

SECTION **PG**

**POWER SUPPLY, GROUND & CIRCUIT ELEMENTS**

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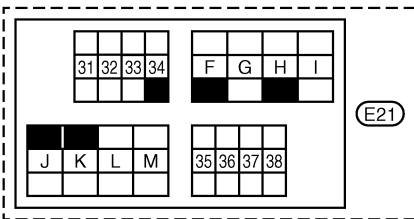
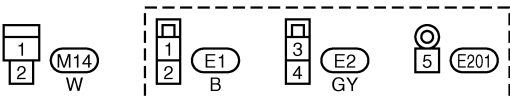
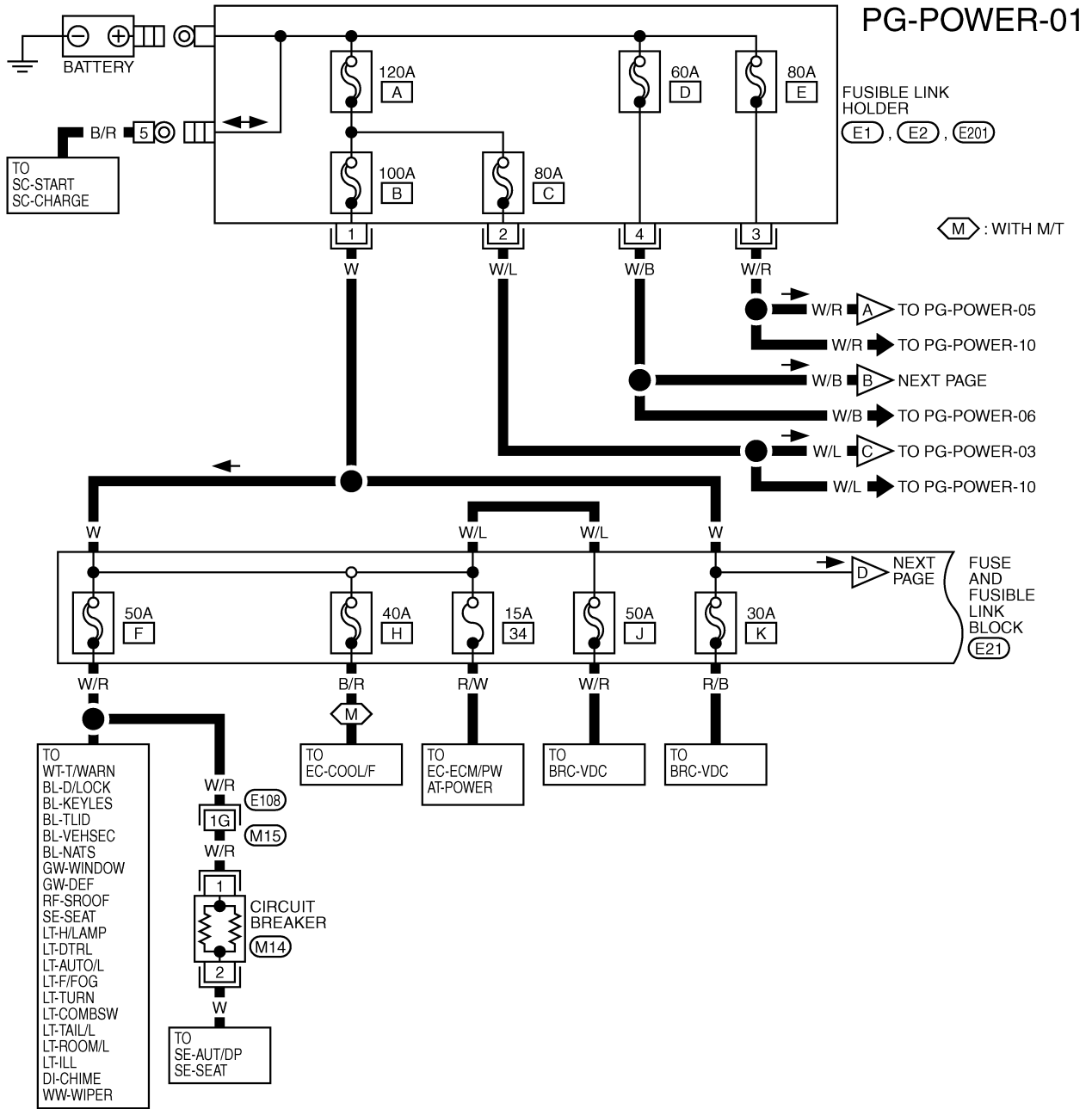
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# POWER SUPPLY ROUTING CIRCUIT

AKS000CN

## Wiring Diagram - POWER - BATTERY POWER SUPPLY - IGNITION SW. IN ANY POSITION



REFER TO THE FOLLOWING.

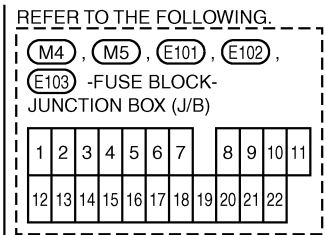
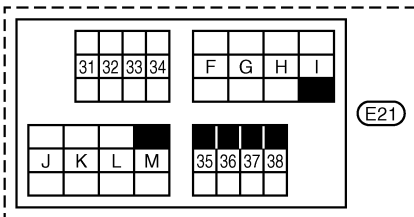
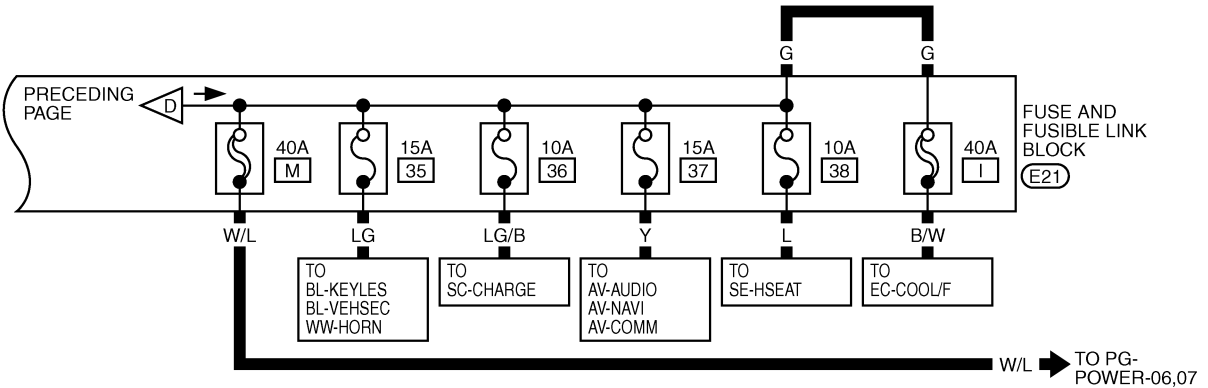
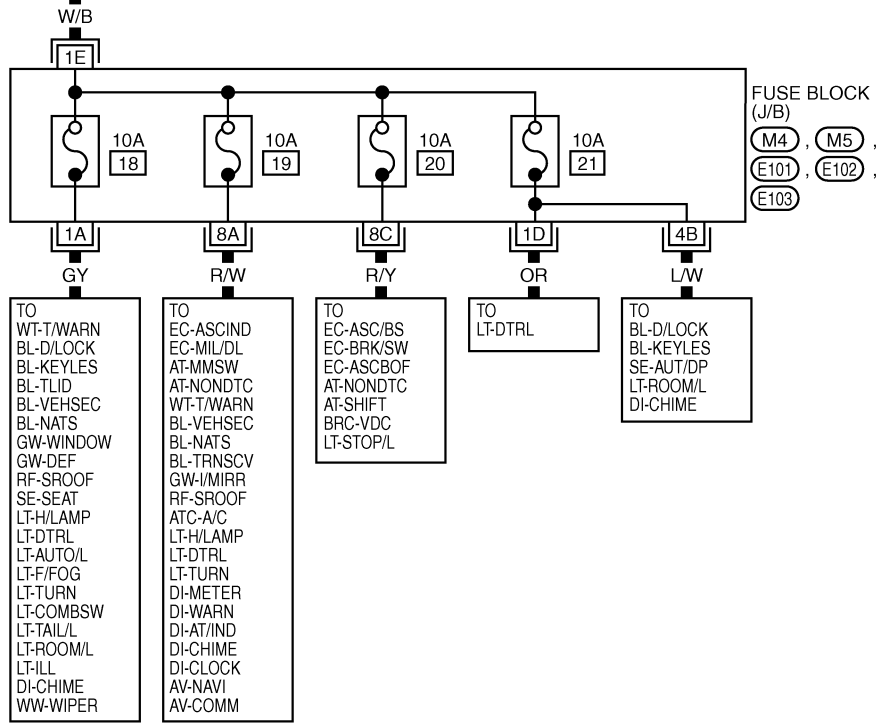
(E108) -SUPER MULTIPLE JUNCTION (SMJ)

TKWT1567E

# POWER SUPPLY ROUTING CIRCUIT

PG-POWER-02

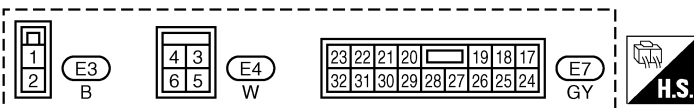
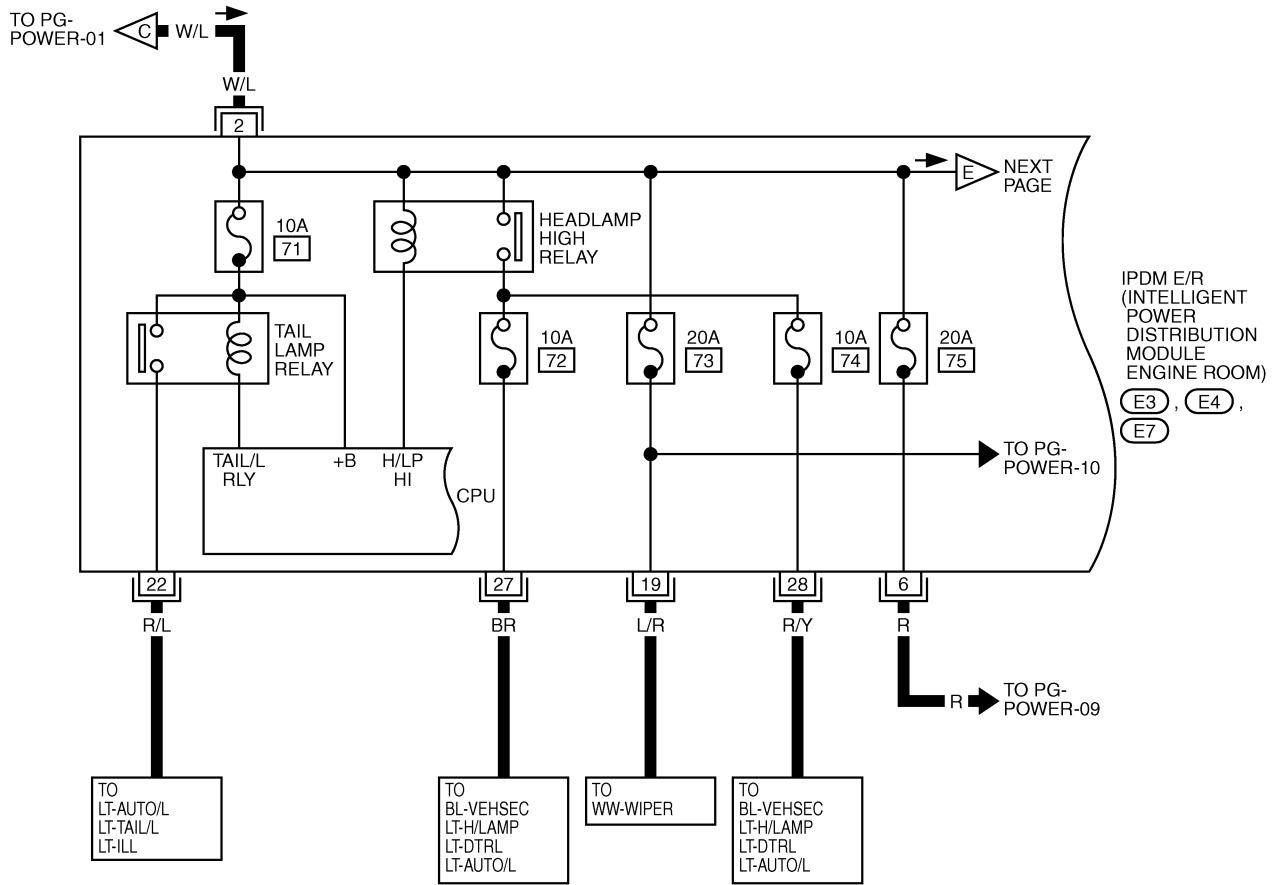
PRECEDING PAGE



