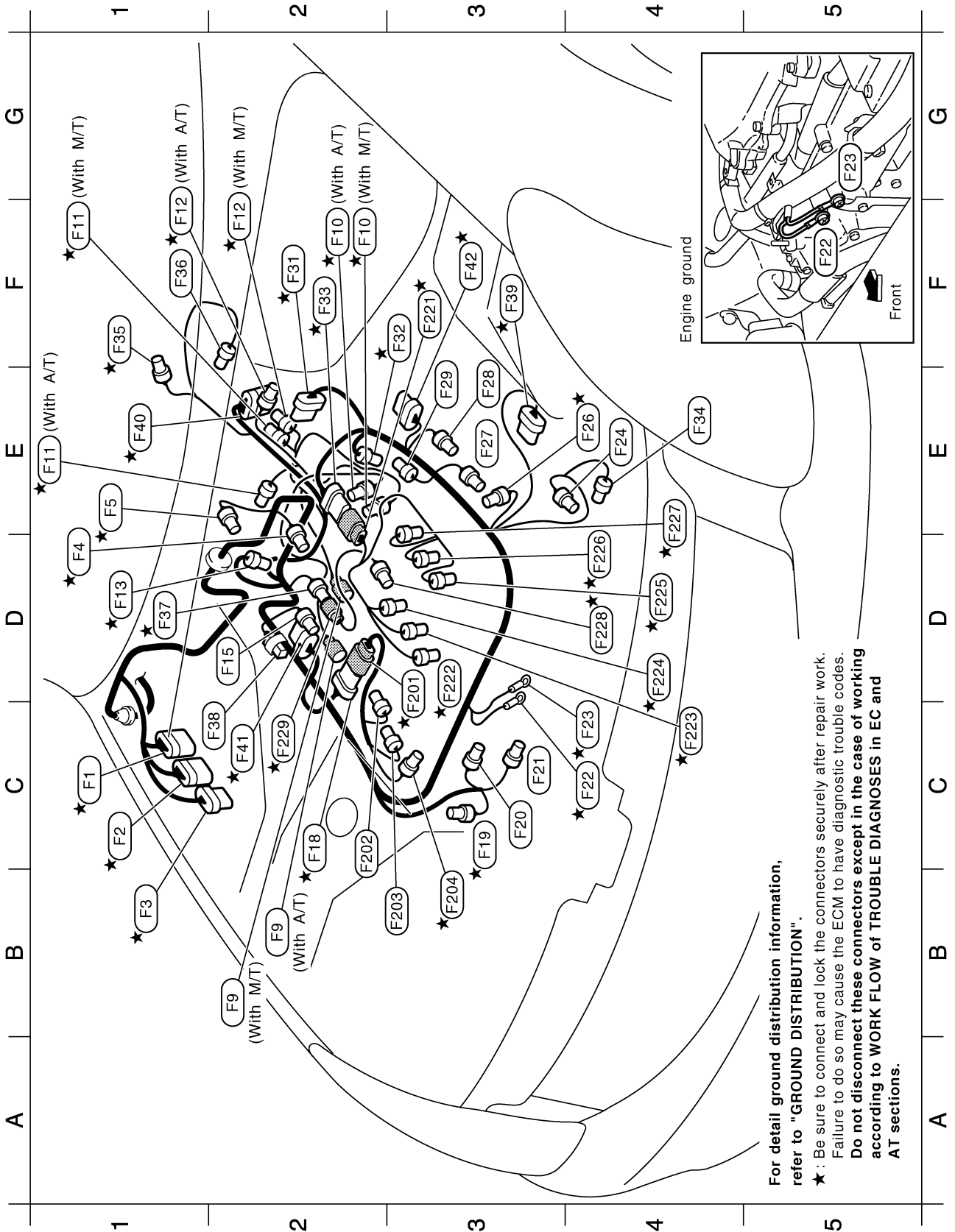


For detail ground distribution information, refer to "GROUND DISTRIBUTION".

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

HARNESS

ENGINE CONTROL HARNESS



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

- C1 ★ (F1) GY/9 : To (E10)
- C1 ★ (F2) GY/10 : To (E11)
- B1 ★ (F3) B/8 : To (E12)
- D1 ★ (F4) G/3 : Camshaft position sensor (PHASE) (Bank 1)
- E1 ★ (F5) GY/2 : EVAP canister purge volume control solenoid valve
- B2 (F9) GY/1 : Starter motor
- F2 ★ (F10) B/3 : Crankshaft position sensor (POS)
- E1,F1 ★ (F11) B/4 : Heated oxygen sensor 2 (Bank 1)
- F1,F2 ★ (F12) GY/4 : Heated oxygen sensor 2 (Bank 2)
- D1 ★ (F13) GY/2 : Engine coolant temperature sensor
- D2 (F15) GY/3 : Ignition coil No. 5 (With power transistor)
- C2 ★ (F18) B/6 : To (F201)
- C3 ★ (F19) B/3 : Power steering pressure sensor
- C3 (F20) GY/2 : Alternator (S, L)
- C3 (F21) GY/1 : Oil pressure switch
- C4 ★ (F22) — : Engine ground (With A/T)
- C4 ★ (F23) — : Engine ground
- E4 (F24) B/1 : Compressor
- E4 ★ (F26) GY/2 : Intake valve timing control solenoid valve (Bank 2)
- E3 (F27) GY/3 : Ignition coil No. 2 (With power transistor)
- E3 (F28) GY/3 : Ignition coil No. 4 (With power transistor)
- E3 (F29) GY/3 : Ignition coil No. 6 (With power transistor)
- F2 ★ (F31) GY/6 : Electric throttle control actuator
- F3 ★ (F32) B/3 : Camshaft position sensor (PHASE) (Bank 2)
- F2 ★ (F33) GY/8 : To (F221)
- E4 (F34) B/2 : Compressor
- F1 ★ (F35) B/2 : Park/Neutral position switch (With M/T)

- F1 (F36) B/2 : Back-up lamp switch (With M/T)
- D1 ★ (F37) B/2 : To (F229)
- C2 (F38) W/2 : Condenser
- F3 ★ (F39) B/6 : Mass air flow sensor
- E1 ★ (F40) GY/10 : A/T assembly (With A/T)
- C2 ★ (F41) B/6 : Air fuel ratio (A/F) sensor 1 (Bank 1)
- F3 ★ (F42) B/6 : Air fuel ratio (A/F) sensor 1 (Bank 2)

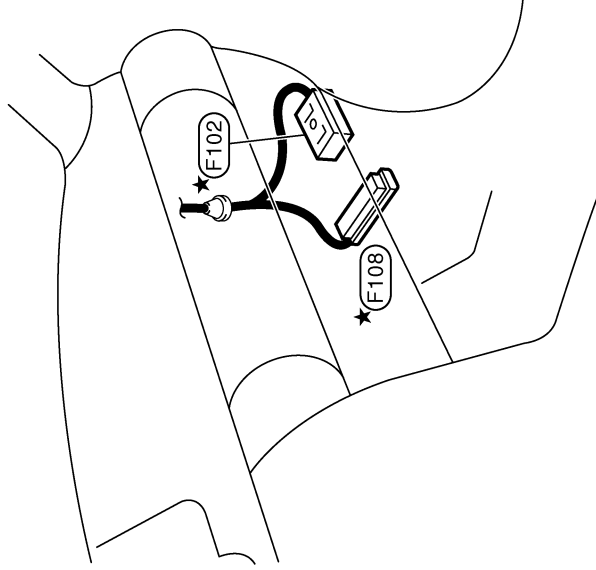
Engine control sub-harness-1

- D3 ★ (F201) L/6 : To (F18)
- C2 (F202) GY/3 : Ignition coil No. 3 (With power transistor)
- B3 (F203) GY/3 : Ignition coil No. 1 (With power transistor)
- B3 ★ (F204) G/2 : Intake valve timing control solenoid valve (Bank 1)

Engine control sub-harness-2

- F3 ★ (F221) G/8 : To (F33)
- D3 ★ (F222) GY/2 : Injector No. 1
- C4 ★ (F223) GY/2 : Injector No. 3
- D4 ★ (F224) GY/2 : Injector No. 5
- D4 ★ (F225) GY/2 : Injector No. 2
- D4 ★ (F226) GY/2 : Injector No. 4
- E4 ★ (F227) GY/2 : Injector No. 6
- D4 ★ (F228) L/2 : Knock sensor
- C2 ★ (F229) SB/2 : To (F37)

Passenger compartment



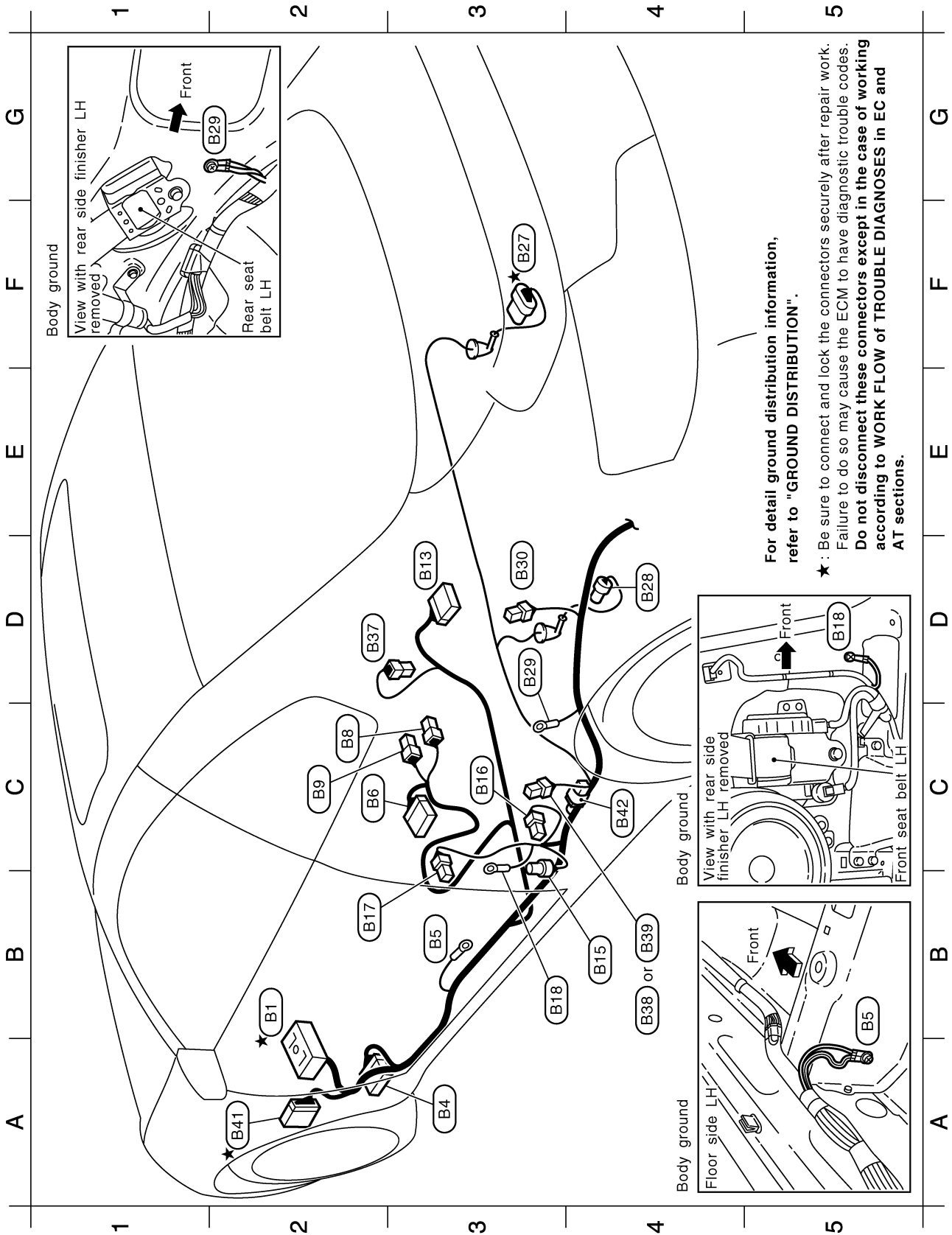
- ★ (F102) SMJ : To (M72)
- ★ (F108) SMJ : ECM

★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNESS

BODY HARNESS

Passenger Compartment



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

B2	★	(B1)	SMJ	:	To (M12)
A3		(B4)	W/15	:	BCM (Body control module)
B3		(B5)	—	:	Body ground
C2		(B6)	W/12	:	Front power seat (Driver side)
C2		(B8)	W/3	:	Seat belt buckle switch (Driver side)
C2		(B9)	Y/2	:	Front LH side air bag module
D3		(B13)	Y/12	:	Air bag diagnosis sensor unit
B4		(B15)	Y/2	:	LH side air bag (satellite) sensor
C3		(B16)	Y/2	:	Front LH seat belt pre-tensioner
B2		(B17)	W/3	:	Driver side door switch
B3		(B18)	—	:	Body ground
F3	★	(B27)	GY/5	:	Fuel level sensor unit and fuel pump
D4		(B28)	GY/2	:	Fuel level sensor unit (Sub)
D3		(B29)	—	:	Body ground
D3		(B30)	Y/2	:	LH side curtain air bag module
D2		(B37)	B/1	:	Parking brake switch (With M/T)
B4		(B38)	W/2	:	Rear speaker LH (Without BOSE system)
B4		(B39)	BR/2	:	Rear speaker LH (With BOSE system)
A2	★	(B41)	W/12	:	To (E123)
C4		(B42)	W/2	:	Condenser

★ : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

A

B

C

D

E

F

G

H

I

J

PG

L

M

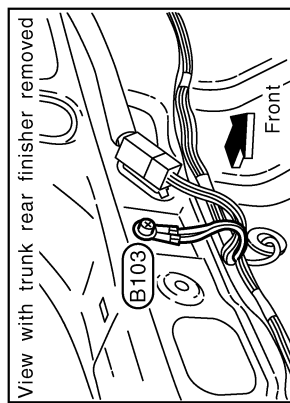
Trunk Room

- (B103) — : Body ground
- (B113) SB/4 : Rear wheel sensor
- (B116) BR/2 : High-mounted stop lamp (On the rear parcel shelf)
- (B117) W/2 : Trunk room lamp
- (B120) W/2 : Woofer LH (With BOSE system)
- (B121) W/2 : Woofer RH (With BOSE system)
- (B122) B/24 : BOSE speaker amp. (With BOSE system)
- (B123) GY/8 : BOSE speaker amp. (With BOSE system)
- (B124) W/16 : Option connector (For satellite radio receiver)
- (B125) W/6 : Rear combination lamp LH
- (B126) GY/2 : To (B151)
- (B127) W/6 : Rear combination lamp RH
- (B128) GY/3 : EVAP control system pressure sensor
- (B129) B/2 : EVAP canister vent control valve

License plate sub-harness

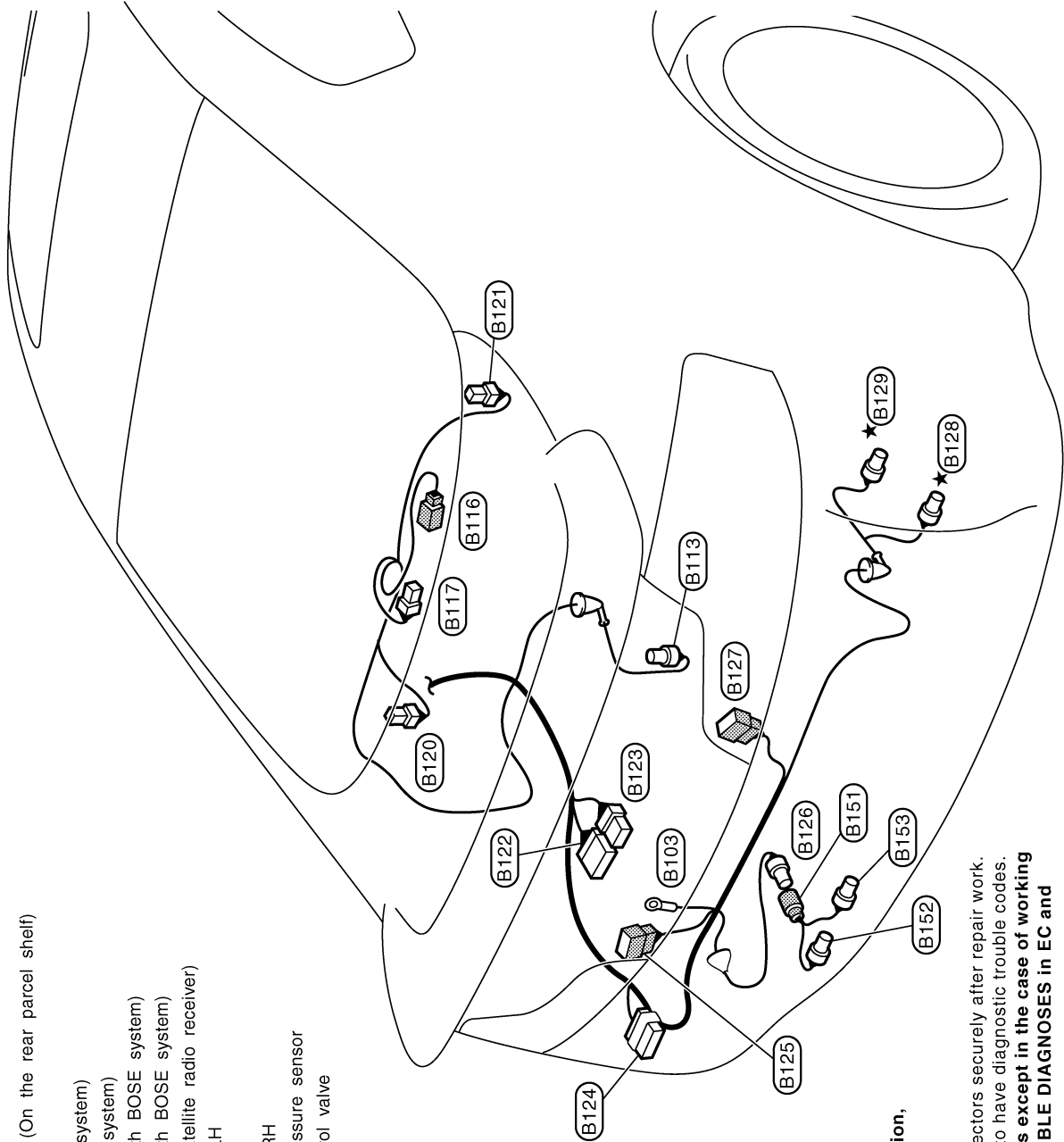
- (B151) GY/2 : To (B126)
- (B152) BR/2 : License plate lamp LH
- (B153) BR/2 : License plate lamp RH

Body ground



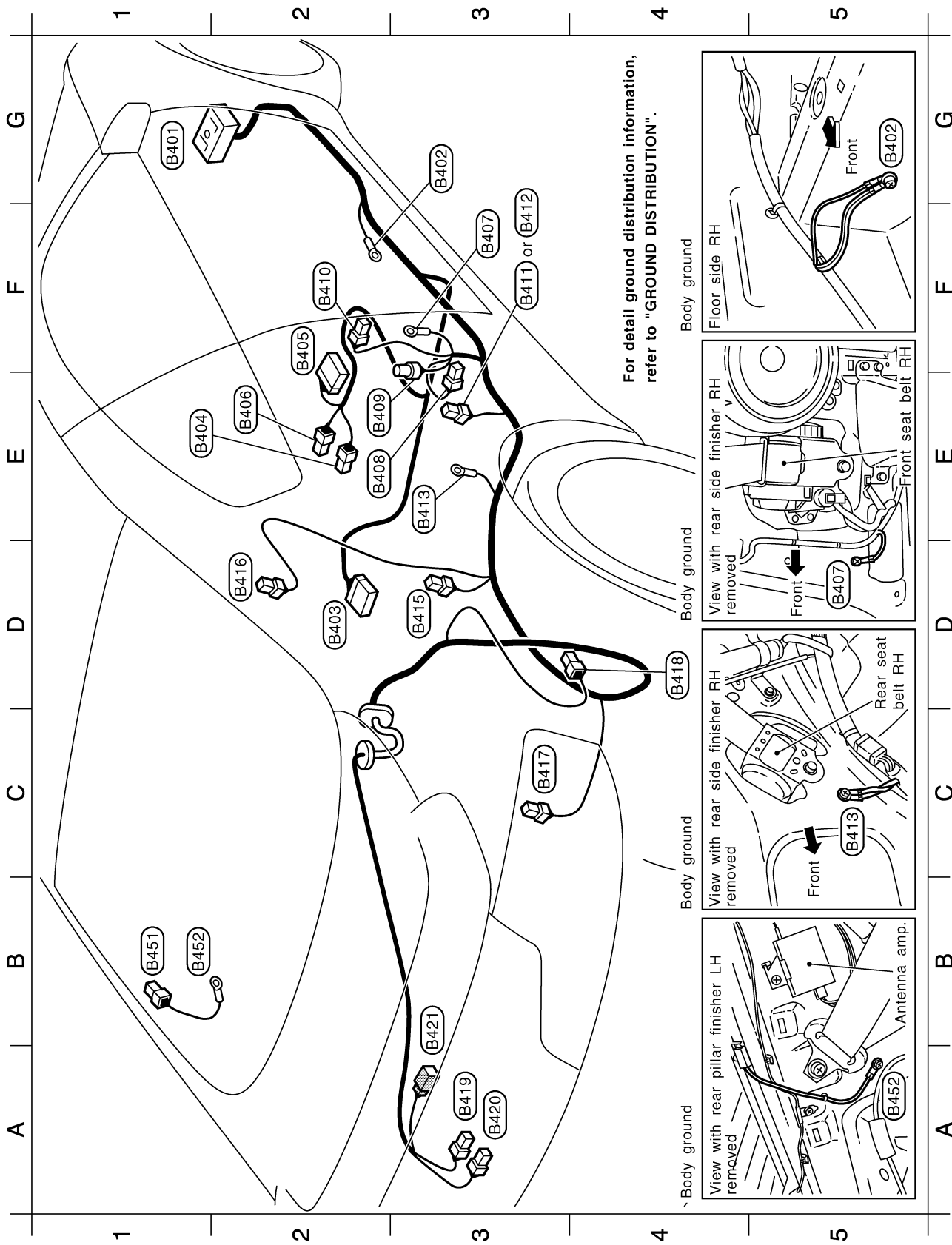
For detail ground distribution information, refer to "GROUND DISTRIBUTION".