TKWT1568E

# POWER SUPPLY ROUTING CIRCUIT

PG-POWER-03

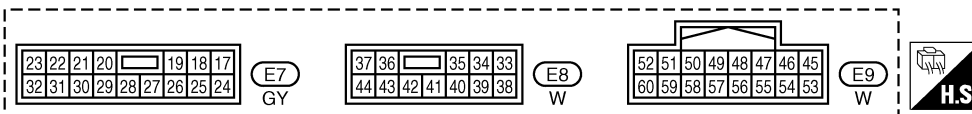
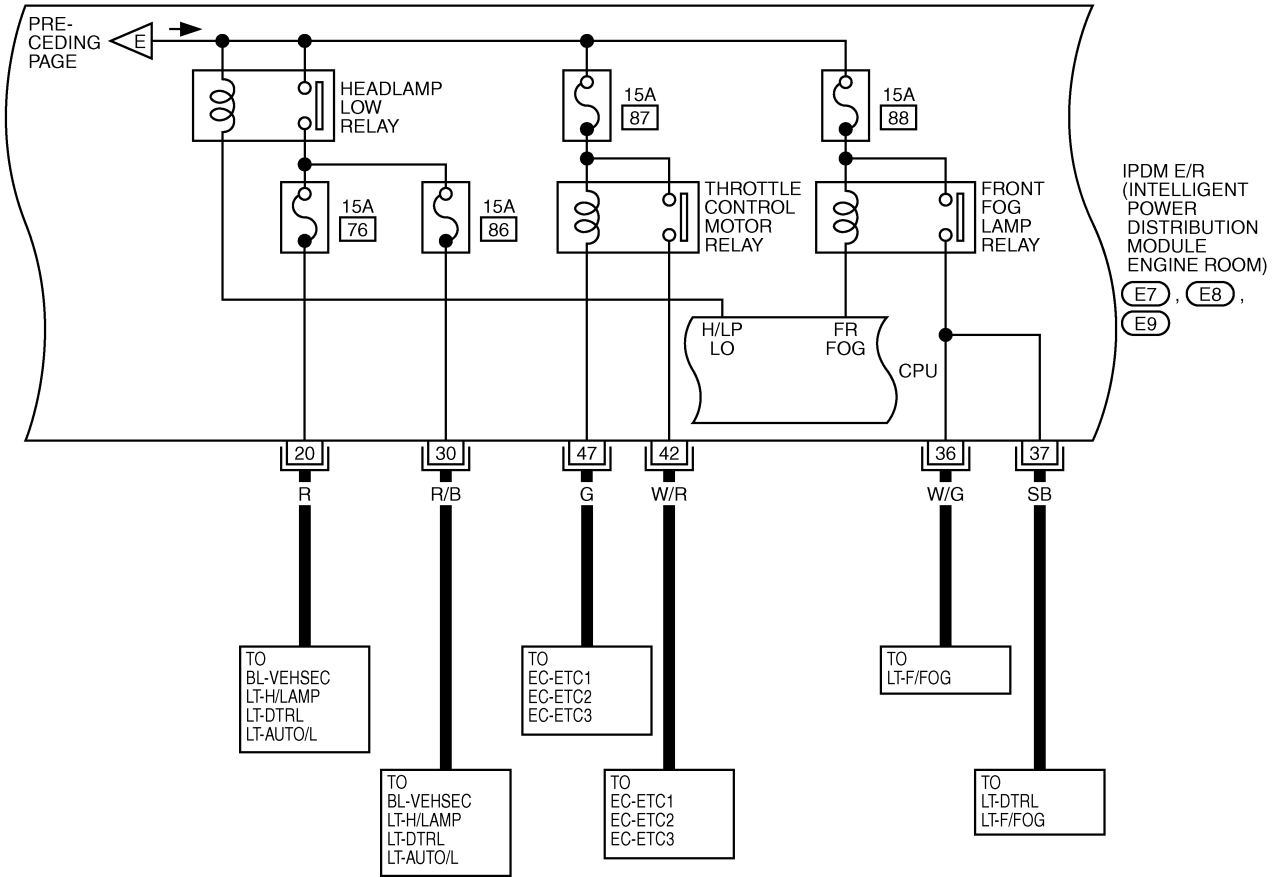


TKWT1569E

# POWER SUPPLY ROUTING CIRCUIT

PG-POWER-04

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



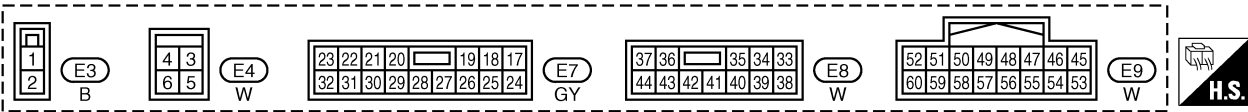
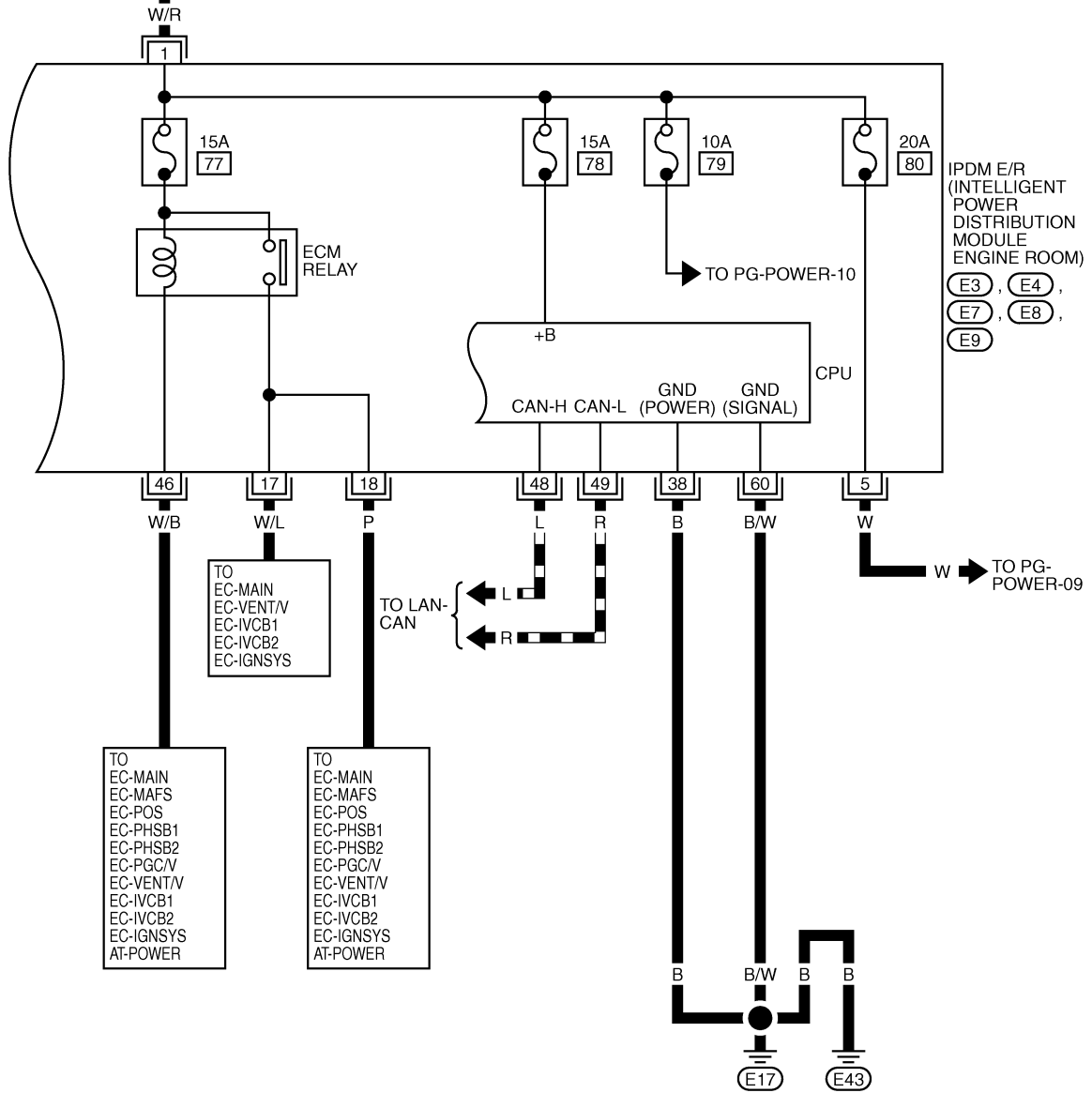
TKWT1570E

# POWER SUPPLY ROUTING CIRCUIT

PG-POWER-05

TO PG-POWER-01  
A W/R

DATA LINE



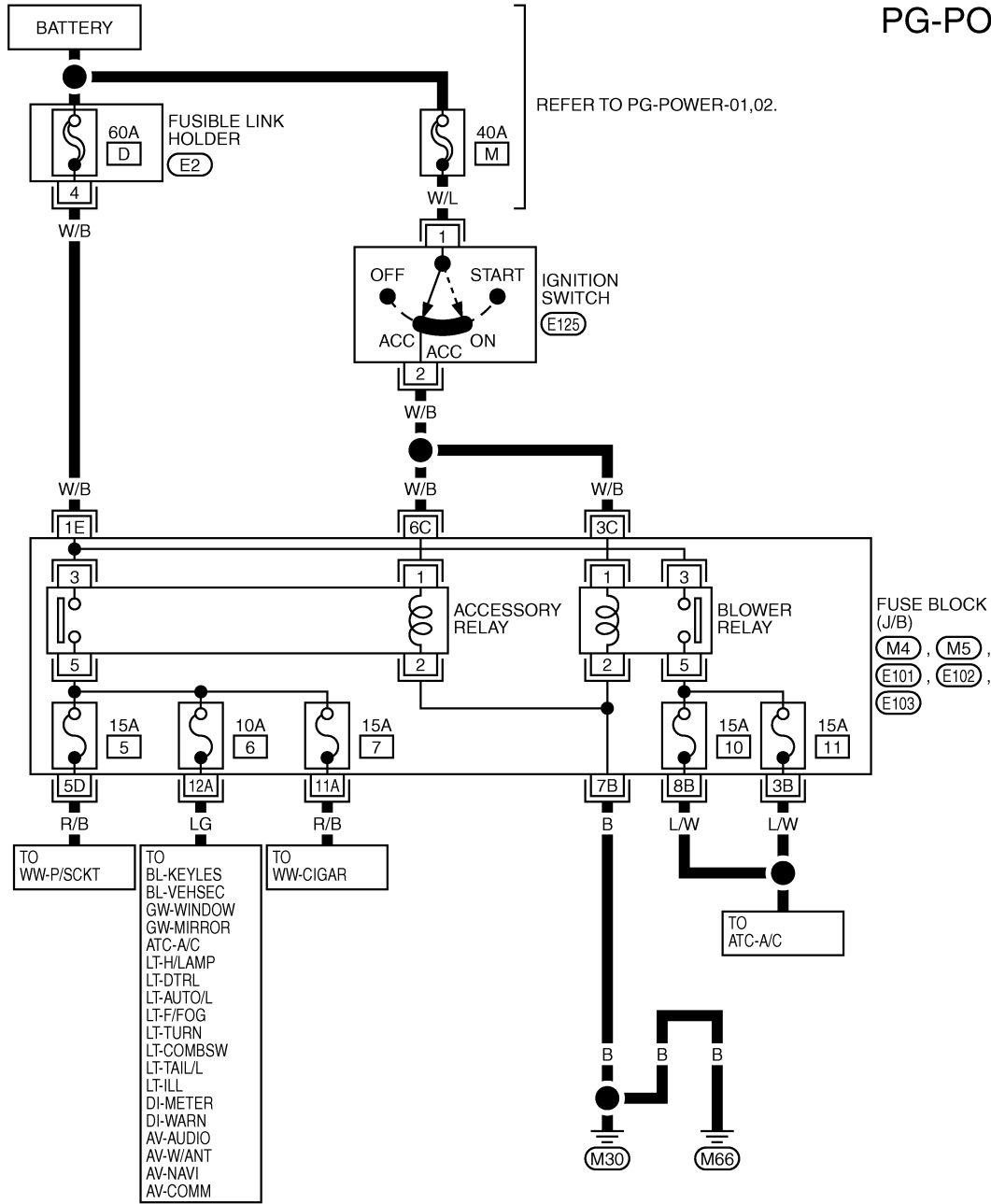
TKWT1571E



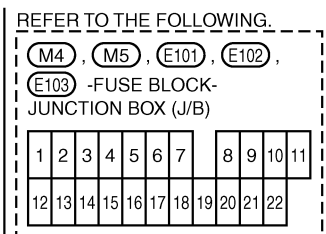
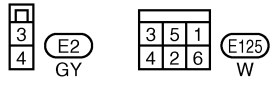
# POWER SUPPLY ROUTING CIRCUIT

## ACCESSORY POWER SUPPLY - IGNITION SW. IN "ACC" OR "ON"

PG-POWER-06



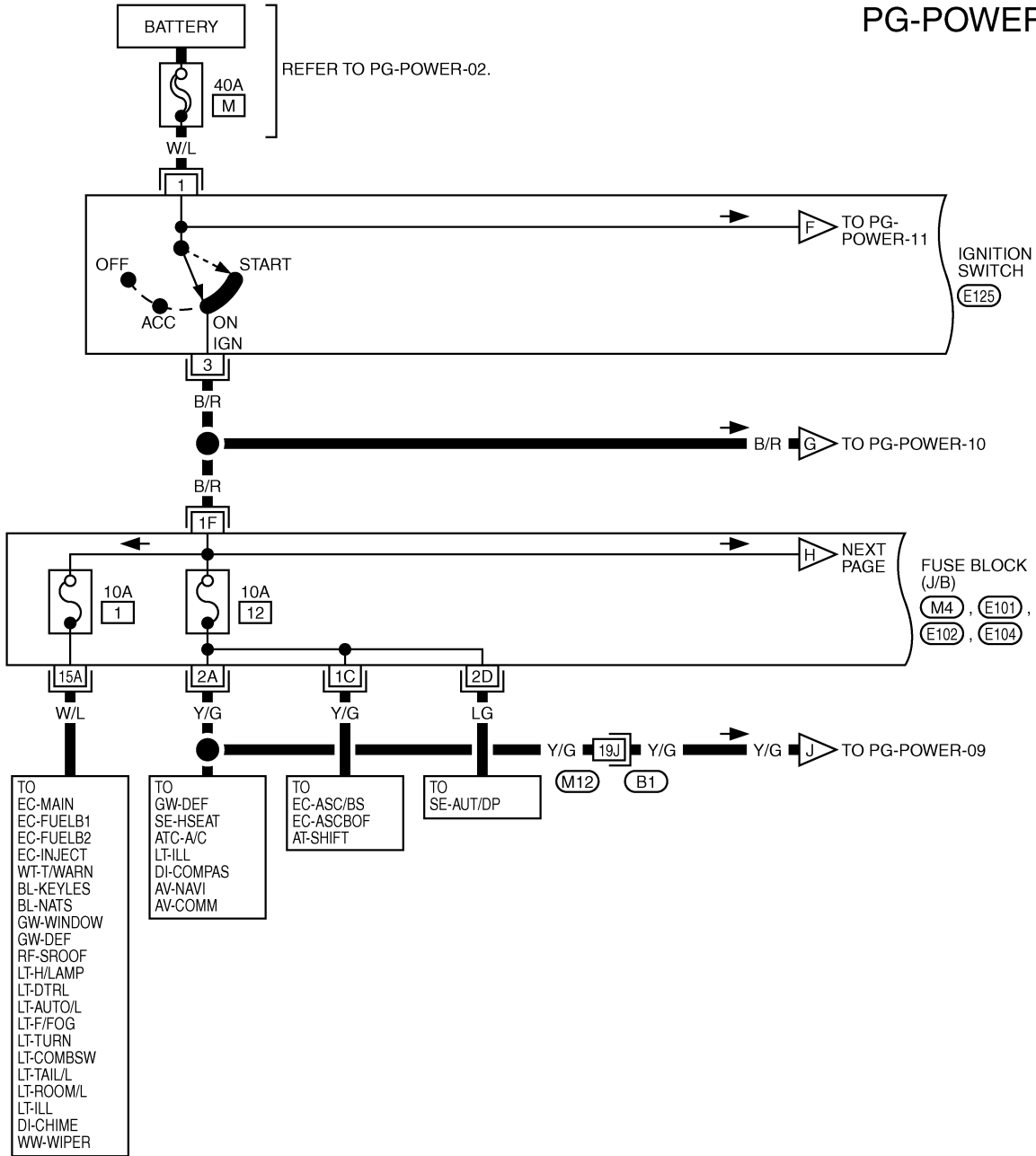
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
PG  
L  
M