- ★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



HARNESS

BODY NO.2 HARNESS



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

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

		Body sub-harness	
		B1	B/1 : Rear window defogger (-)
		B1	— : Body ground
			(E451) (E452)
G1	(E401) SMJ	:	To (M87)
G3	(E402) —	:	Body ground
D2	(E403) Y/12	:	Air bag diagnosis sensor unit
E1	(E404) Y/2	:	Front RH side air bag module
F2	(E405) W/12	:	Front power seat (Passenger side)
E2	(E406) W/3	:	Seat belt buckle switch (Passenger side)
F3	(E407) —	:	Body ground
E2	(E408) Y/2	:	Front RH seat belt pretensioner
E2	(E409) Y/2	:	RH side air bag (satellite) sensor
F2	(E410) W/3	:	Passenger side door switch
F3	(E411) W/2	:	Rear speaker RH (Without BOSE system)
F3	(E412) BR/2	:	Rear speaker RH (With BOSE system)
E3	(E413) —	:	Body ground
D3	(E415) Y/2	:	RH side curtain air bag module
D2	(E416) W/1	:	Condenser
C3	(E417) BR/6	:	Rear window defogger relay
D4	(E418) W/4	:	Fuel lid lock actuator
A3	(E419) B/2	:	Trunk lid opener actuator
A3	(E420) W/2	:	Trunk room lamp switch
B3	(E421) BR/2	:	High-mounted stop lamp (In the rear spoiler)

HARNESS

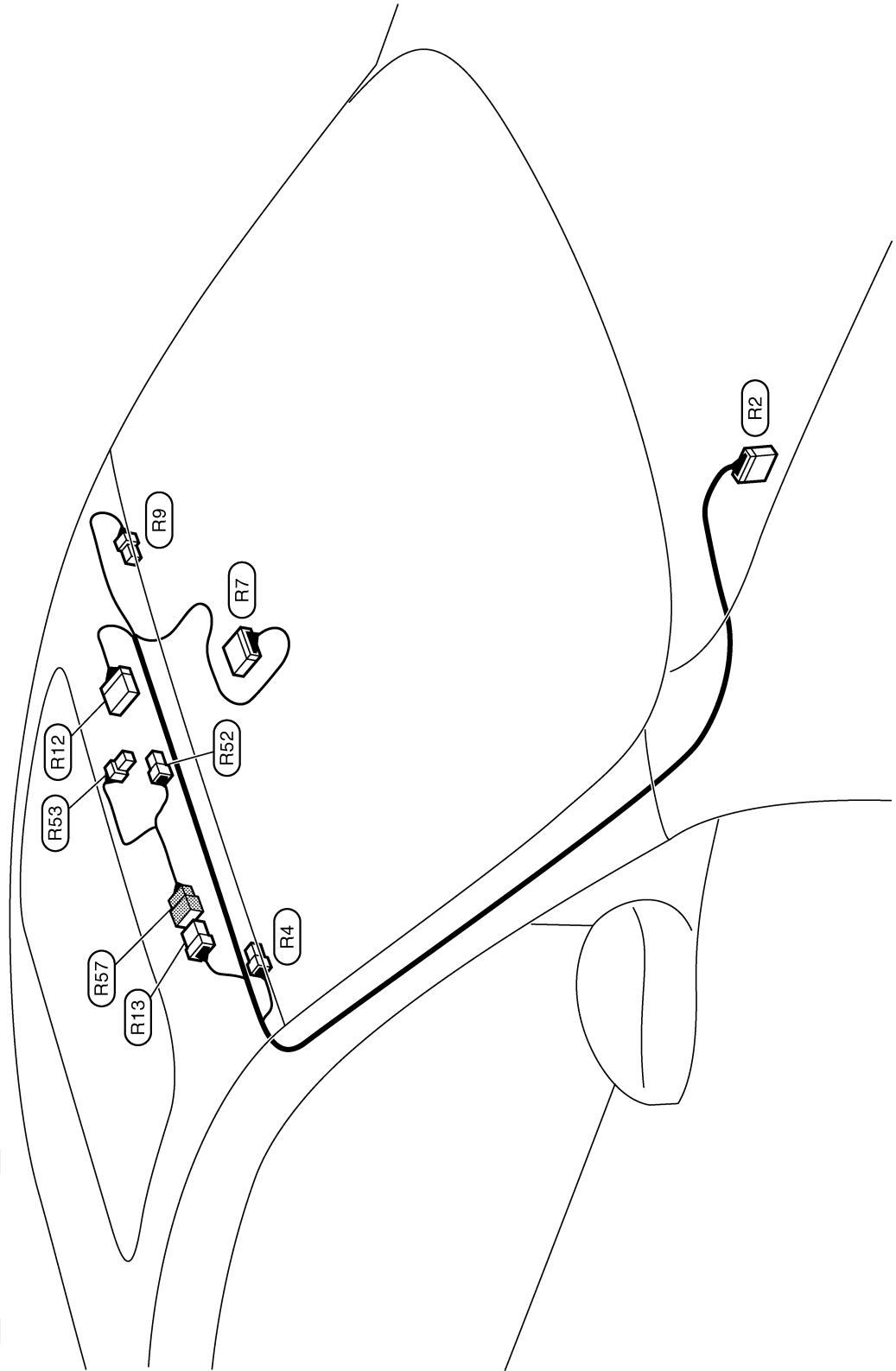
ROOM LAMP HARNESS

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

Room lamp sub-harness

- (R52) W/3 : Map lamp
- (R53) W/3 : Sunroof switch (With sunroof)
- (R57) W/6 : To (R13)

- (R2) W/18 : To (M70)
- (R4) W/2 : Vanity mirror lamp (Passenger side)
- (R7) B/10 : Auto anti-dazzling inside mirror
- (R9) W/2 : Vanity mirror lamp (Driver side)
- (R12) GY/10 : Sunroof motor assembly (With sunroof)
- (R13) W/6 : To (R57)



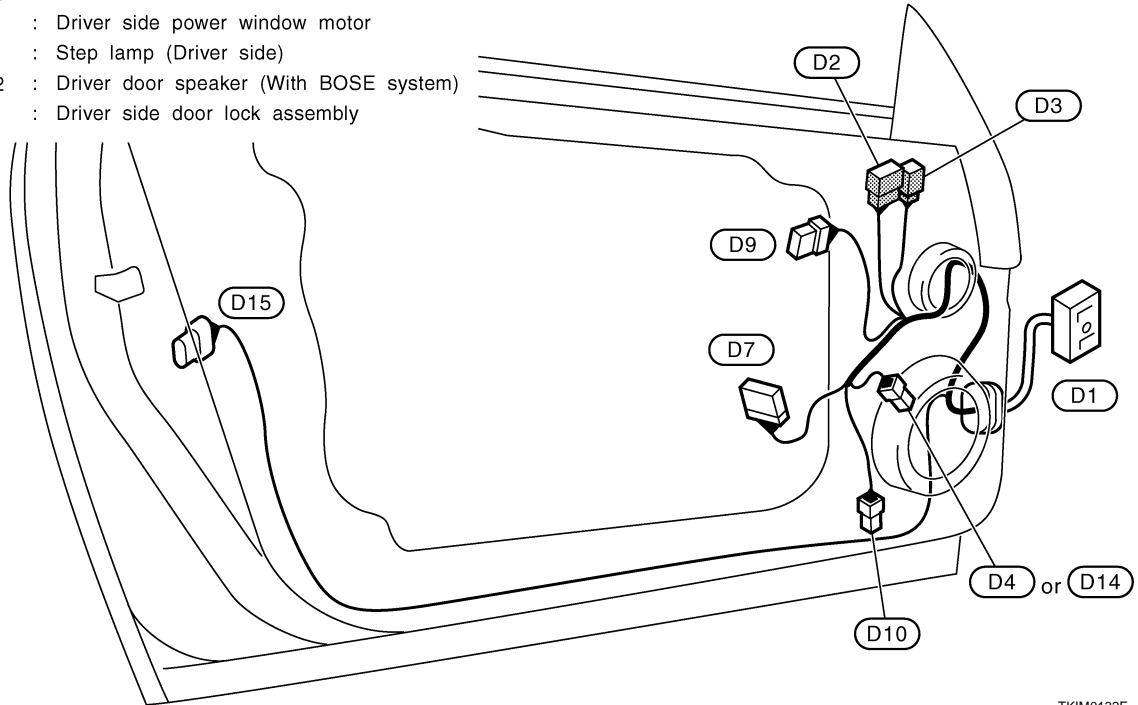
TKIT0015E

HARNESS

DOOR HARNESS

Driver Side Door

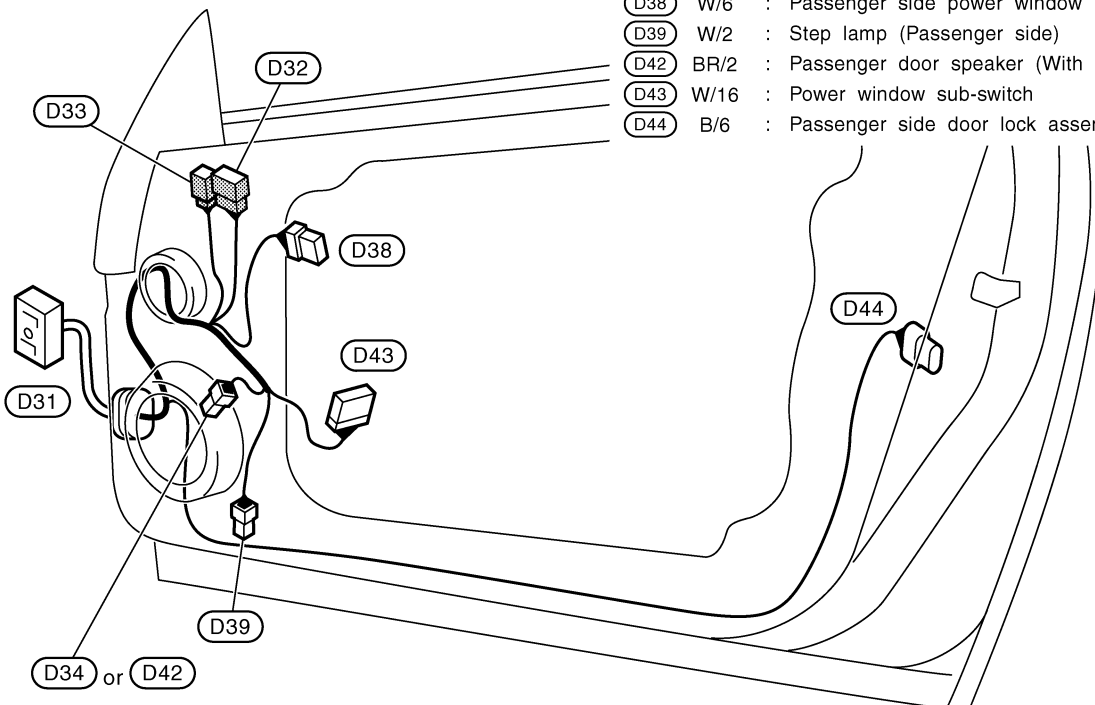
- (D1) SMJ : To (M11)
- (D2) W/8 : Door mirror (Driver side)
- (D3) BR/2 : Tweeter (Driver side)
- (D4) W/2 : Driver door speaker (Without BOSE system)
- (D7) W/16 : Power window main switch
- (D9) W/6 : Driver side power window motor
- (D10) W/2 : Step lamp (Driver side)
- (D14) BR/2 : Driver door speaker (With BOSE system)
- (D15) B/6 : Driver side door lock assembly



TKIM0132E

Passenger Side Door

- (D31) SMJ : To (M74)
- (D32) W/8 : Door mirror (Passenger side)
- (D33) BR/2 : Tweeter (Passenger side)
- (D34) W/2 : Passenger door speaker (Without BOSE system)
- (D38) W/6 : Passenger side power window motor
- (D39) W/2 : Step lamp (Passenger side)
- (D42) BR/2 : Passenger door speaker (With BOSE system)
- (D43) W/16 : Power window sub-switch
- (D44) B/6 : Passenger side door lock assembly



TKIM0133E

HARNESS

Wiring Diagram Codes (Cell Codes)

AKS003/C

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
A/C	ATC	Air Conditioner
AF1B1	EC	Air Fuel Ratio Sensor 1 Bank 1
AF1B2	EC	Air Fuel Ratio Sensor 1 Bank 2
AF1HB1	EC	Air Fuel Ratio Sensor 1 Heater Bank 1
AF1HB2	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	Automatic Speed Control Device (ASCD) Brake Switch
ASC/SW	EC	Automatic Speed Control Device (ASCD) Steering Switch
ASCBOF	EC	Automatic Speed Control Device (ASCD) Brake Switch
ASCIND	EC	Automatic Speed Control Device (ASCD) Indicator
AT/IND	DI	A/T Indicator Lamp
AUDIO	AV	Audio
AUTO/L	LT	Automatic Light System
BACK/L	LT	Back-Up Lamp
BRK/SW	EC	Brake Switch
CAN	AT	CAN Communication Line
CAN	EC	CAN Communication Line
CAN	LAN	CAN System
CHARGE	SC	Charging System
CHIME	DI	Warning Chime
CIGAR	WW	Cigarette Lighter
CLOCK	DI	Clock
COMBSW	LT	Combination Switch
COMM	AV	Audio Visual Communication Line
COMPAS	DI	Compass and Thermometer
COOL/F	EC	Cooling Fan Control
DEF	GW	Rear Window Defogger
D/LOCK	BL	Power Door Lock
DTRL	LT	Headlamp - With Daytime Light System
ECM/PW	EC	ECM Power Supply for Back-Up
ECTS	EC	Engine Coolant Temperature Sensor
ETC1	EC	Electric Throttle Control Function
ETC2	EC	Electric Throttle Control Motor Relay
ETC3	EC	Electric Throttle Control Motor
F/FOG	LT	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FTS	AT	A/T Fluid Temperature Sensor Circuit
FTTS	EC	Fuel Tank Temperature Sensor
FUELB1	EC	Fuel Injection System Function (Bank 1)

HARNESSES

Code	Section	Wiring Diagram Name
FUELB2	EC	Fuel Injection System Function (Bank 2)
H/LAMP	LT	Headlamp
HORN	WW	Horn
HSEAT	SE	Heated Seat
IATS	EC	Intake Air Temperature Sensor
IGNSYS	EC	Ignition System
ILL	LT	Illumination
I/MIRR	GW	Inside Mirror (Auto Anti-Dazzling Mirror)
INJECT	EC	Injector
IVCB1	EC	Intake Valve Timing Control Solenoid Valve Bank 1
IVCB2	EC	Intake Valve Timing Control Solenoid Valve Bank 2
KEYLES	BL	Remote Keyless Entry System
KS	EC	Knock Sensor
MAFS	EC	Mass Air Flow Sensor
MAIN	AT	Main Power Supply and Ground Circuit
MAIN	EC	Main Power Supply and Ground Circuit
METER	DI	Speedometer, Tachometer, Temp. and Fuel Gauges
MIL/DL	EC	MIL & Data Link Connector
MIRROR	GW	Power Door Mirror
MMSW	AT	Manual Mode Switch
NATS	BL	Nissan Anti-Theft System
NAVI	AV	Navigation System
NONDTC	AT	Non-Detective Items
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
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHSB1	EC	Camshaft Position Sensor (PHASE) (Bank 1)
PHSB2	EC	Camshaft Position Sensor (PHASE) (Bank 2)
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (CKPS) (POS)
POWER	PG	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
P/SCKT	WW	Power Socket
PS/SEN	EC	Power Steering Pressure Sensor
ROOM/L	LT	Interior Room Lamp
RP/SEN	EC	Refrigerant Pressure Sensor
SEAT	SE	Power Seat
SEN/PW	EC	Sensor Power Supply
SHIFT	AT	A/T Shift Lock System
SROOF	RF	Sunroof
SRS	SRS	Supplemental Restraint System

HARNESS

Code	Section	Wiring Diagram Name
START	SC	Starting System
STOP/L	LT	Stop Lamp
STSIG	AT	Start Signal Circuit
TAIL/L	LT	Parking, License and Tail Lamps
TLID	BL	Trunk Lid Opener
TPS1	EC	Throttle Position Sensor (Sensor 1)
TPS2	EC	Throttle Position Sensor (Sensor 2)
TPS3	EC	Throttle Position Sensor
TRNSCV	BL	Homelink Universal Transceiver
TURN	LT	Turn Signal and Hazard Warning Lamp
T/WARN	WT	Low Tire Pressure Warning System
VDC	BRC	Vehicle Dynamics Control System
VEHSEC	BL	Vehicle Security System
VENT/V	EC	EVAP Canister Vent Control Valve
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
W/ANT	AV	Audio Antenna
WARN	DI	Warning Lamps
WINDOW	GW	Power Window
WIPER	WW	Front Wiper and Washer

A
B
C
D
E
F
G
H
I
J

PG

L
M

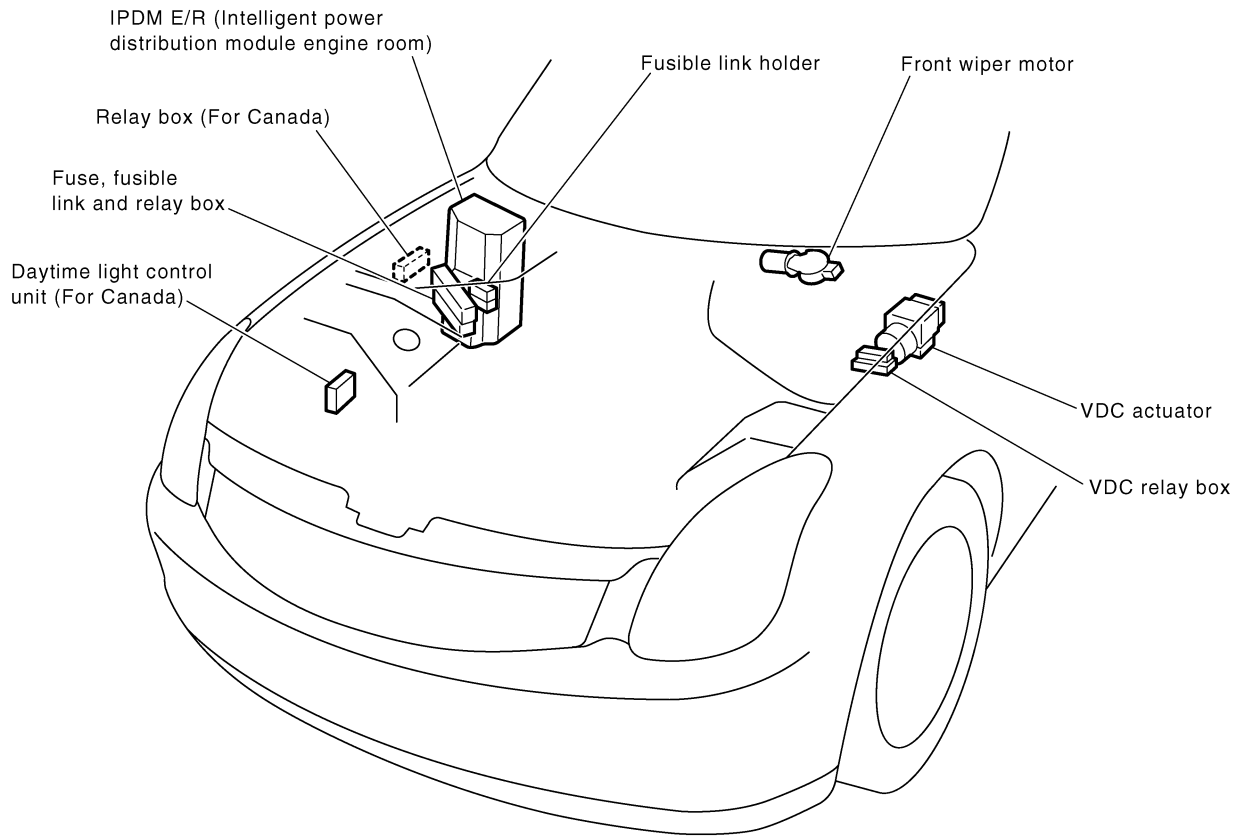
ELECTRICAL UNITS LOCATION

ELECTRICAL UNITS LOCATION

PFP:25230

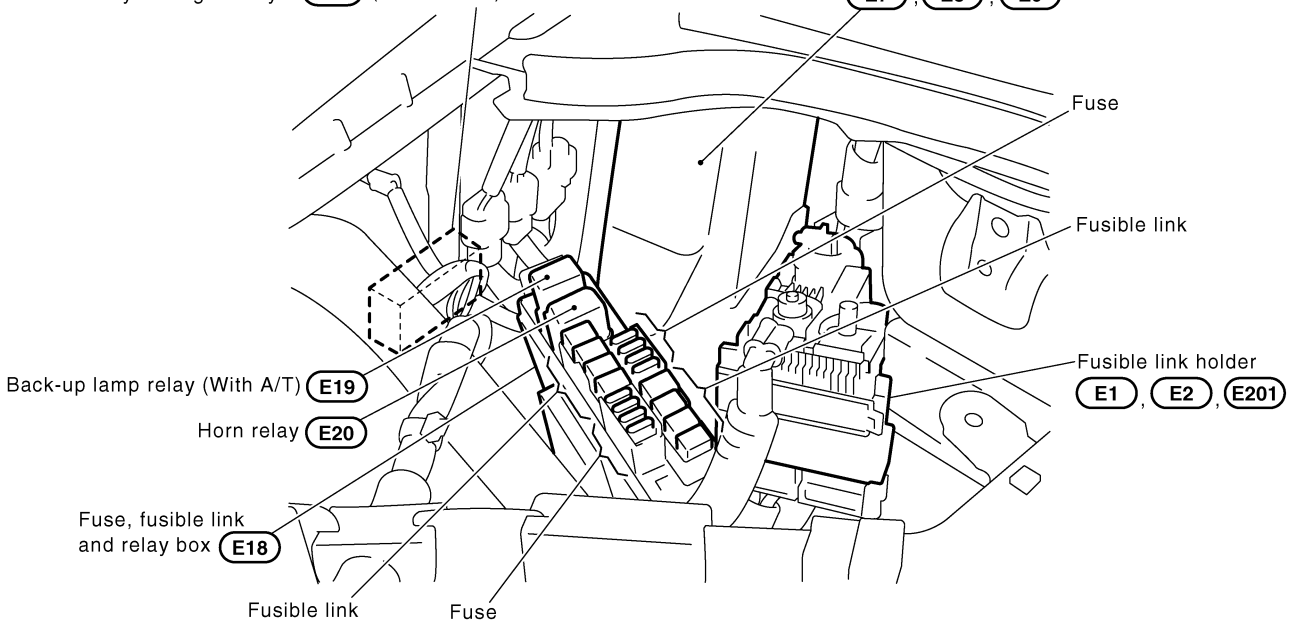
Electrical Units Location ENGINE COMPARTMENT

AKS0031D



- Relay box **(E13)** (For Canada)
- Built-in daytime light relay-1 **(E14)** (For Canada)
- Built-in daytime light relay-2 **(E16)** (For Canada)