# POWER SUPPLY ROUTING CIRCUIT

## IGNITION POWER SUPPLY - IGNITION SW. IN "ON" AND/OR "START"

PG-POWER-07



3	5	1
4	2	6

(E125)  
W

REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE JUNCTION (SMJ)

(M4), (E101), (E102), (E104)  
-FUZE BLOCK-JUNCTION BOX (J/B)

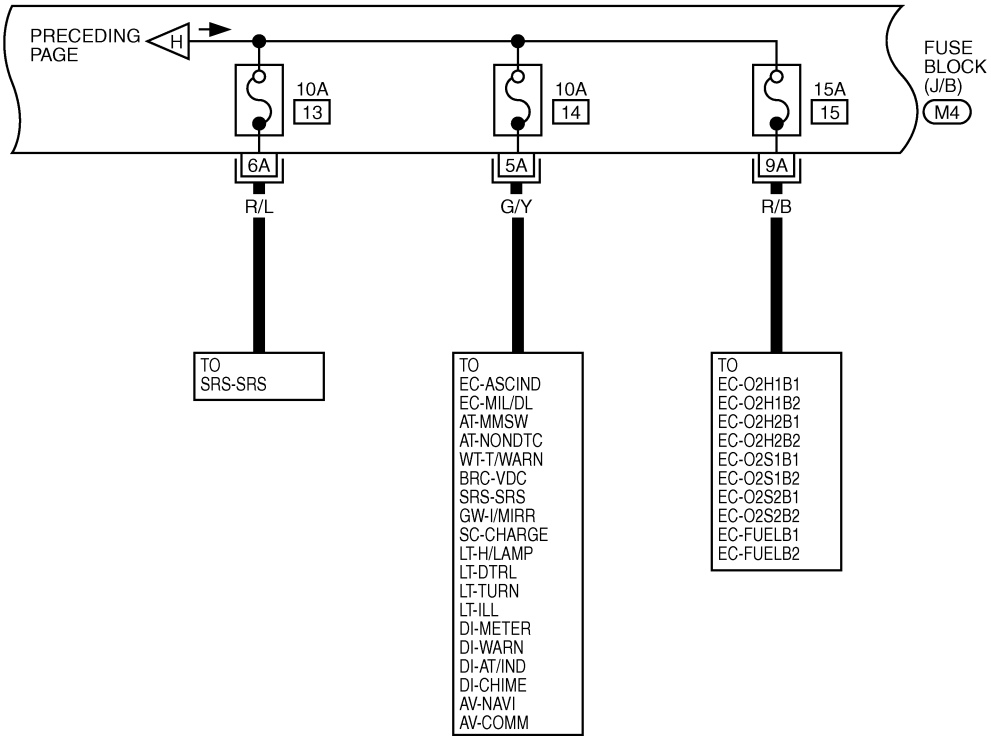
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

TKWT1573E

# POWER SUPPLY ROUTING CIRCUIT

PG-POWER-08

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



PG

REFER TO THE FOLLOWING.

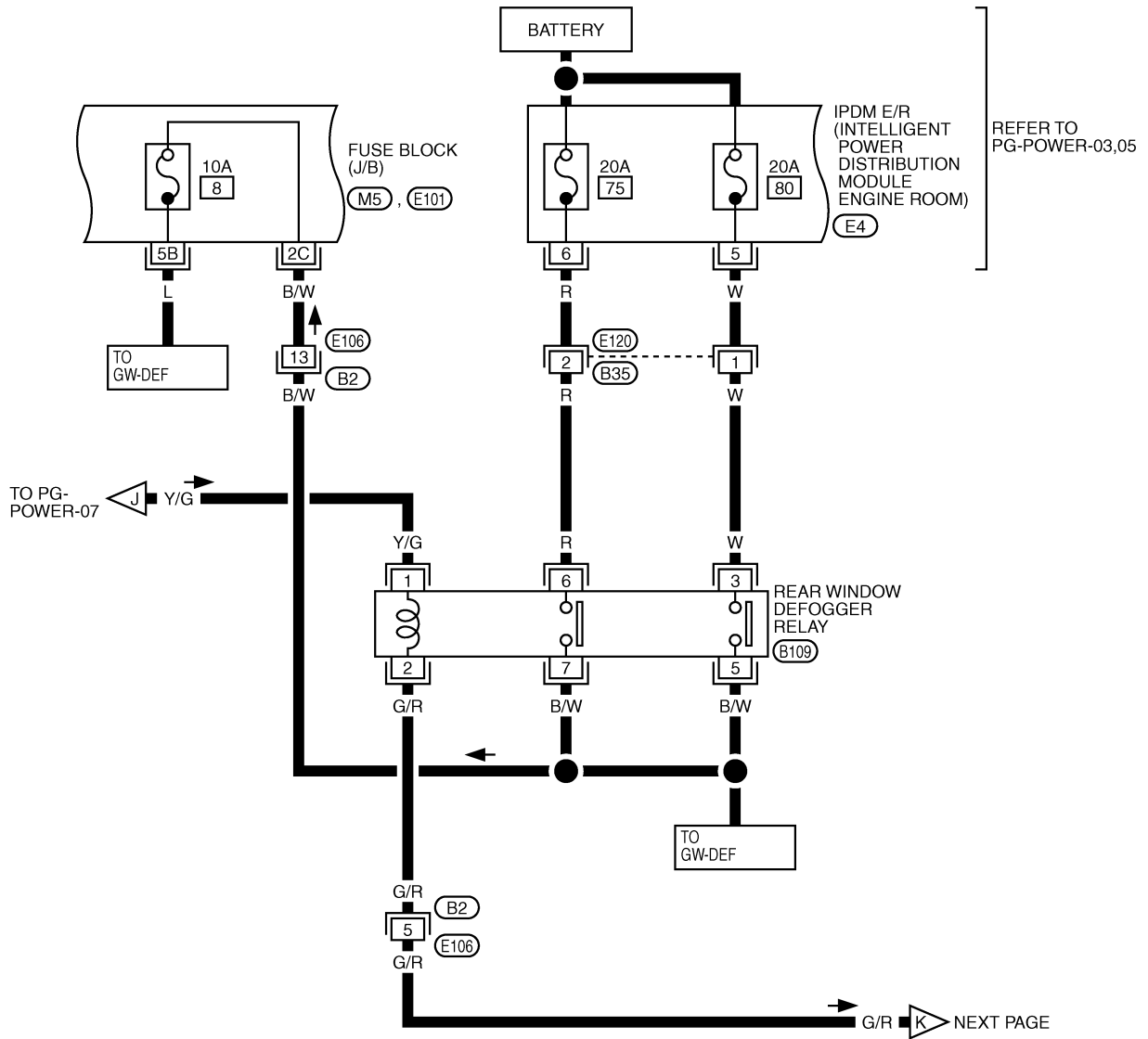
(M4) - FUSE BLOCK-  
JUNCTION BOX (J/B)

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

TKWT1574E

# POWER SUPPLY ROUTING CIRCUIT

PG-POWER-09



REFER TO PG-POWER-03,05

4	3
6	5

E4  
W



1
2

E120  
W

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

B2  
W

1	2
5	7
3	6

B109  
BR

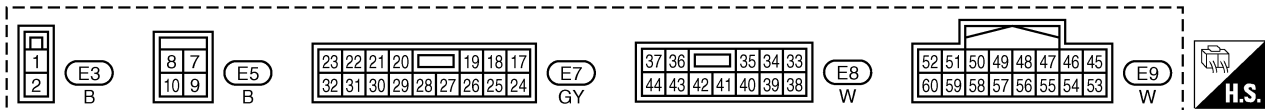
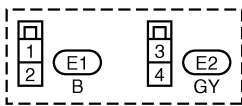
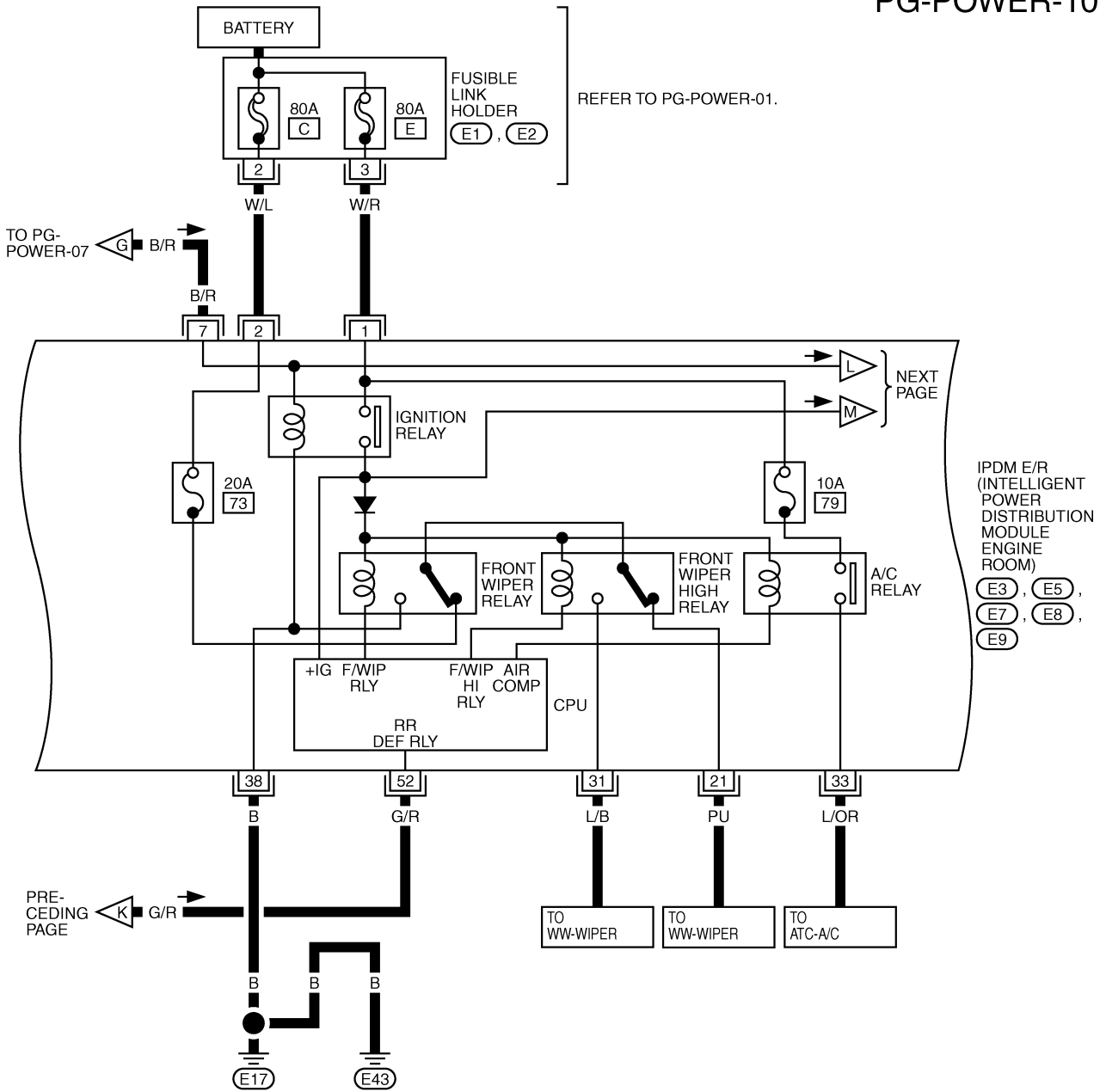
REFER TO THE FOLLOWING.

(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

# POWER SUPPLY ROUTING CIRCUIT

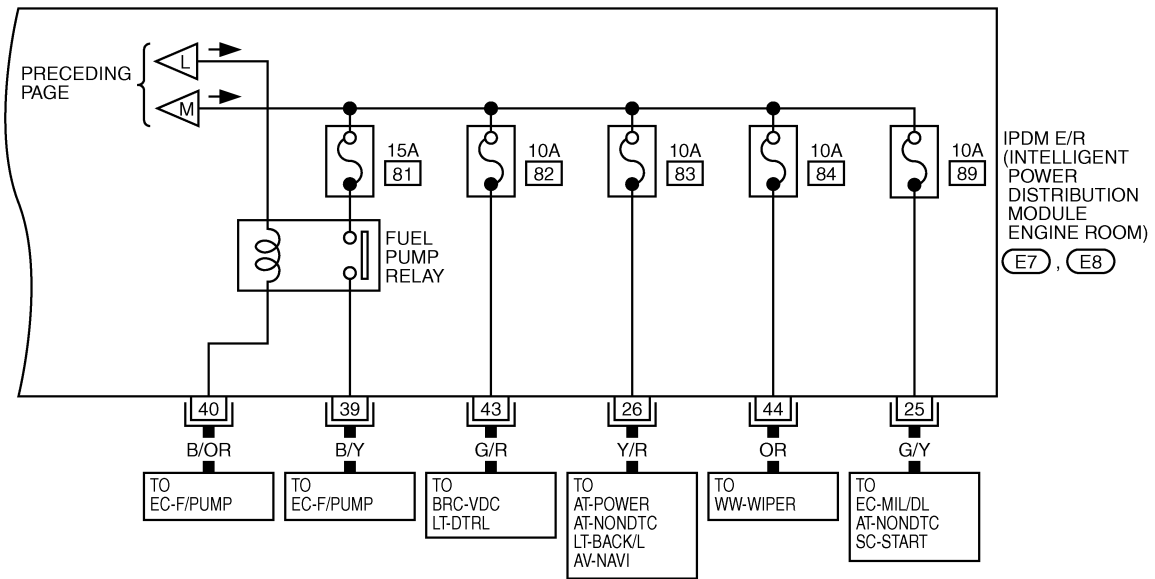
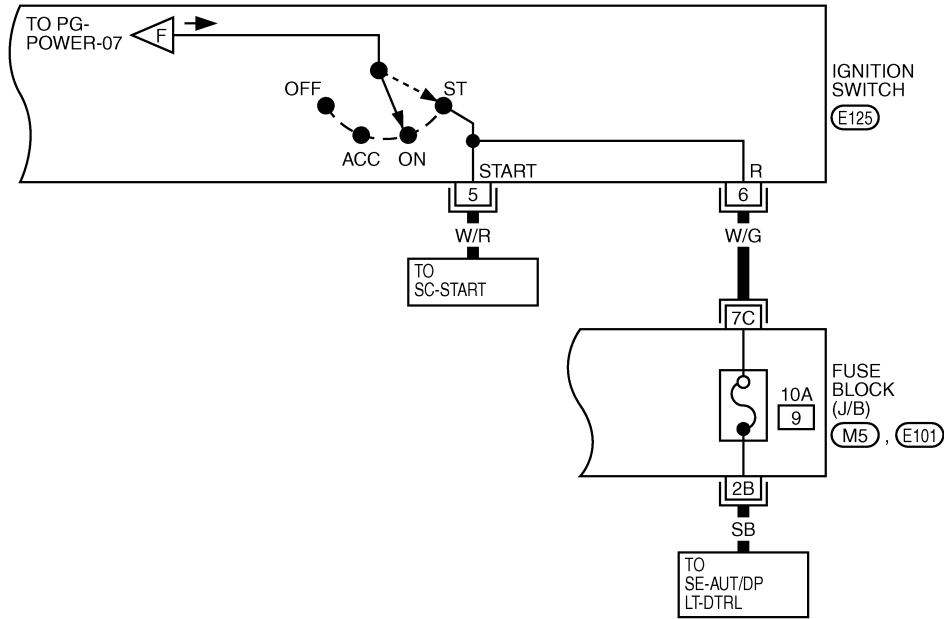
PG-POWER-10



TKWT1576E

# 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

(E125)  
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

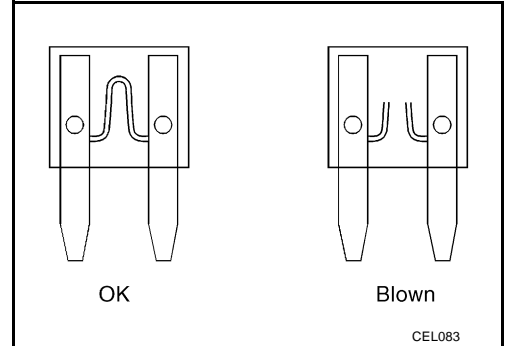
TKWT1577E

# POWER SUPPLY ROUTING CIRCUIT

## Fuse

AKS00018

- 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.