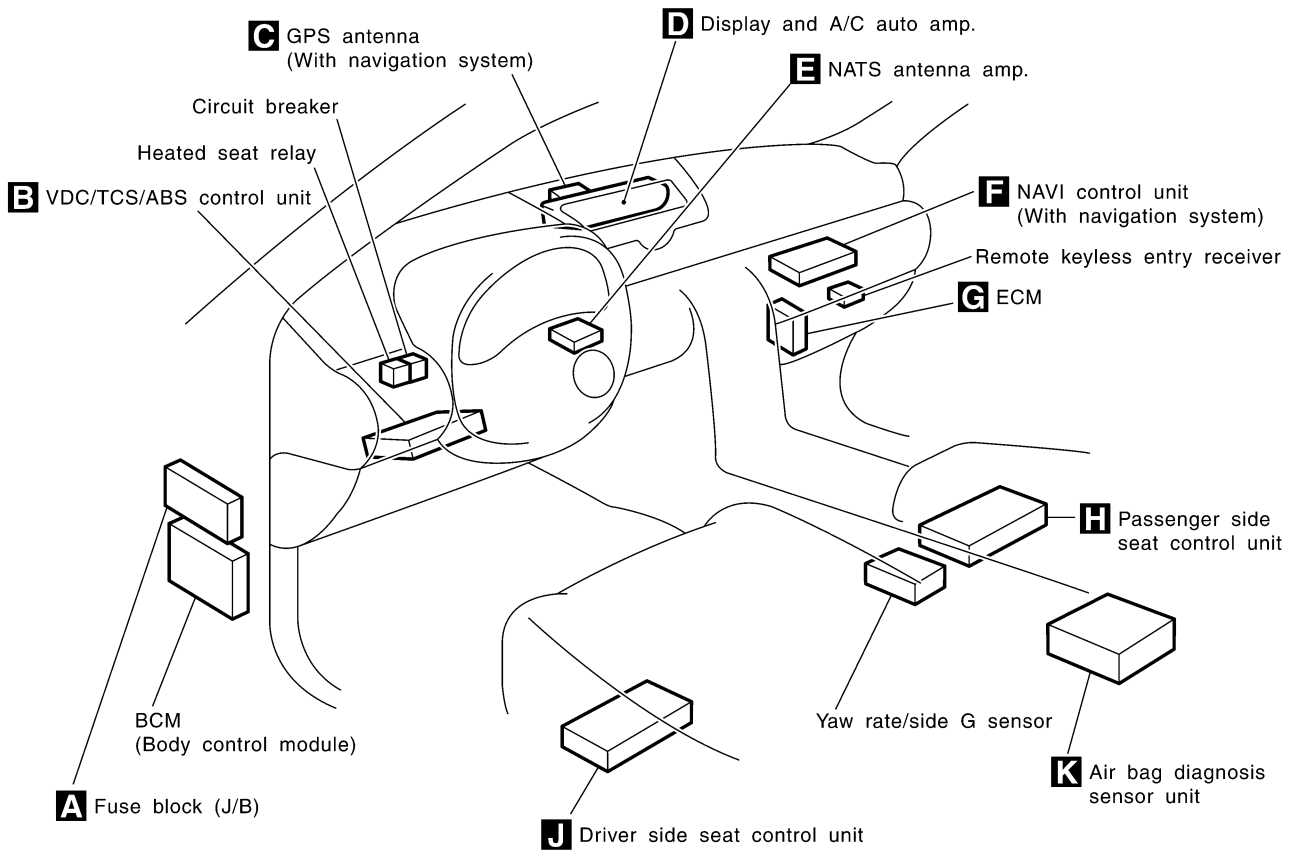
- IPDM E/R (Intelligent power distribution module engine room)
- (E3)**, **(E4)**, **(E5)**, **(E6)**, **(E7)**, **(E8)**, **(E9)**



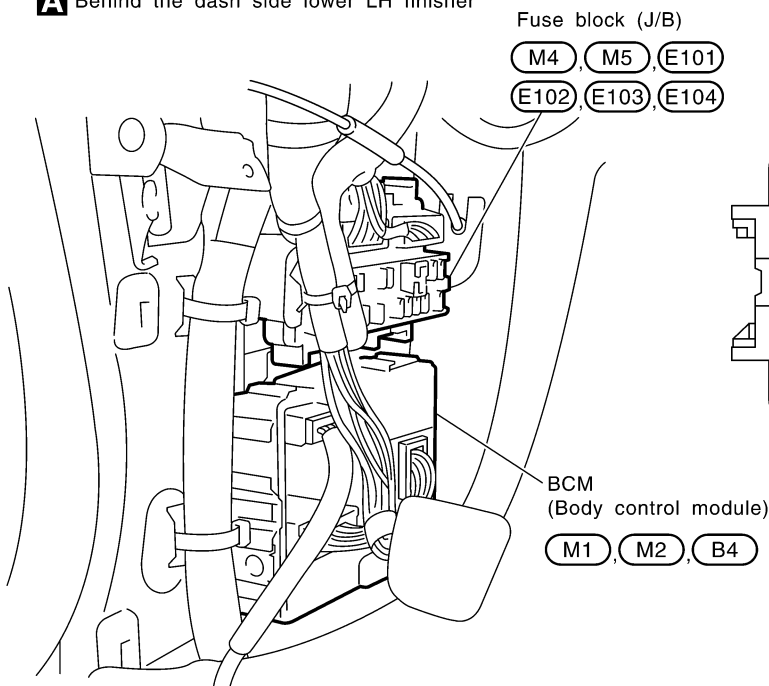
CKIT0237E

ELECTRICAL UNITS LOCATION

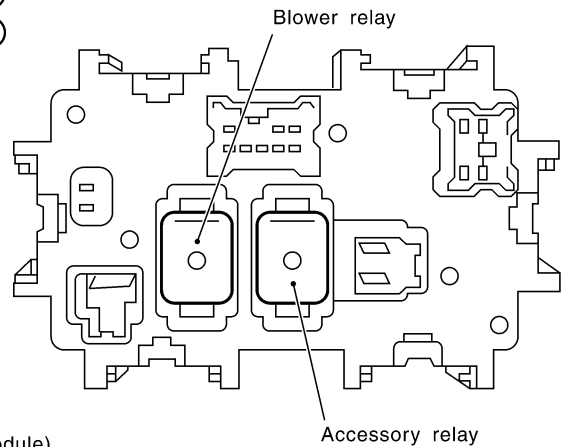
PASSENGER COMPARTMENT



A Behind the dash side lower LH finisher



Fuse block (J/B) rear view

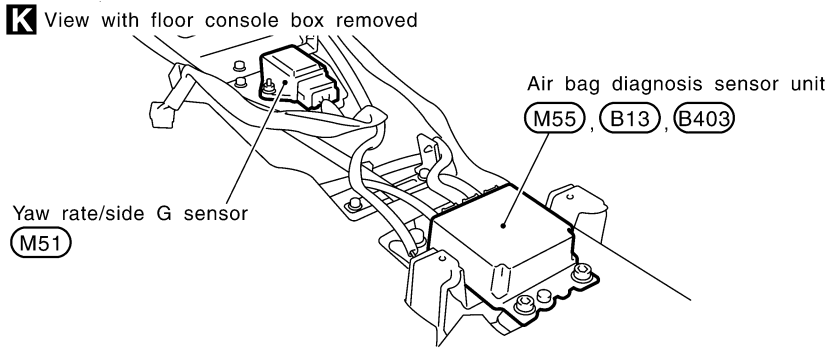
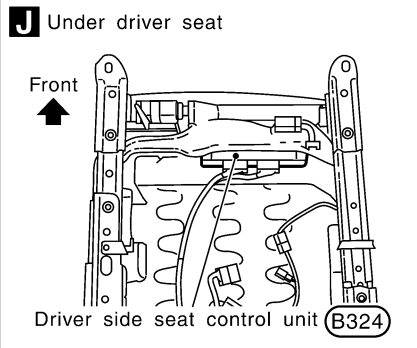
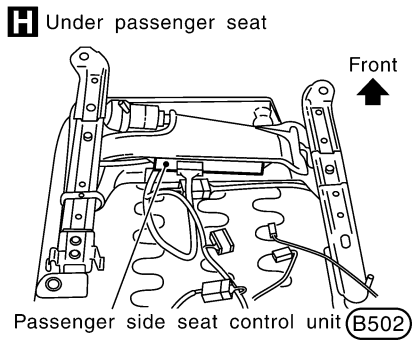
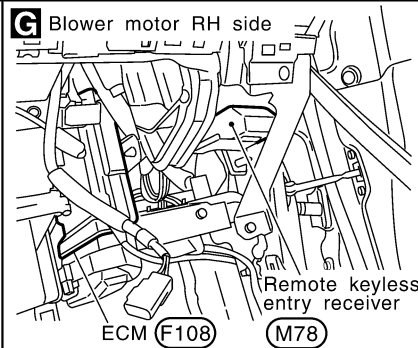
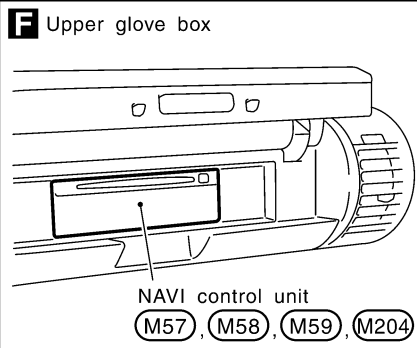
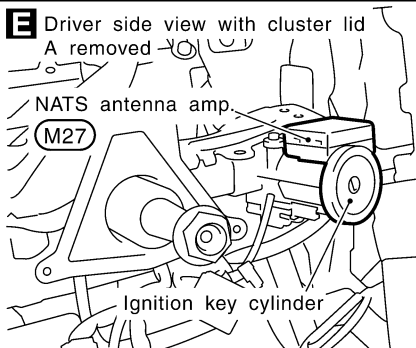
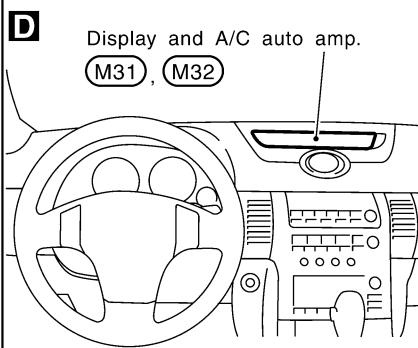
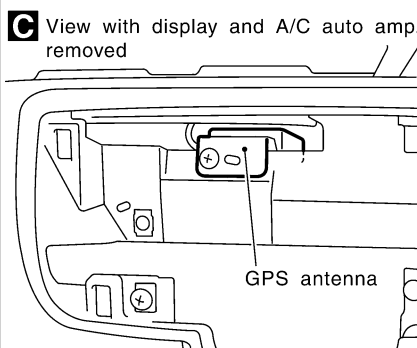
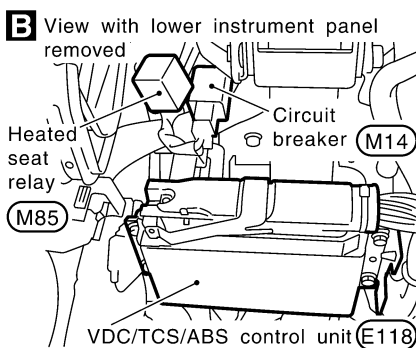