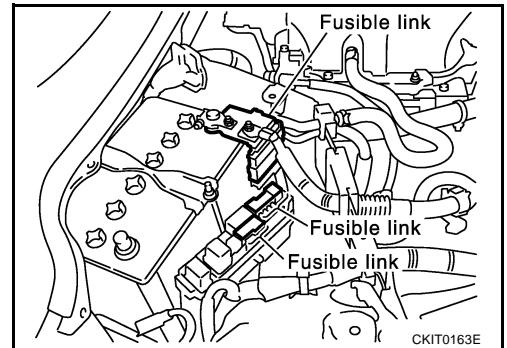
## Fusible Link

AKS00019

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:

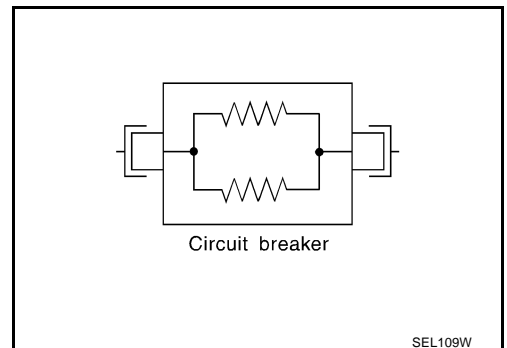
- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of incident.
- Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring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



## Circuit Breaker

AKS0001A

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.



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

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

PFP:284B7

### System Description

AKS00010

- 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"> <li>● With the ignition switch ON, the headlamp (low) is ON.</li> <li>● With the ignition switch OFF, the headlamp (low) is OFF.</li> </ul>
Tail and parking lamps	<ul style="list-style-type: none"> <li>● With the ignition switch ON, the tail and parking lamps is ON.</li> <li>● With the ignition switch OFF, the tail and parking lamps is OFF.</li> </ul>
Cooling fan	<ul style="list-style-type: none"> <li>● With the ignition switch ON, the cooling fan HI operates.</li> <li>● With the ignition switch OFF, the cooling fan stops.</li> </ul>
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

AKS00A1L

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

AKS0092W

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

## Function of Detecting Ignition Relay Malfunction

AKS009HN

- 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

AKS009HO

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

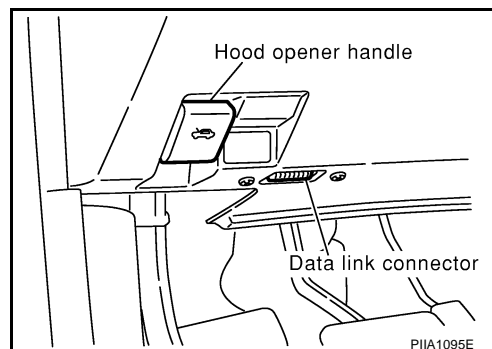
Inspection Item, Diagnosis Mode	Description
SELF-DIAG RESULTS	The IPDM E/R performs diagnosis of the CAN communication and self-diagnosis.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication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

## CONSULT-II BASIC OPERATION

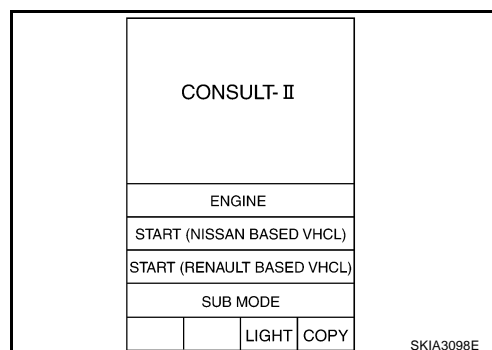
### CAUTION:

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.

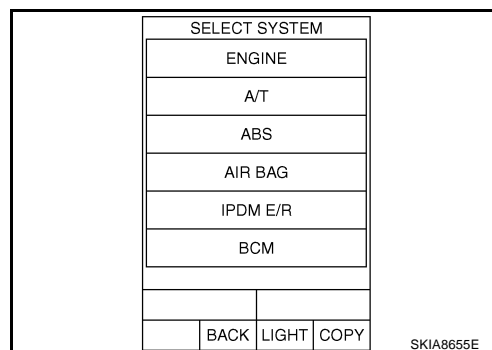
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



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

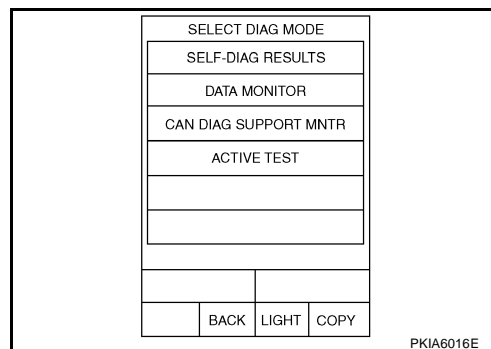


3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
  - If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



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

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



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

## SELF-DIAG RESULTS

### Operation Procedure

1. Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
2. 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"> <li>● If CAN communication reception/transmission data has a malfunction, or if any of the control units malfunction, data reception/transmission cannot be confirmed.</li> <li>● When the data in CAN communication is not received before the specified time</li> </ul>	×	×	Any of or several items 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 memorized with IPDM E/R.

PG

# 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 "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, Select Item 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 <sup>NOTE</sup>	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 <sup>NOTE</sup>
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 <sup>NOTE</sup>	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.

### ACTIVE TEST

#### Operation Procedure

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.

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

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 <sup>NOTE</sup>	—
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.

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## 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:**

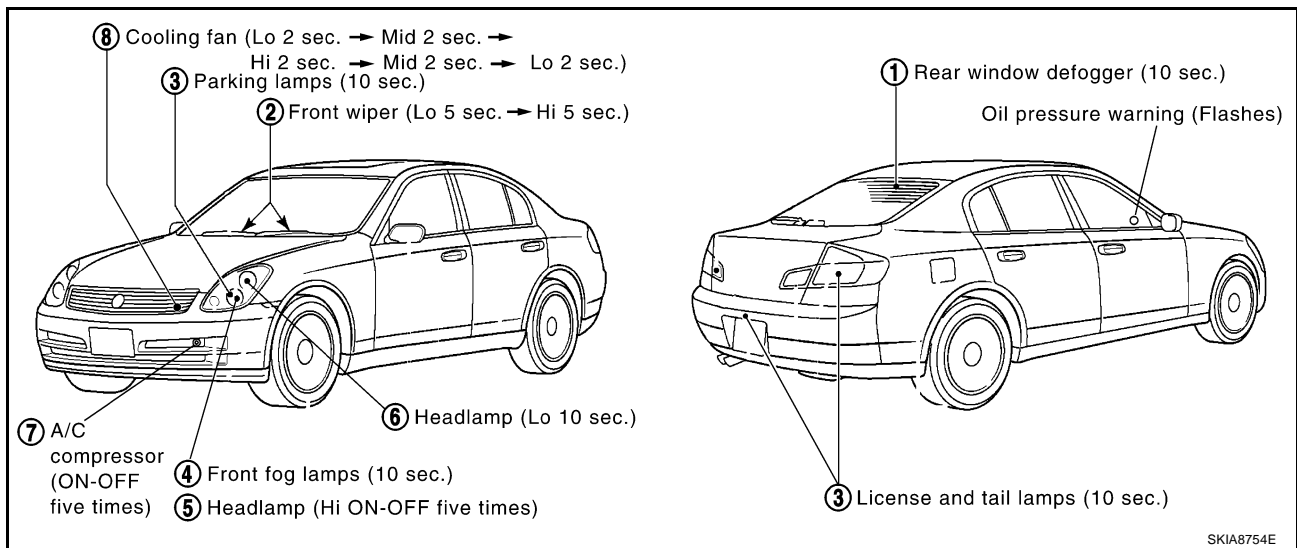
When auto active test mode has to be cancelled halfway, turn ignition switch OFF.

**CAUTION:**

Be sure to inspect [BL-36. "Check Door Switch / With Navigation System"](#) or [BL-37. "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.

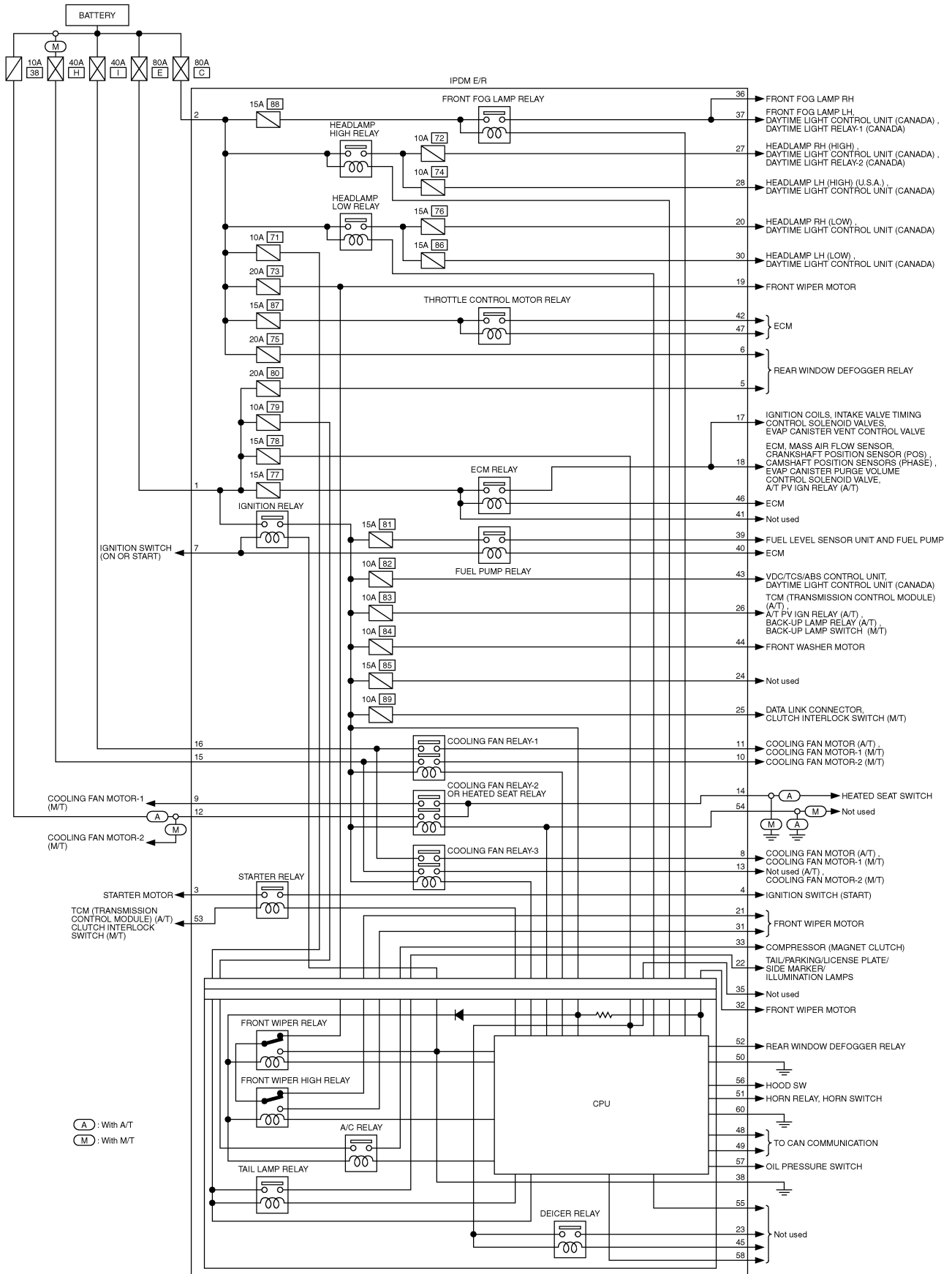
Diagnosis chart in auto active test mode

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"> <li>● Rear window defogger relay</li> <li>● Harness/connector malfunction between IPDM E/R and rear window defogger</li> <li>● Open circuit of rear window defogger</li> <li>● IPDM E/R malfunction</li> </ul>
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"> <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 magnetic 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>● Magnetic clutch malfunction</li> <li>● Harness/connector malfunction between IPDM E/R and magnetic 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> </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 malfunction</li> </ul>
		NO	<ul style="list-style-type: none"> <li>● CAN communication signal between IPDM E/R and combination meter</li> <li>● Combination meter</li> </ul>

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

## Schematic

AKS009HQ



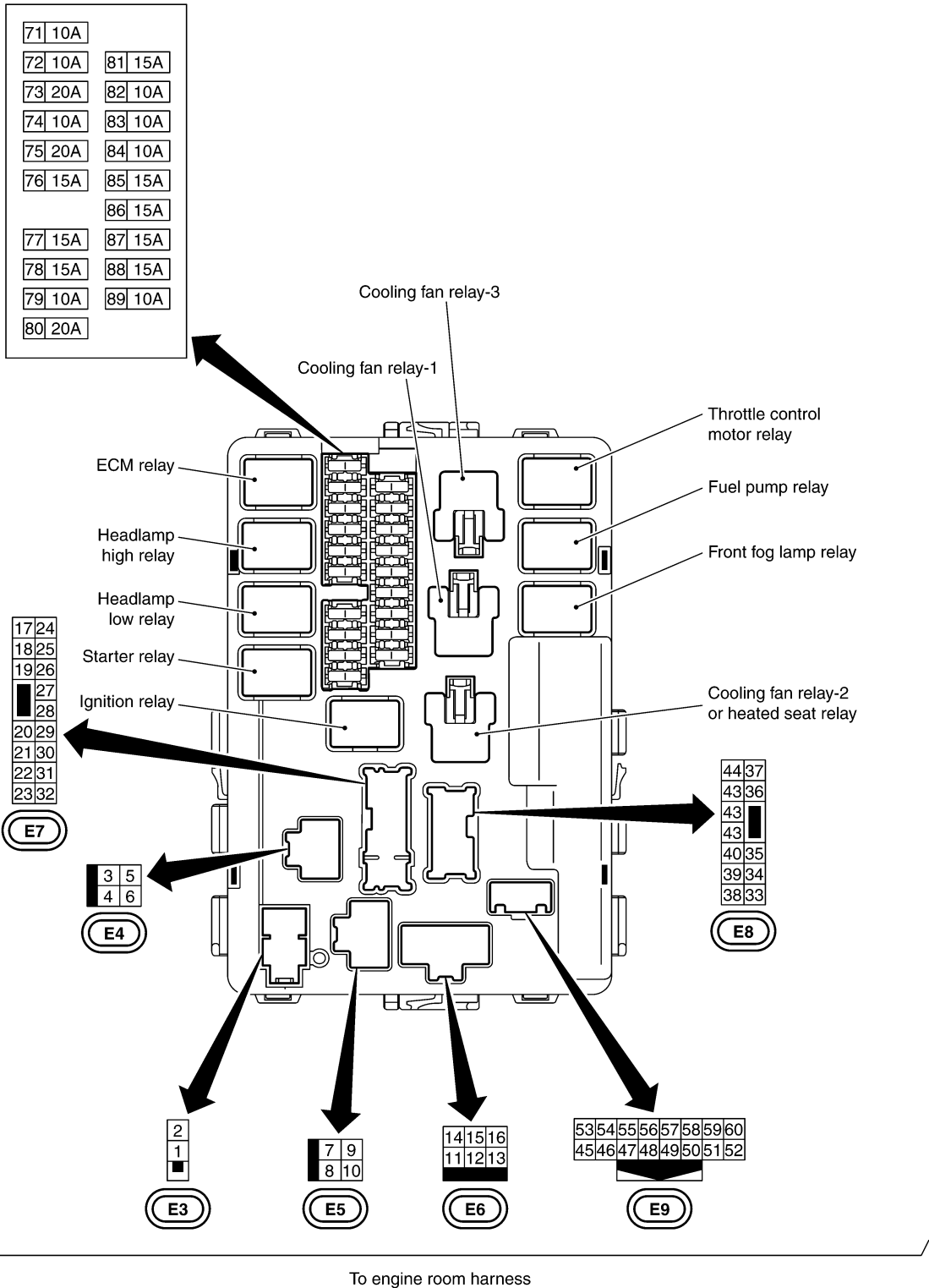
TKWT1578E



## IPDM E/R Terminal Arrangement

AKS009HR

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CKIT0439E

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

## IPDM E/R Power/Ground Circuit Inspection

AKS009HV

### 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

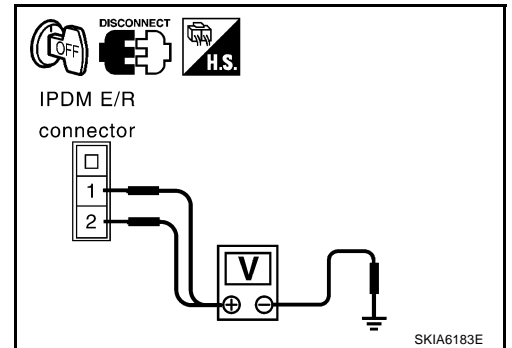
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector E3.
3. Check voltage between IPDM E/R harness connector E3 terminals 1 (W/R), 2 (W/L) and ground.

**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

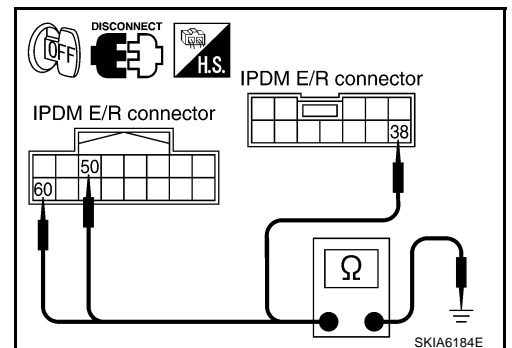
1. Disconnect IPDM E/R harness connectors E8 and E9.
2. Check continuity between IPDM E/R harness connectors E8 terminal 38 (B), E9 terminal 50 (B/W), 60 (B/W) and ground.

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

OK or NG

OK >> INSPECTION END

NG >> Replace ground circuit harness of IPDM E/R.



## Inspection With CONSULT-II (Self-Diagnosis)

AKS009HW

### 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"> <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 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"](#) .

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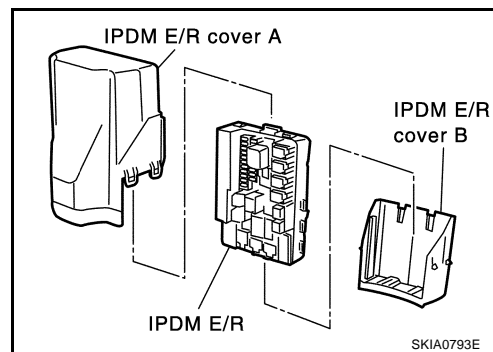
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

AKS009HX

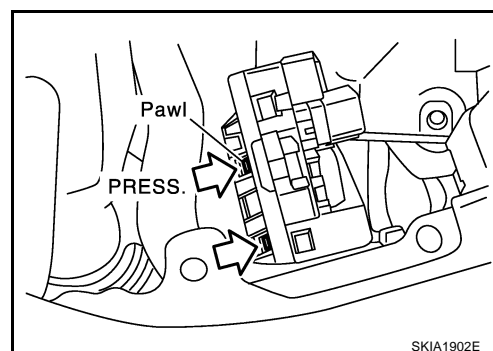
## Removal and Installation of IPDM E/R

### REMOVAL

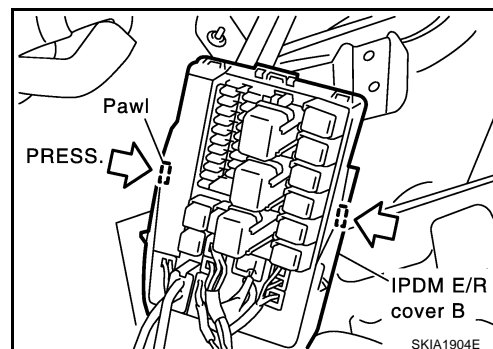
1. Remove battery. Refer to [SC-8. "Removal and Installation"](#) in "Starting and Charging System (SC)" section.



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.

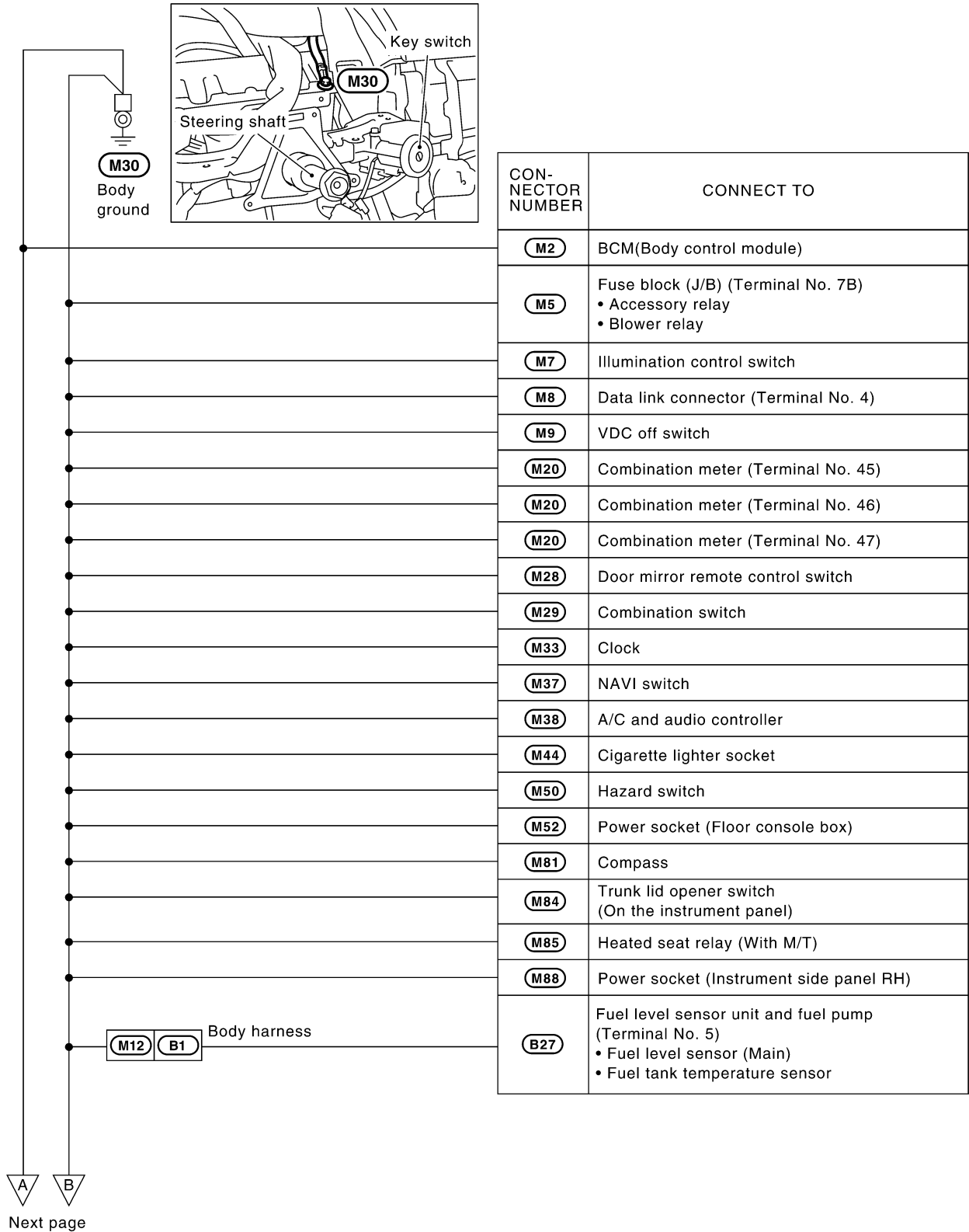
# GROUND

## GROUND

PF0:00011

### Ground Distribution MAIN HARNESS

AKS0001B

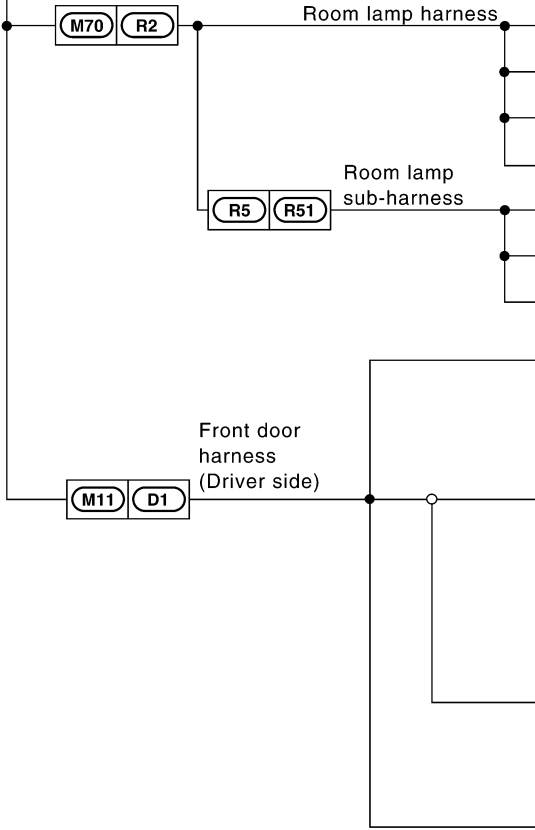


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# GROUND

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CON-NECTOR NUMBER	CONNECT TO
R4	Vanity mirror lamp (Passenger side)
R6	Sunroof motor assembly
R7	Auto anti-dazzling inside mirror
R9	Vanity mirror lamp (Driver side)
R52	Map lamp
R54	Personal lamp LH
R55	Personal lamp RH
D2	Door mirror (Driver side) (With door mirror defogger)
D6	Power window main switch (With interruption detection function for all door window) • CPU • Power window lock switch • Door lock and unlock switch • Illumination
D7	Power window main switch (With interruption detection function for front door window) • CPU • Power window lock switch • Door lock and unlock switch • Illumination
D12	Front door key cylinder switch (Driver side)

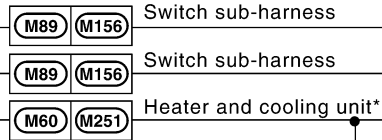
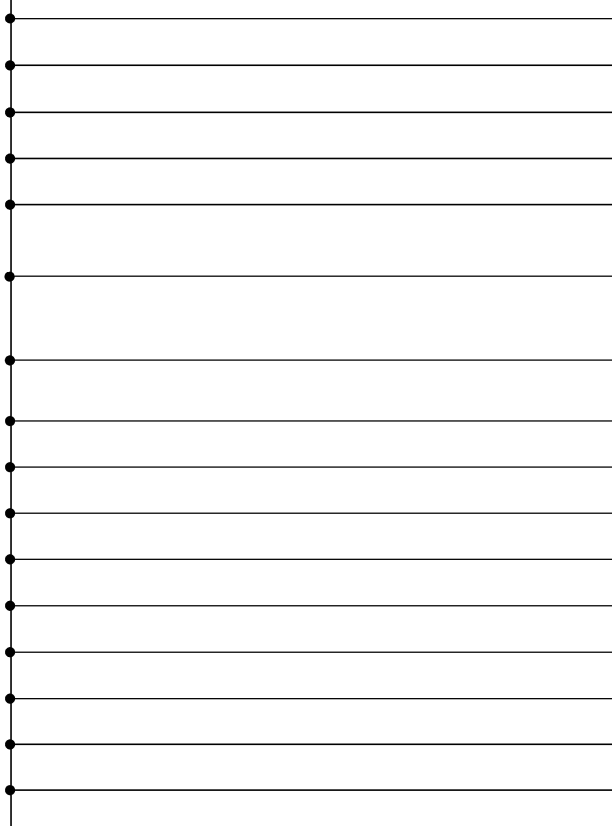
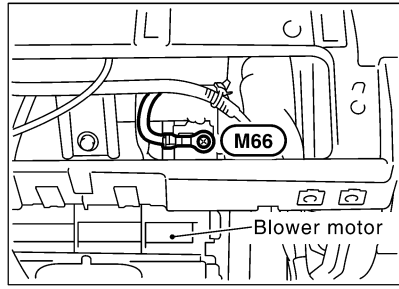
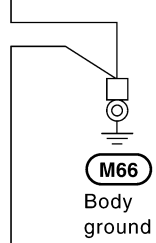