A
B
C
D
E
F
G
H
I
J

PG

L
M

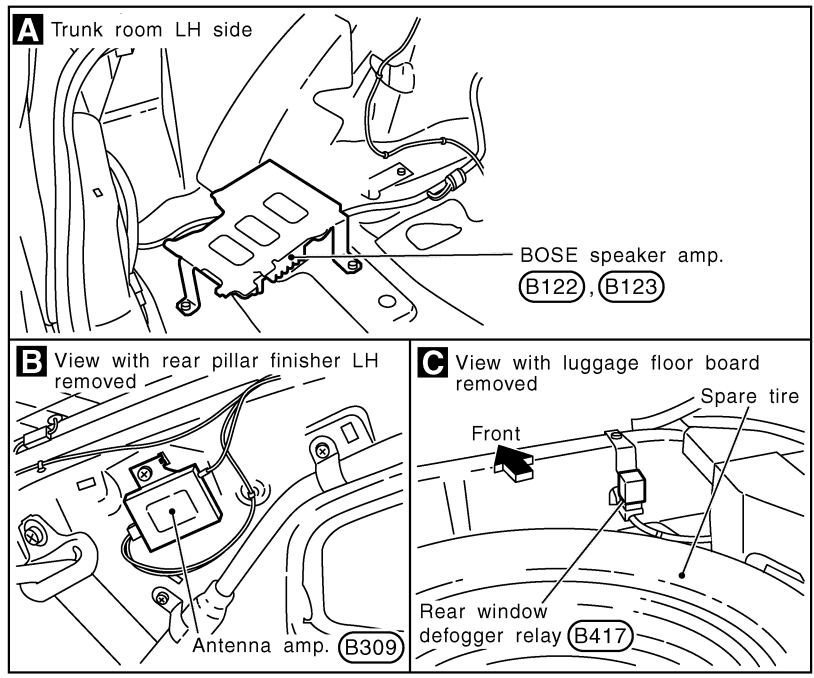
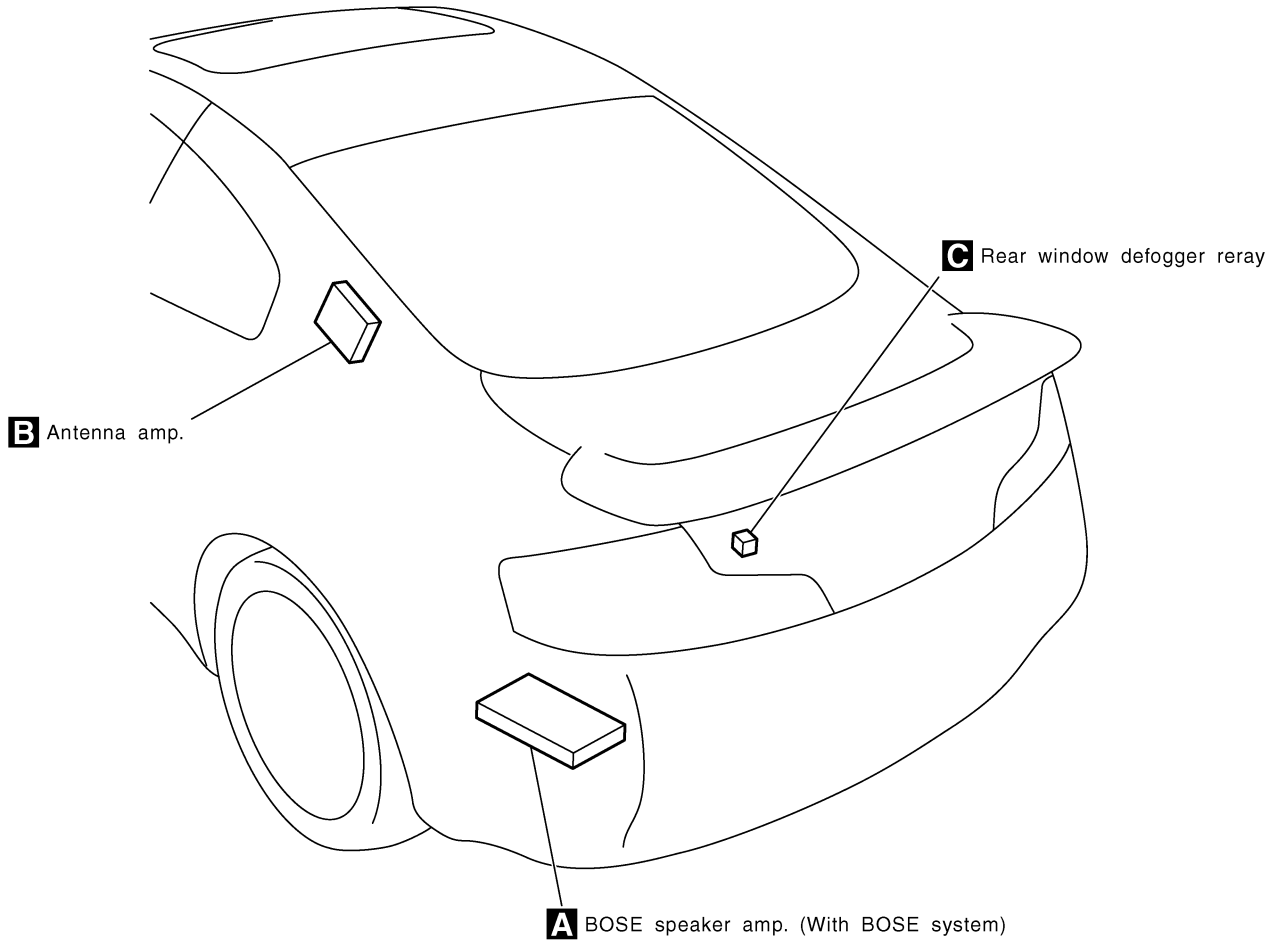
ELECTRICAL UNITS LOCATION



ELECTRICAL UNITS LOCATION

LUGGAGE COMPARTMENT

A
B
C
D
E
F
G
H
I
J



PG

L
M

CKIT0240E

HARNESS CONNECTOR

PFP:00011

AKS0031E

HARNESS CONNECTOR

Description

HARNESS CONNECTOR (TAB-LOCKING TYPE)

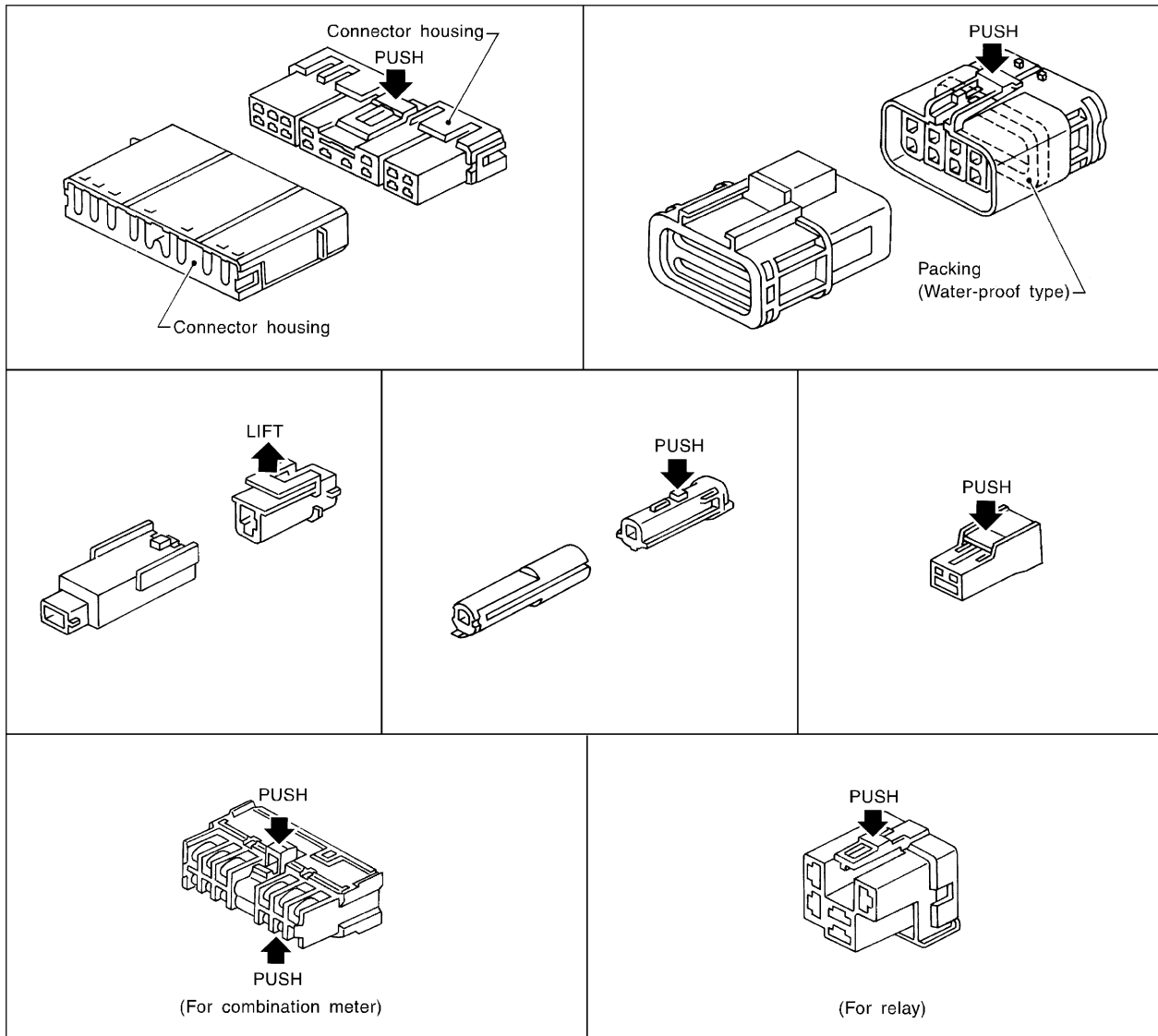
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

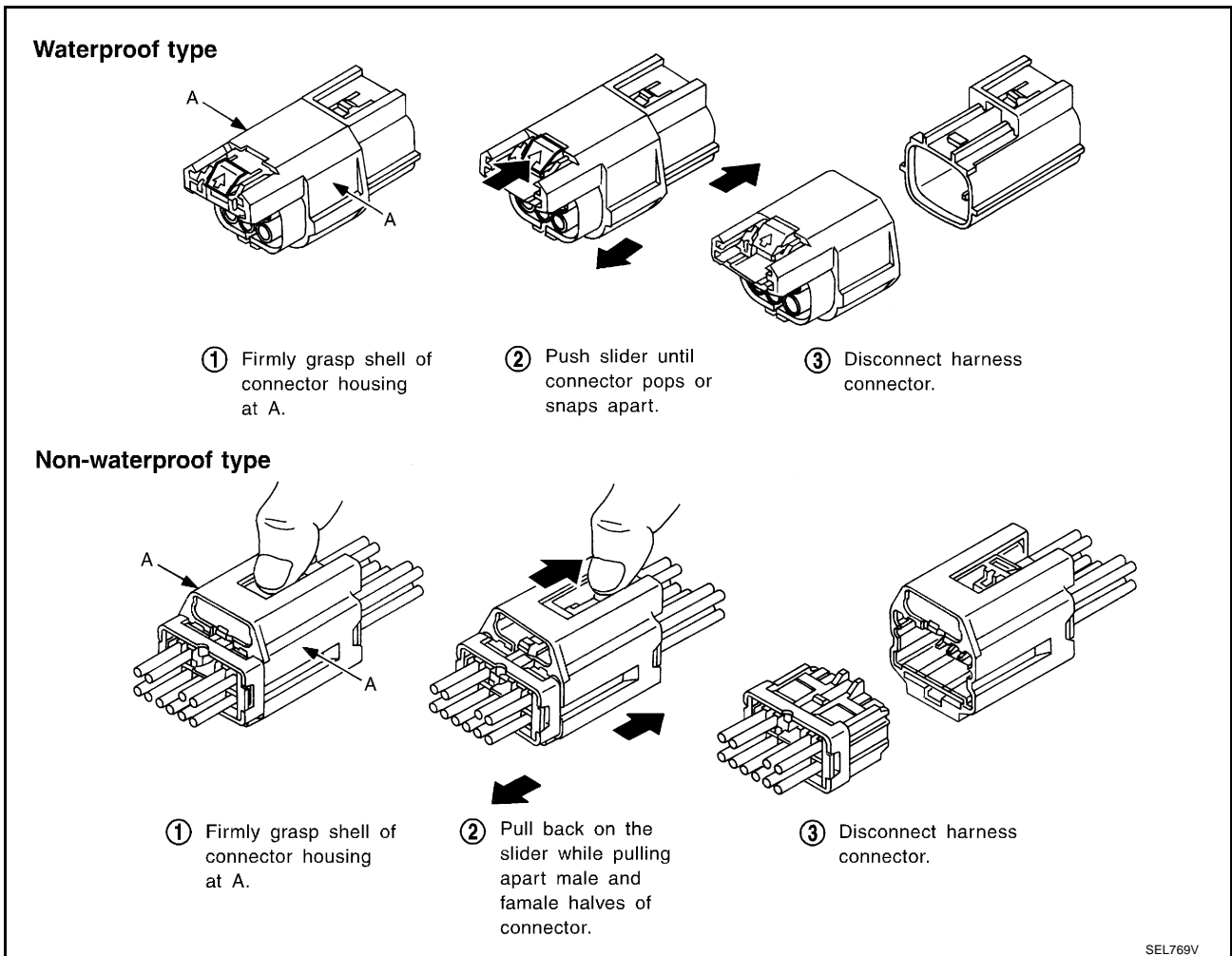
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the illustration below.