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CKIT0441E

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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)
M47	A/T device (Terminal No. 1) • Park position switch • Shift lock solenoid
M47	A/T device (Terminal No. 9) • Mode select switch
M49	Ashtray illumination
M53	Heated seat switch (Passenger side) (With A/T)
M54	Heated seat switch (Driver side) (With A/T)
M55	Air bag diagnosis sensor unit
M57	NAVI control unit (Terminal No. 1)
M57	NAVI control unit (Terminal No. 4)
M62	Blow motor
M64	Glove box lamp
M67	Intake door motor
M68	Upper glove box lamp
M154	Heated seat switch (Driver side) (With M/T)
M155	Heated seat switch (Passenger side) (With M/T)
M252	Mode door motor
M253	Air mix door motor (Passenger side)



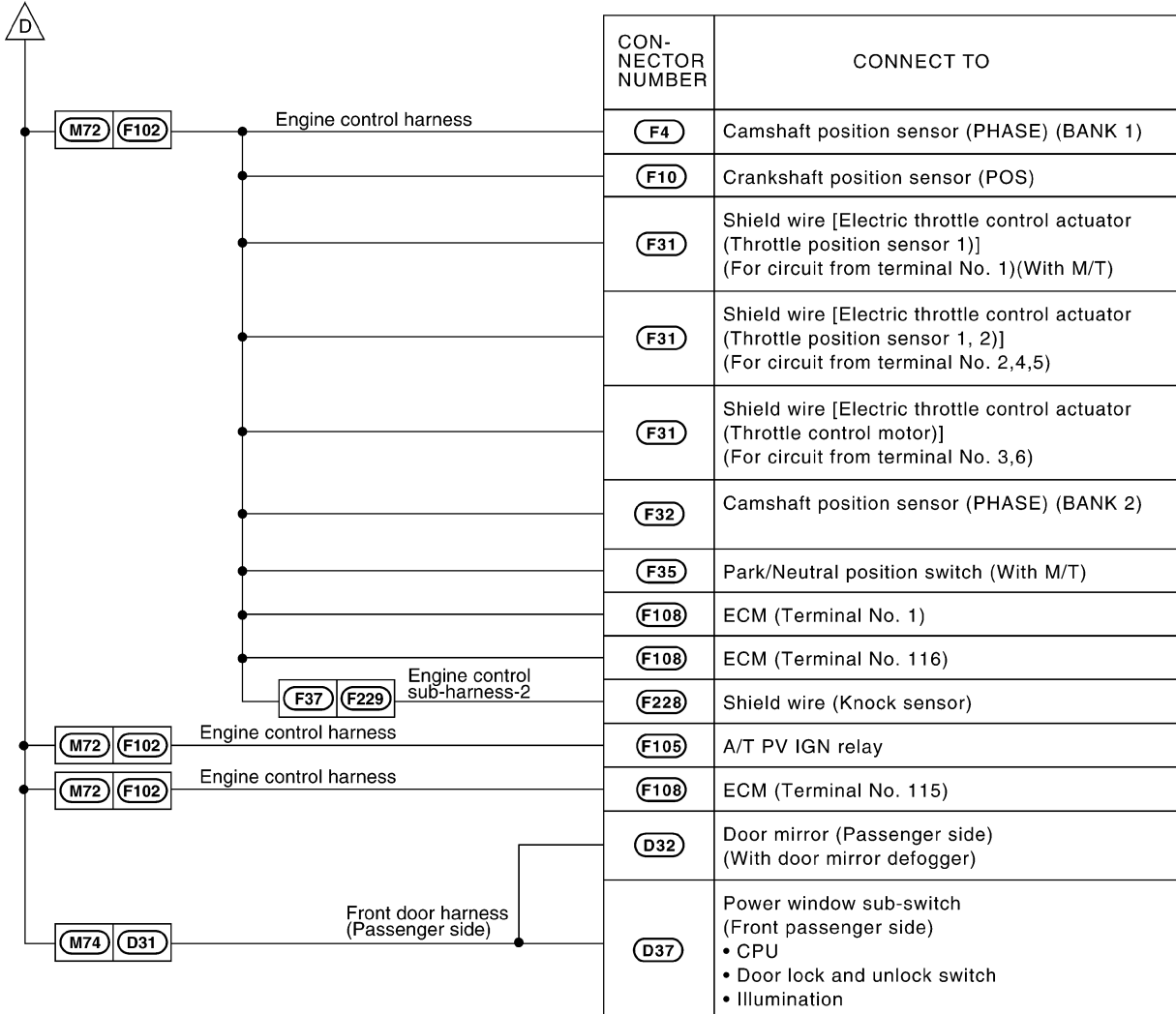
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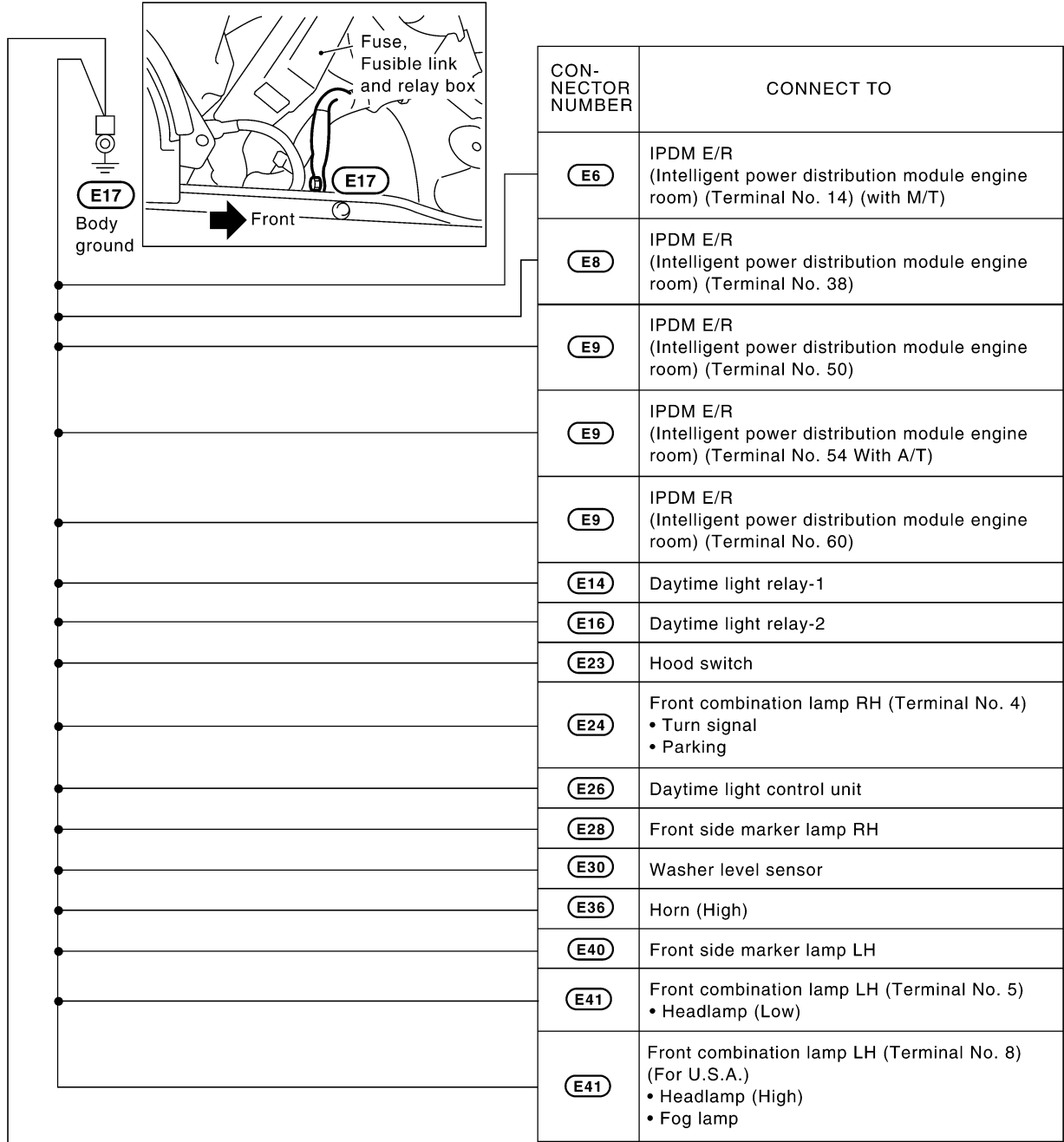
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## ENGINE ROOM HARNESS

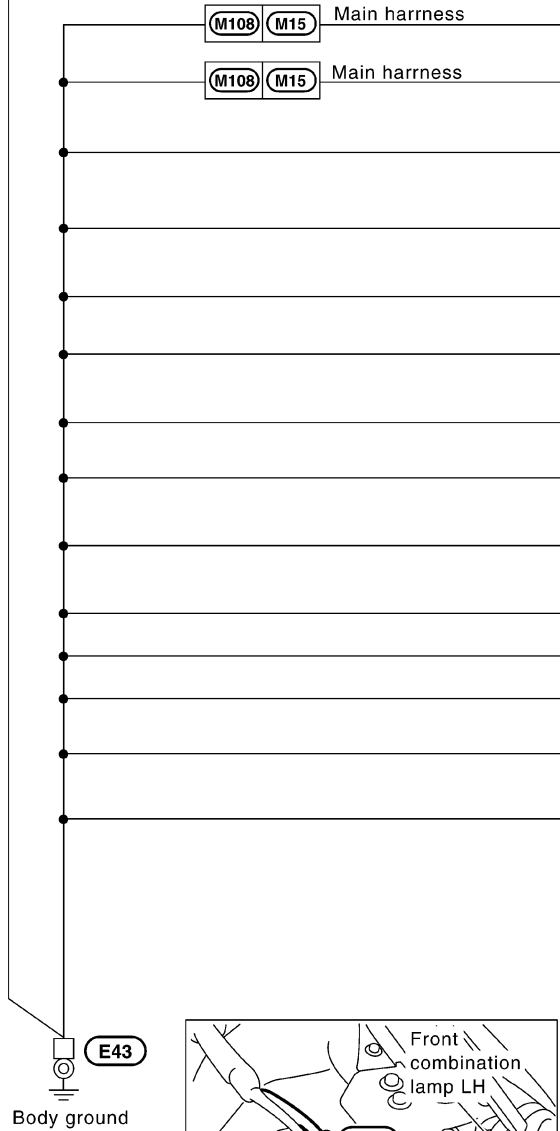


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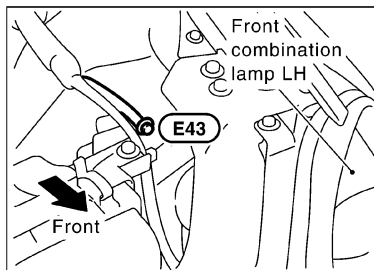
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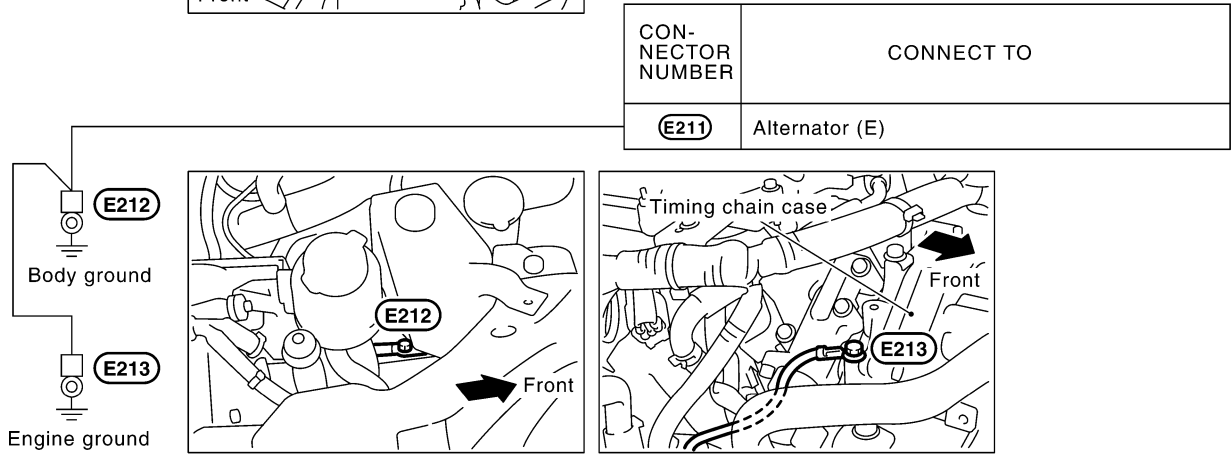
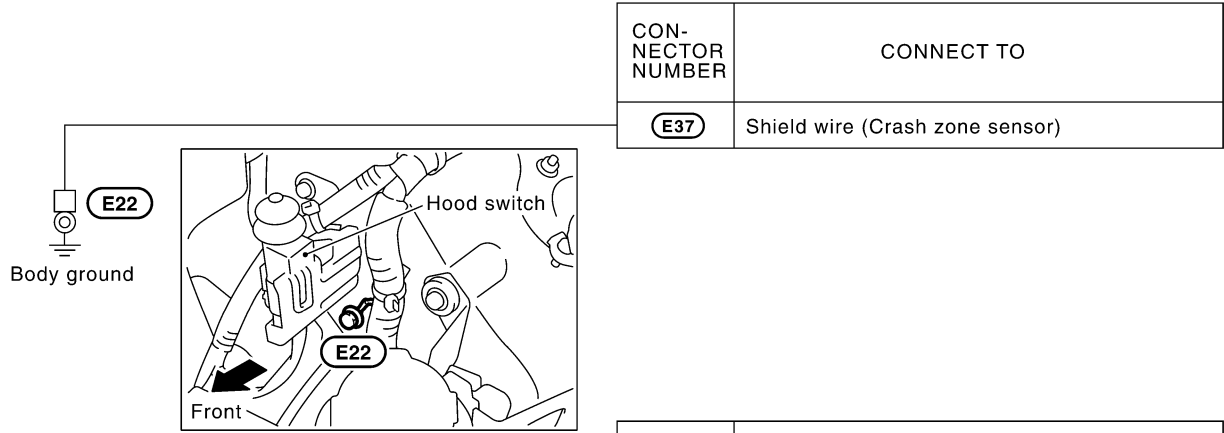


CON-NECTOR NUMBER	CONNECT TO
(E22)	Steering angle sensor
(M31)	Display and A/C auto amp. (Terminal No. 14)
(E24)	Front combination lamp RH(Terminal No.5) • Headlamp (Low)
(E24)	Front combination lamp RH (Terminal No. 8) • Headlamp (High) • Fog lamp
(E33)	Horn (Low)
(E39)	Cooling fan motor (Terminal No.3) (With A/T)
(E39)	Cooling fan motor (Terminal No.4) (With A/T)
(E39)	Cooling fan motor-1 (With M/T)
(E41)	Front combination lamp LH (Terminal No. 4) • Turn signal • Parking
(E44)	Brake fluid level switch
(E52)	Front wiper motor
(E53)	Cooling fan motor-2 (With M/T)
(E118)	VDC/TCS/ABS control unit (Terminal No. 28)
(E118)	VDC/TCS/ABS control unit (Terminal No. 29)



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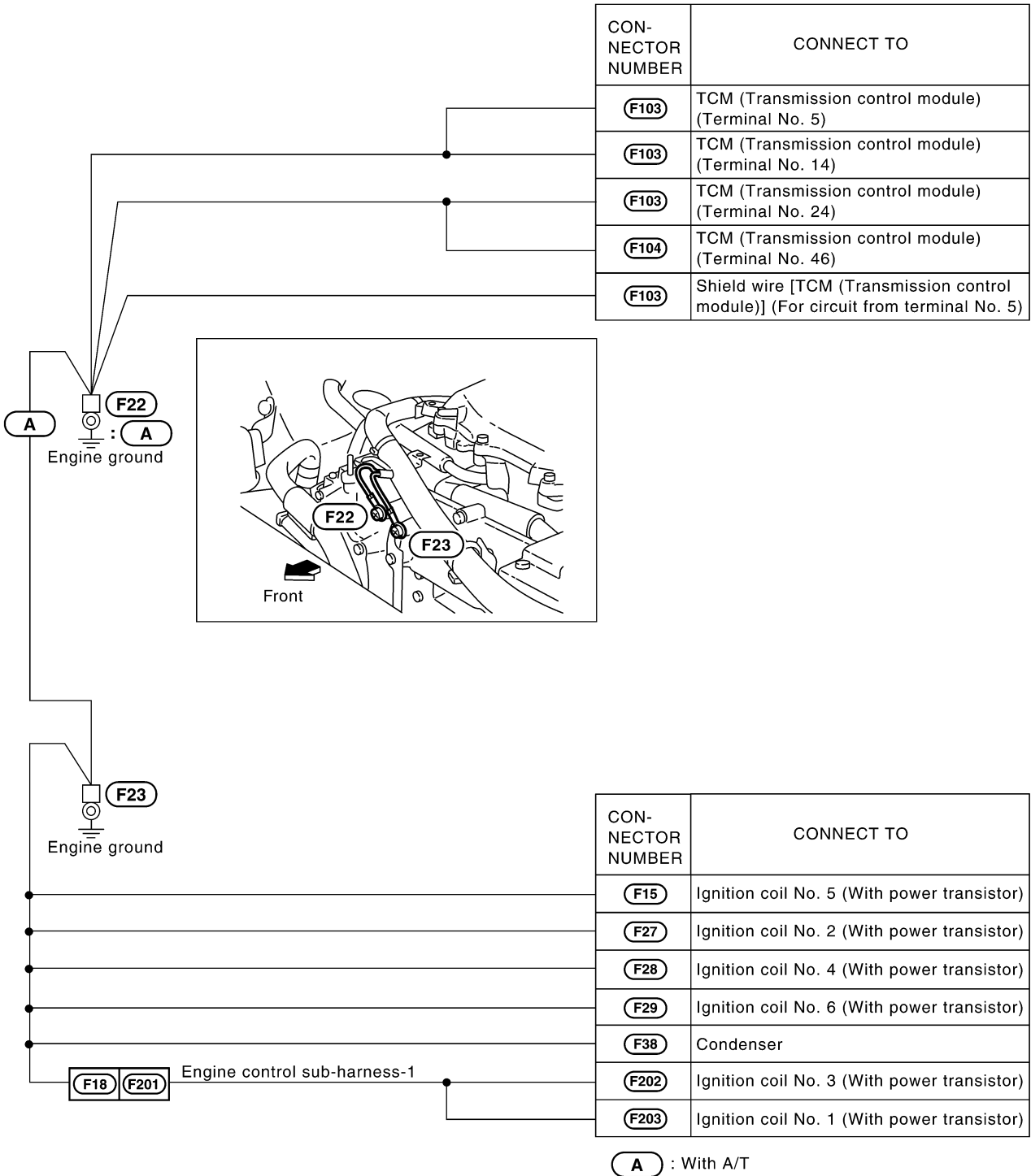
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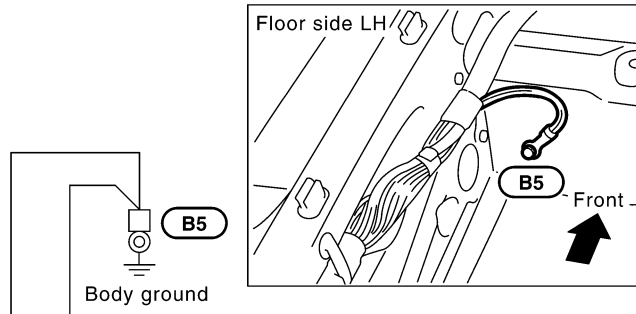
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## ENGINE CONTROL HARNESS



# GROUND

## BODY HARNESS



CON-NECTOR NUMBER	CONNECT TO
B8	Seat belt buckle switch (Driver side)
B11	Seat belt buckle switch (Passenger side)
B6 B321	Power seat (Driver side) sub-harness* (With drive positioner)
B324	Driver seat control unit (Terminal No. 16)
B332	Front seat cushion heater (Driver side) (With drive positioner)
B6 B321	Power seat (Driver side) sub-harness* (With drive positioner)
B325	Driver seat control unit (Terminal No. 33)
B326	Power seat switch (Driver side) (Terminal No. 1) (With drive positioner)
B327	Power seat switch (Driver side) (Terminal No. 7) (With drive positioner)
B328	Seat memory switch
B7 B334	Power seat (Driver side) sub-harness* (With power seat without drive positioner)
B326	Power seat switch (Driver side) (Terminal No. 2) (With power seat without drive positioner)
B327	Power seat switch (Driver side) (Terminal No. 8) (With power seat without drive positioner)
B332	Front seat cushion heater (Driver side) (With power seat without drive positioner)
B12 B341	Power seat (Passenger side) sub-harness*
B342	Power seat switch (Passenger side)
B351	Front seat cushion heater (Passenger side)
B19 D51	Rear door harness LH
D54	Power window sub-switch (Rear LH) • CPU (With interruption detection function for all door window) • Illumination
B25 D71	Rear door harness RH
D74	Power window sub-switch (Rear RH) • CPU (With interruption detection function for all door window) • Illumination

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



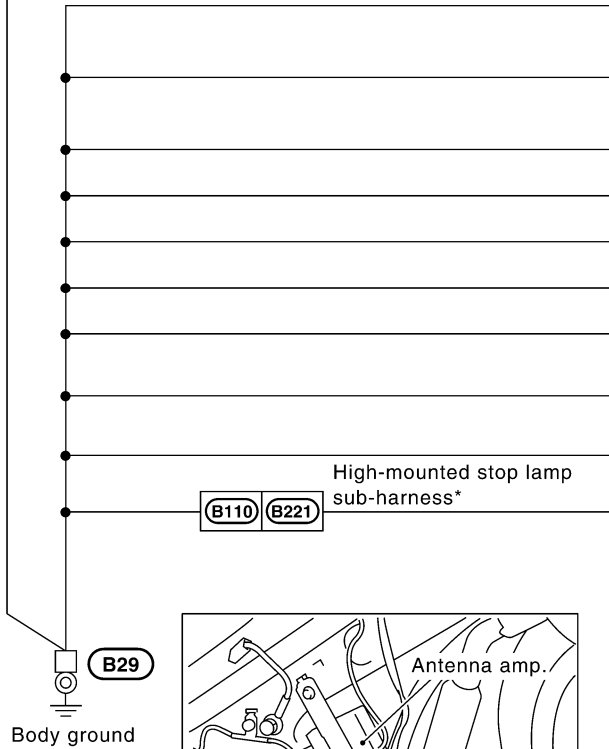
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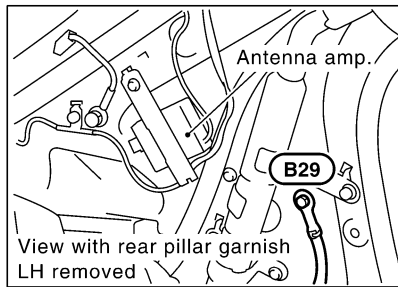
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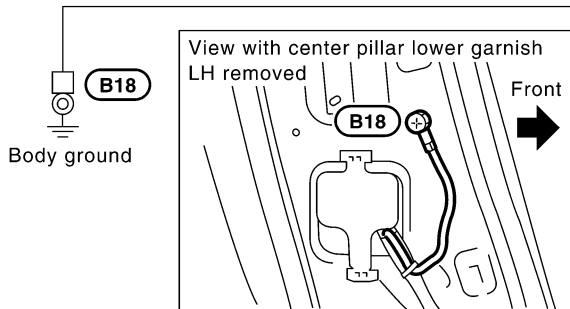


CON-NECTOR NUMBER	CONNECT TO
B26	Condenser
B27	Fuel level sensor unit and fuel pump (Terminal No. 3) • Fuel pump
B102	Back-up lamp LH
B104	License plate lamp
B105	Trunk room lamp switch
B106	Trunk lid opener actuator
B112	Back-up lamp RH
B116	High-mounted stop lamp (On the rear parcel shelf)
B123	Bose speaker amp.
B222	High-mounted stop lamp (In the rear air spoiler)



Body ground

CON-NECTOR NUMBER	CONNECT TO
B15	Shield wire [LH side air bag (Satellite) sensor]

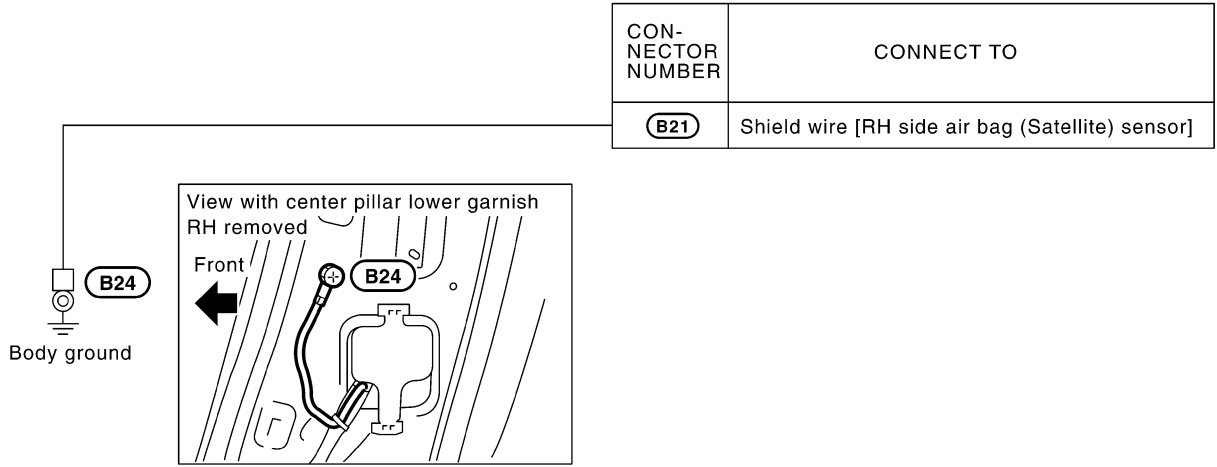


Body ground

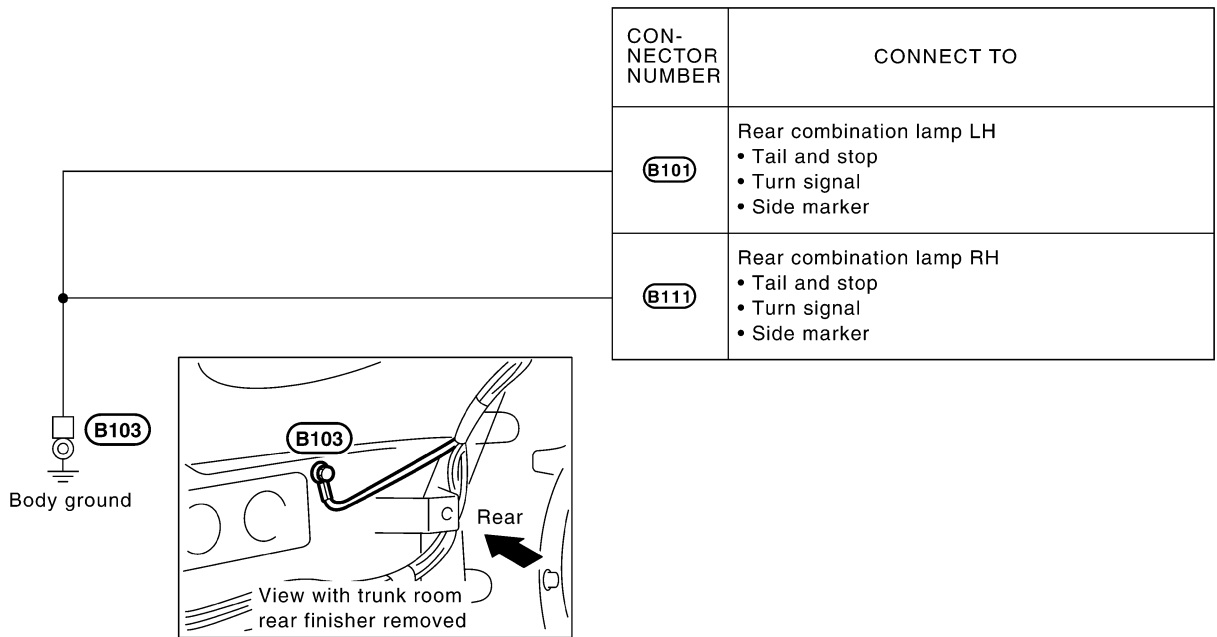
\*: This sub-harness is not shown in "HARNES LAYOUT".