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]



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

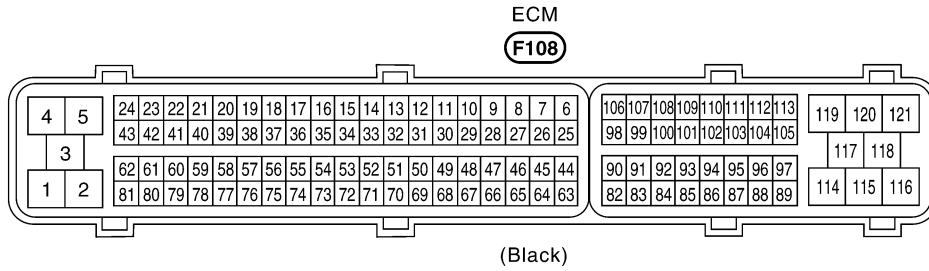
ELECTRICAL UNITS

ELECTRICAL UNITS

Terminal Arrangement

PFP:00011

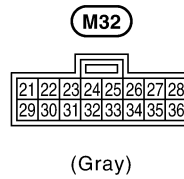
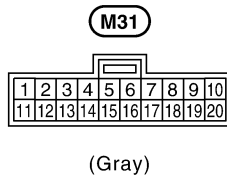
AKS003IG



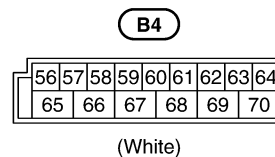
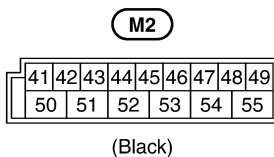
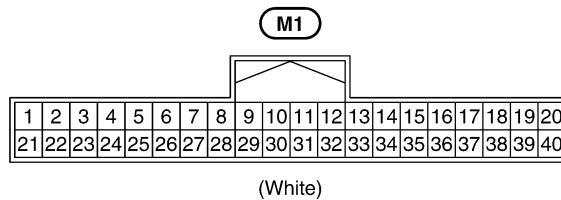
VDC/TCS/ABS CONTROL UNIT



DISPLAY AND A/C AUTO AMP.



BCM (BODY CONTROL MODULE)



CKIM0290E

SMJ (SUPER MULTIPLE JUNCTION)

SMJ (SUPER MULTIPLE JUNCTION)

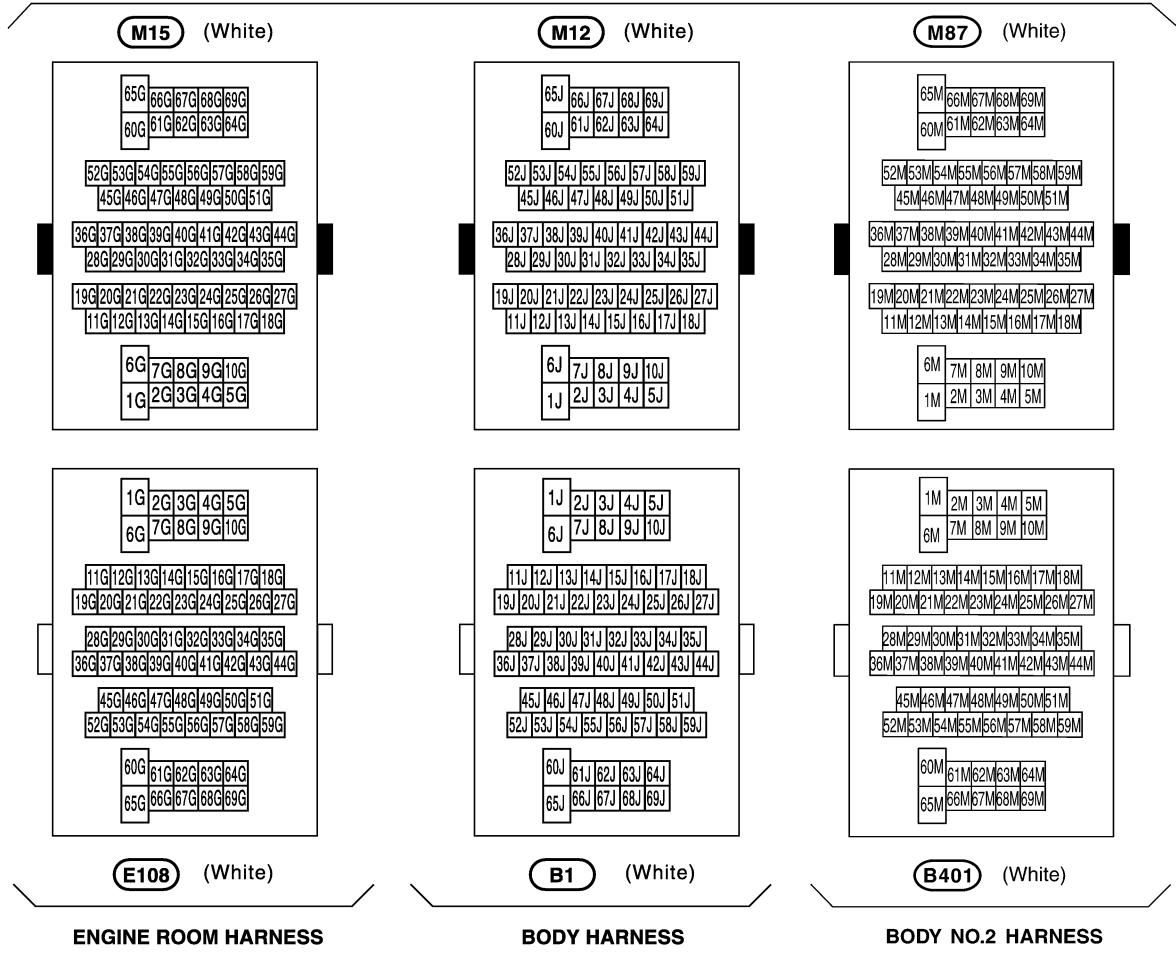
PPF:B4341

Terminal Arrangement

AKS003IH

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

MAIN HARNESS



SMJ (SUPER MULTIPLE JUNCTION)



MAIN HARNESS

M72 (White)

6H	7H	8H	9H	10H	21H	22H	23H	24H	25H	26H	27H	28H	29H	39H	40H	41H	42H	43H	44H	45H	46H		
1H	2H	3H	4H	5H	11H	12H	13H	14H	15H	16H	17H	18H	19H	20H	30H	31H	32H	33H	34H	35H	36H	37H	38H

1H	2H	3H	4H	5H	11H	12H	13H	14H	15H	16H	17H	18H	19H	20H	30H	31H	32H	33H	34H	35H	36H	37H	38H
6H	7H	8H	9H	10H	21H	22H	23H	24H	25H	26H	27H	28H	29H	39H	40H	41H	42H	43H	44H	45H	46H		

F102 (White)

ENGINE CONTROL HARNESS



MAIN HARNESS

M11 (White)

20K	21K	22K	23K	24K	25K	26K	27K	36K	37K	38K	39K		
11K	12K	13K	14K	15K	16K	17K	18K	19K	32K	33K	34K	35K	
1K	2K	3K	4K	5K	6K	7K	8K	9K	10K	28K	29K	30K	31K

M74 (White)

20L	21L	22L	23L	24L	25L	26L	27L	36L	37L	38L	39L		
11L	12L	13L	14L	15L	16L	17L	18L	19L	32L	33L	34L	35L	
1L	2L	3L	4L	5L	6L	7L	8L	9L	10L	28L	29L	30L	31L

D1 (White)

1K	2K	3K	4K	5K	6K	7K	8K	9K	10K	28K	29K	30K	31K
11K	12K	13K	14K	15K	16K	17K	18K	19K	32K	33K	34K	35K	
20K	21K	22K	23K	24K	25K	26K	27K	36K	37K	38K	39K		

D31 (White)

1L	2L	3L	4L	5L	6L	7L	8L	9L	10L	28L	29L	30L	31L
11L	12L	13L	14L	15L	16L	17L	18L	19L	32L	33L	34L	35L	
20L	21L	22L	23L	24L	25L	26L	27L	36L	37L	38L	39L		

FRONT DOOR HARNESS (DRIVER SIDE)

FRONT DOOR HARNESS (PASSENGER SIDE)

STANDARDIZED RELAY

PFP:00011

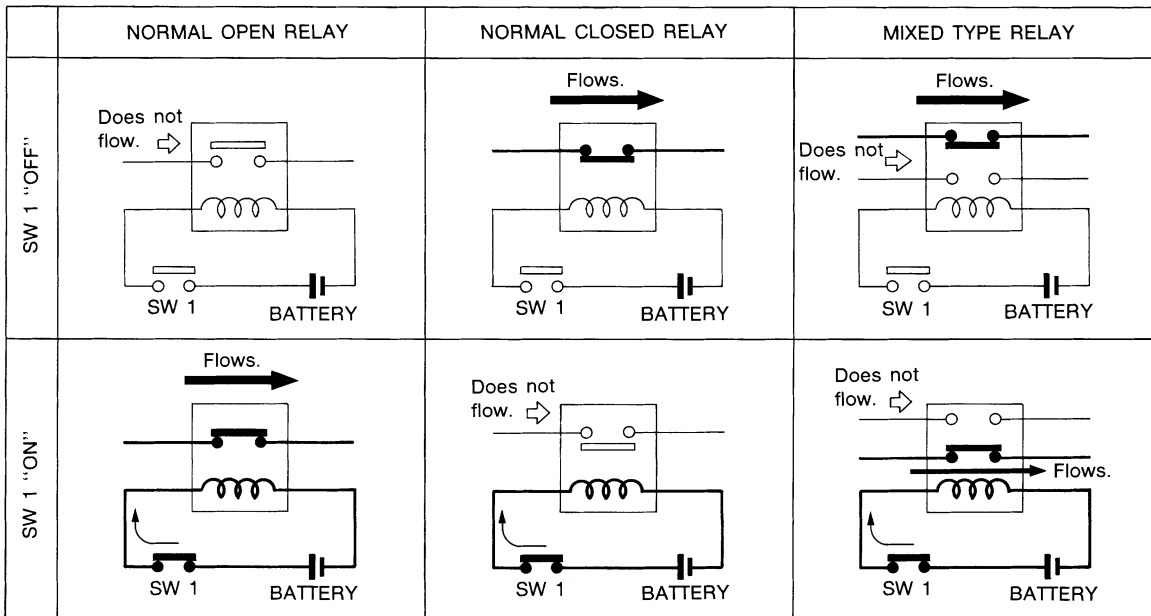
AKS003II

STANDARDIZED RELAY

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

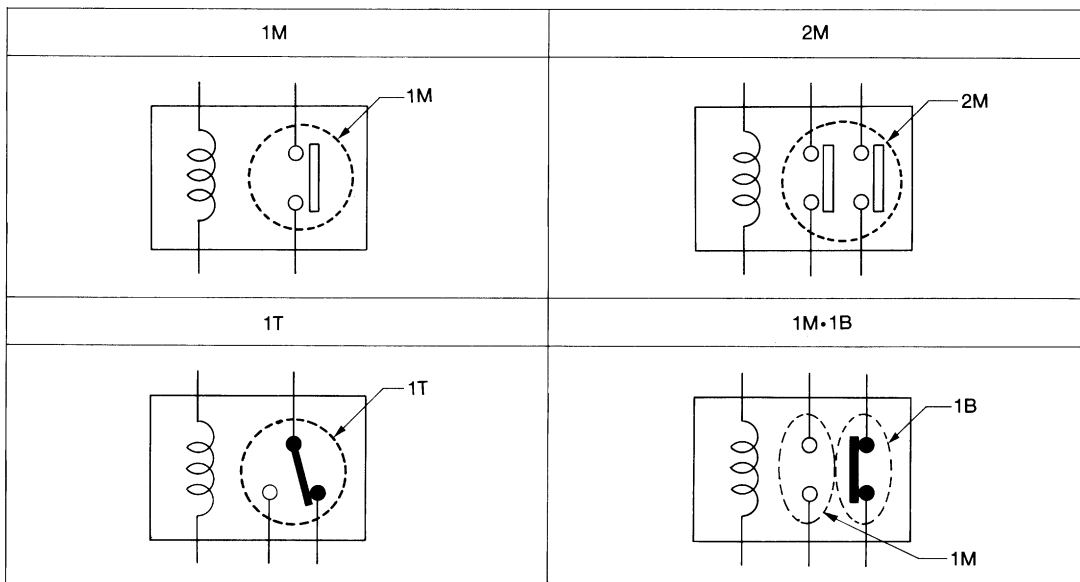
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



SEL881H

TYPE OF STANDARDIZED RELAYS

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

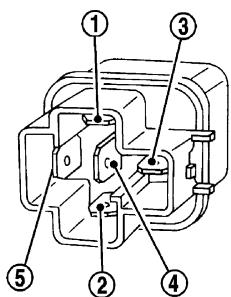
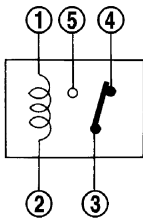
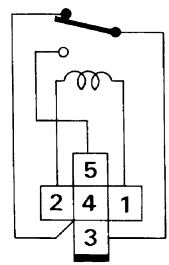
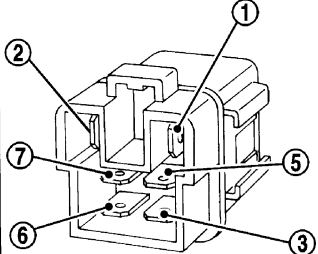
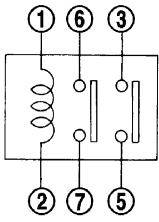
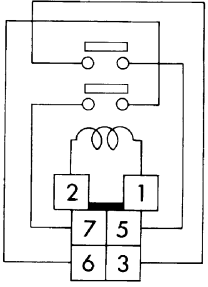
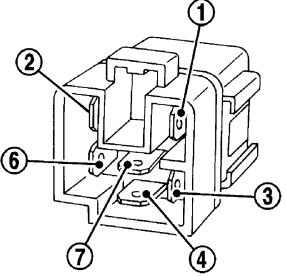
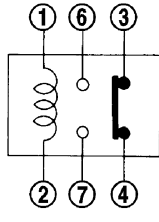
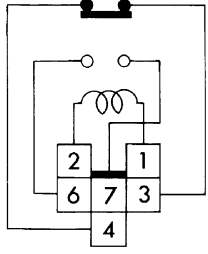
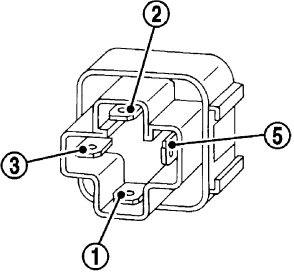
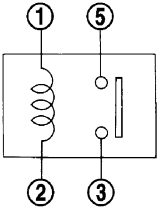
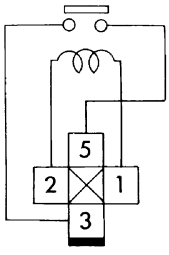
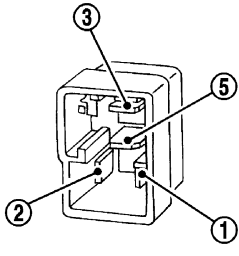
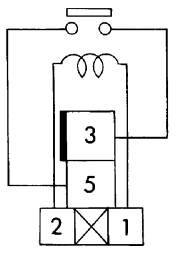


SEL882H

A
B
C
D
E
F
G
H
I
J

PG

STANDARDIZED RELAY

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

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

SEL188W

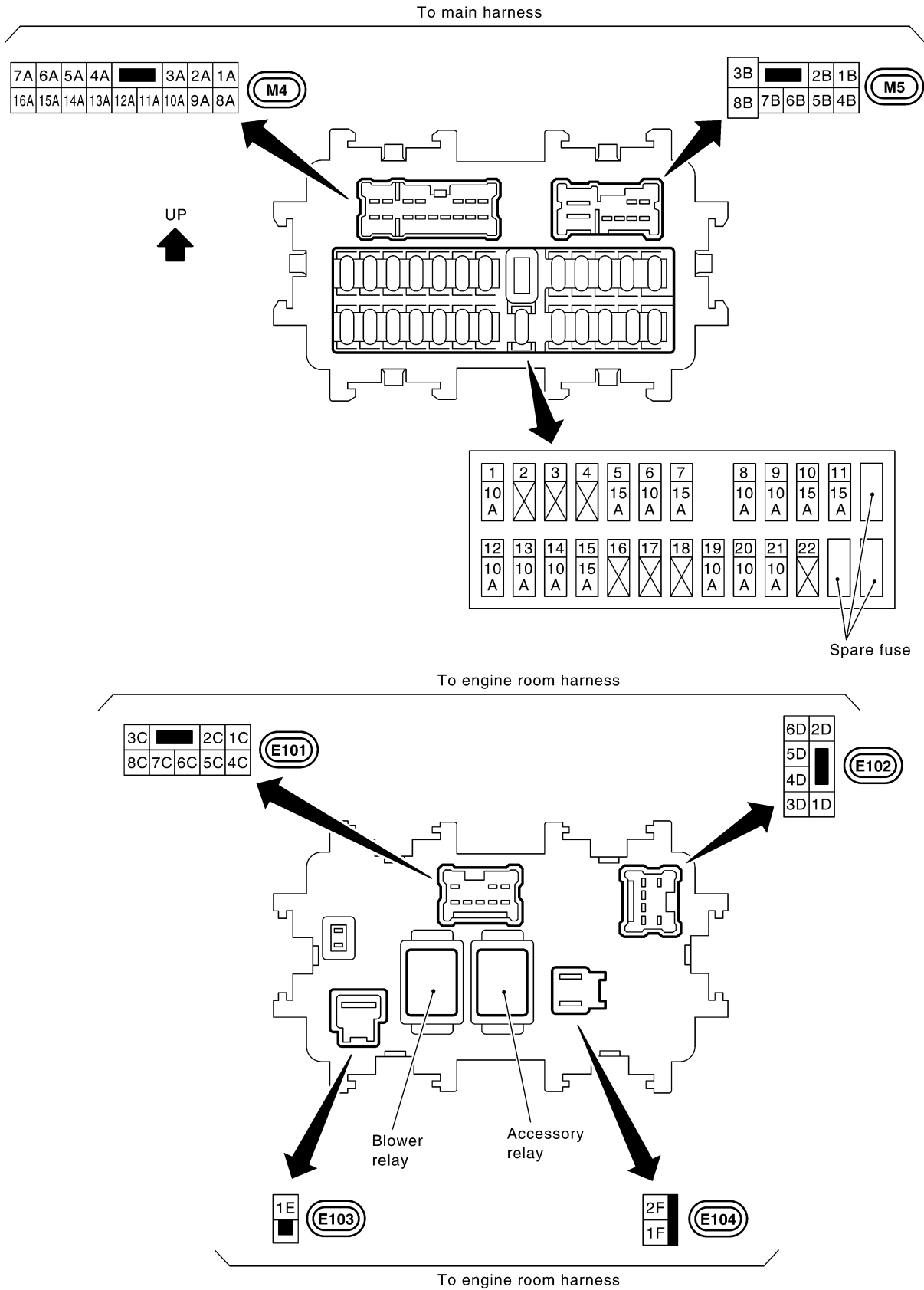
FUSE BLOCK - JUNCTION BOX (J/B)

FUSE BLOCK - JUNCTION BOX (J/B)

PPF:24350

Terminal Arrangement

AKS003U



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

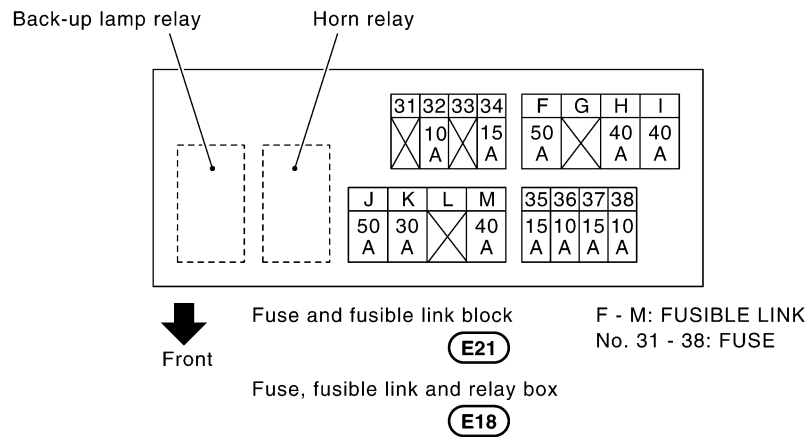
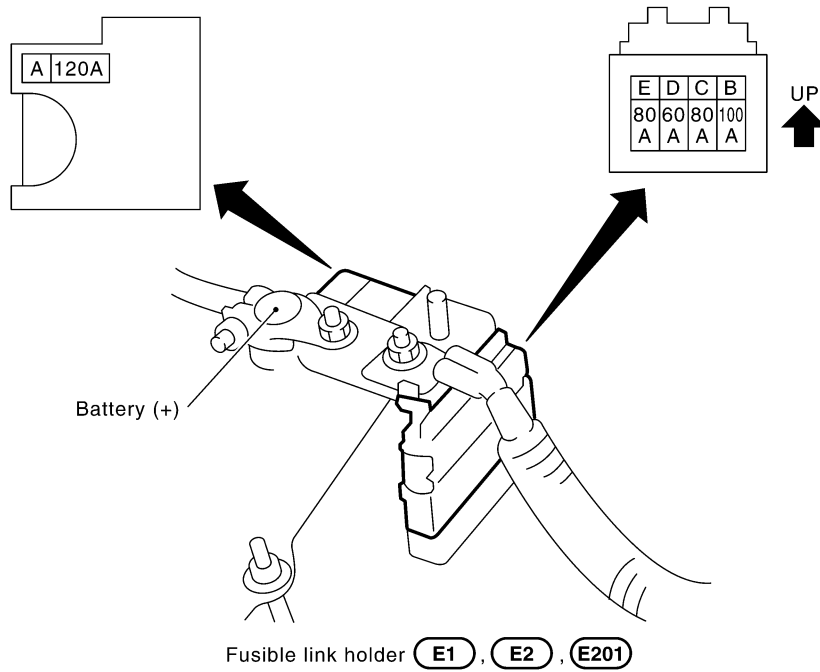
FUSE, FUSIBLE LINK AND RELAY BOX

PFP:24382

FUSE, FUSIBLE LINK AND RELAY BOX

Terminal Arrangement

AKS003IK



CKIM0285E