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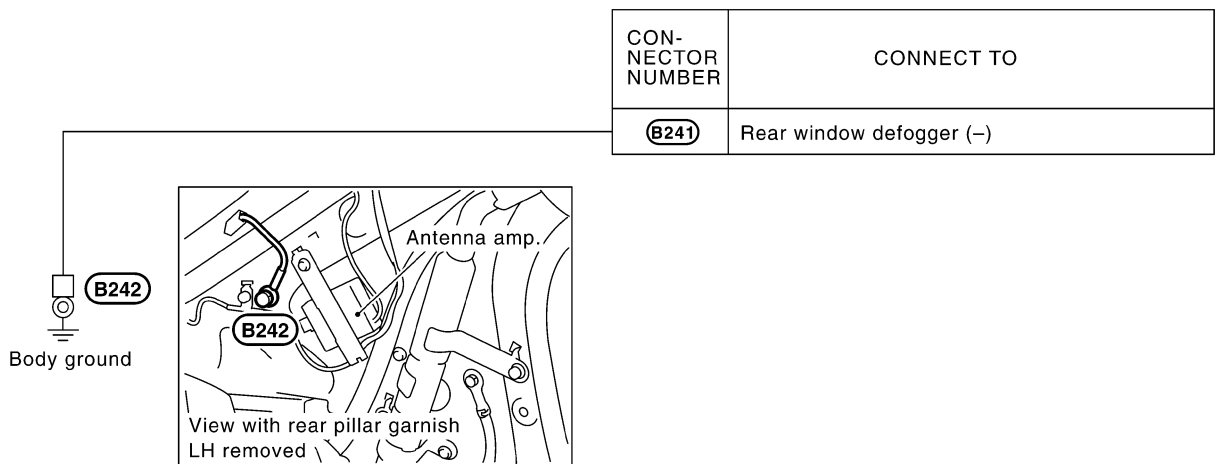
# GROUND



CON-NECTOR NUMBER	CONNECT TO
B21	Shield wire [RH side air bag (Satellite) sensor]



CON-NECTOR NUMBER	CONNECT TO
B101	Rear combination lamp LH <ul style="list-style-type: none"> <li>• Tail and stop</li> <li>• Turn signal</li> <li>• Side marker</li> </ul>
B111	Rear combination lamp RH <ul style="list-style-type: none"> <li>• Tail and stop</li> <li>• Turn signal</li> <li>• Side marker</li> </ul>



CON-NECTOR NUMBER	CONNECT TO
B241	Rear window defogger (-)

CKIT0340E

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## HARNESS

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### Harness Layout

AKS0001C

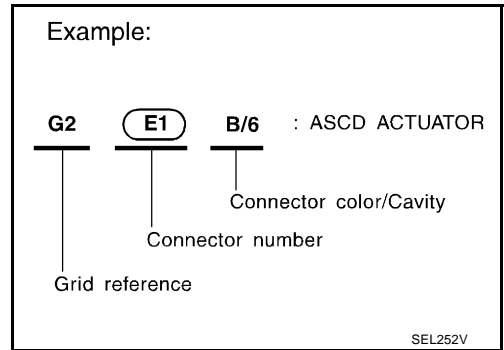
#### HOW TO READ HARNESS LAYOUT

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)














#### 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.

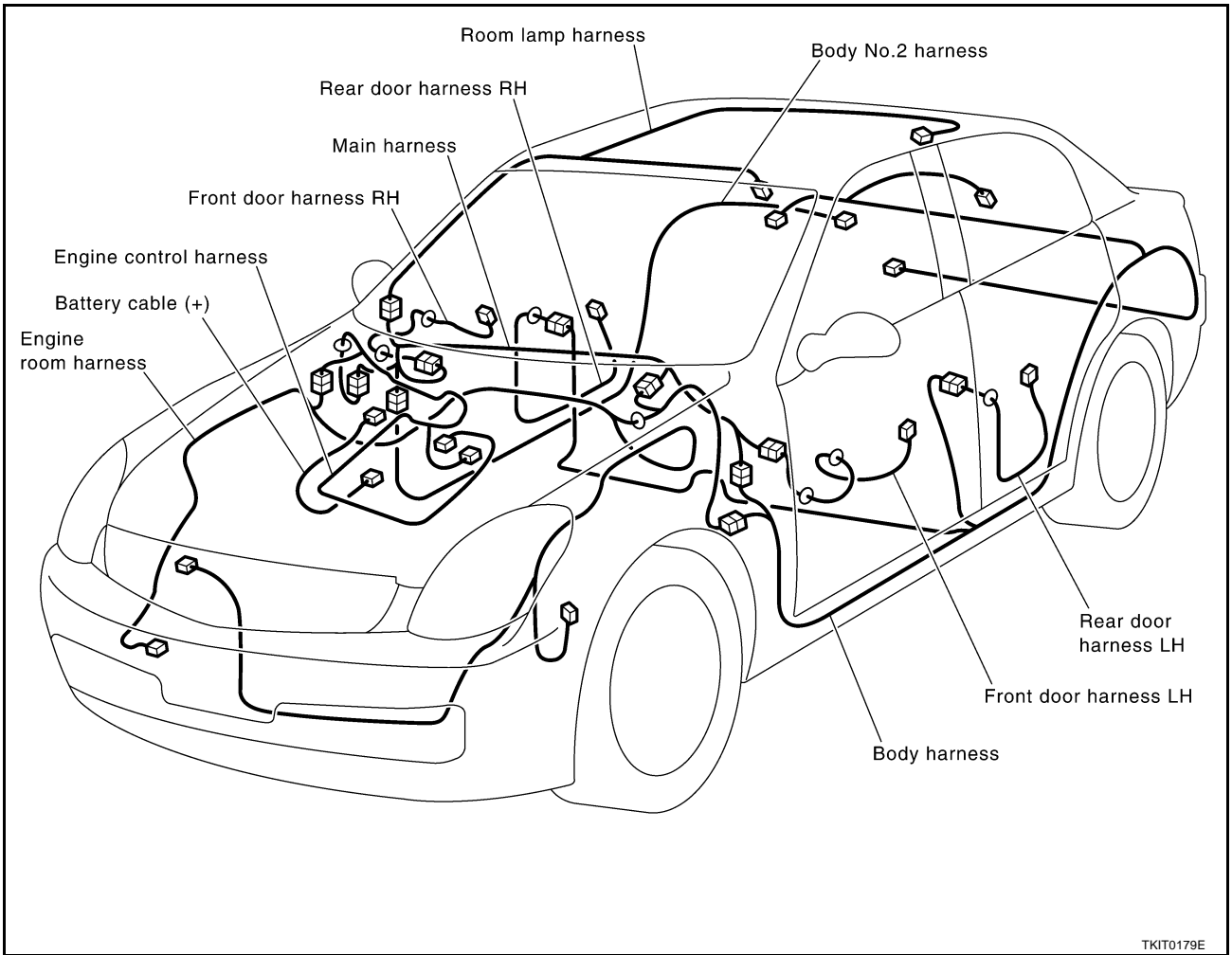
Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
• Cavity: Less than 4 • Relay connector				
• Cavity: From 5 to 8				
• Cavity: More than 9				
• Ground terminal etc.	—			

CKIT0108E



# HARNESS

## OUTLINE



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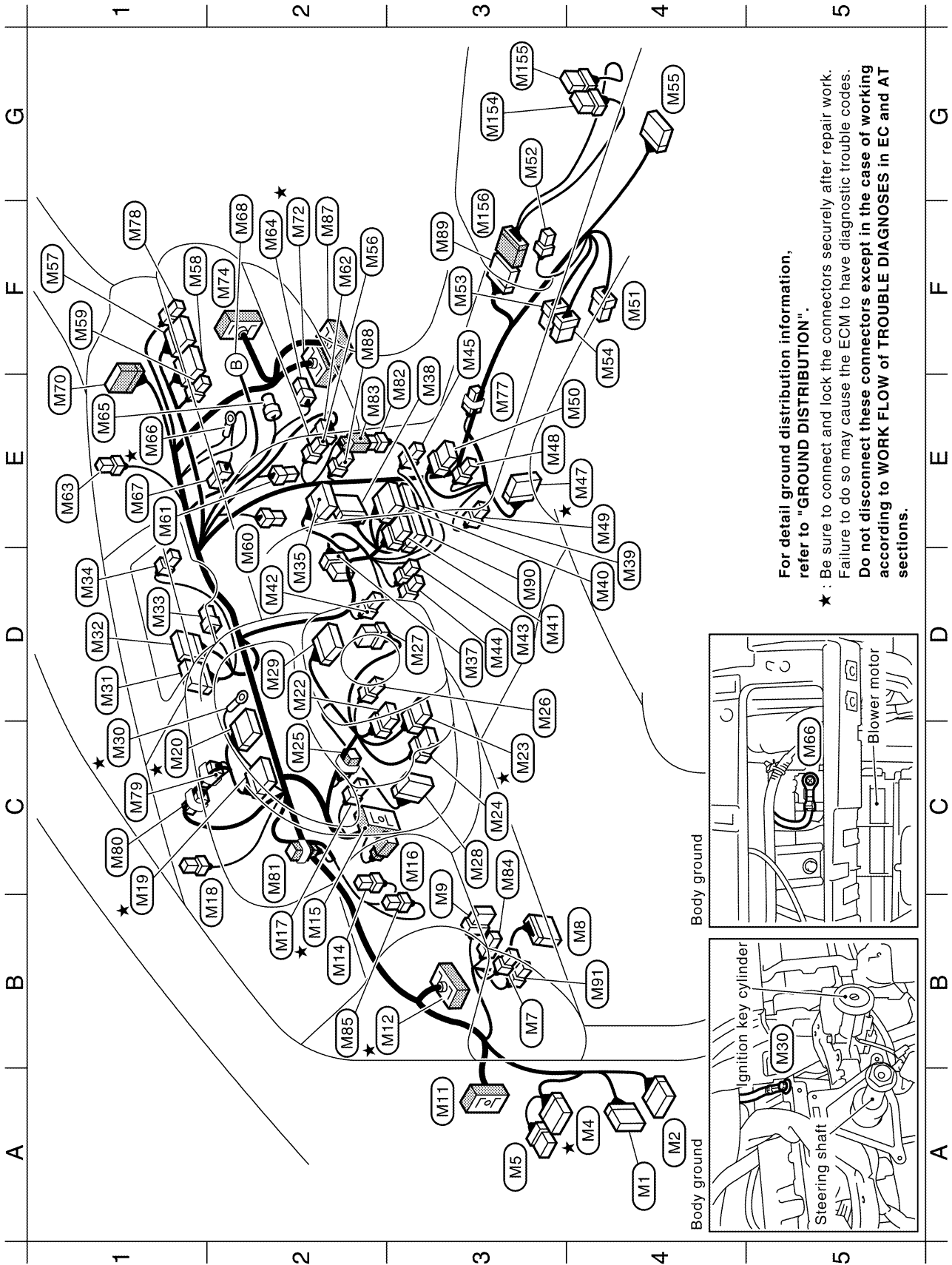
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# HARNESS

## 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)	D3	(M41)	W/6	: Audio unit	F2	★ (M72)	SMJ	: To (F102)
A4	(M2)	B/15	: BCM (Body control module)	D2	(M42)	W/2	: In-vehicle sensor	F2	(M74)	SMJ	: To (D31)
A4	★ (M4)	W/16	: Fuse block (J/B)	D3	(M43)	W/2	: Cigarette lighter illumination	E3	(M77)	W/2	: Diode
A3	(M5)	W/8	: Fuse block (J/B)	D3	(M44)	B/2	: Cigarette lighter socket	F1	(M78)	W/4	: Remote keyless entry receiver
B3	(M7)	W/3	: Illumination control switch	F3	(M45)	BR/2	: Antenna amp. (Via sub-harness)	C1	(M79)	W/2	: Diode
B4	(M8)	W/16	: Data link connector	E4	★ (M47)	W/10	: A/T device (With A/T)	C1	(M80)	W/2	: Diode
B3	(M9)	GY/6	: VDC off switch	E3	(M48)	BR/2	: A/T illumination (With A/T)	C2	(M81)	W/4	: Compass
A3	(M11)	SMJ	: To (D1)	E4	(M49)	W/2	: Ashtray illumination	E3	(M82)	W/4	: To (M83)
B3	★ (M12)	SMJ	: To (B1)	E4	(M50)	W/8	: Hazard switch	E2	(M83)	W/4	: (With navigation system)
B2	(M14)	W/2	: Circuit breaker (With M/T or automatic drive positioner)	F4	(M51)	B/6	: Yaw rate / side G sensor	E2	(M83)	W/4	: To (M82)
B2	★ (M15)	SMJ	: To (E108)	G3	(M52)	B/2	: Power socket (Floor console box)	C3	(M84)	B/2	: (With navigation system)
C3	(M16)	Y/4	: To (E109)	F3	(M53)	BR/6	: Heated seat switch (With A/T)	B2	(M85)	L/4	: Trunk lid opener switch
B2	(M17)	W/3	: Air mix door motor (Driver side)	F4	(M54)	W/6	: Heated seat (Passenger side)	F2	(M87)	SMJ	: To (B401) (For U.S.A.)
B2	(M18)	B/2	: Sunload sensor	F4	(M54)	W/6	: Heated seat (With A/T and heated seat)	F2	(M88)	B/2	: Power socket
C1	★ (M19)	BR/24	: Combination meter	G4	(M55)	Y/28	: Air bag diagnosis sensor unit	F3	(M89)	W/12	: (Instrument side panel RH)
C1	★ (M20)	W/24	: Combination meter	F2	(M56)	W/2	: Trunk lid opener cancel switch	D3	(M90)	W/12	: To (M159) (With M/T)
D2	(M22)	W/8	: Steering angle sensor	F1	(M57)	W/24	: NAVI control unit	B4	(M91)	W/2	: Option connector for audio unit (For U.S.A.)
C3	★ (M23)	GY/8	: Combination switch (Spiral cable)	F1	(M58)	GY/24	: (With navigation system)	B4	(M91)	W/2	: Tire pressure warning check connector
C3	(M24)	Y/6	: Combination switch (Spiral cable)	F1	(M59)	GY/2	: (With navigation system)	G3	(M154)	W/6	: Heated seat switch (Driver side)
C2	(M25)	BR/2	: Key switch	E2	(M60)	W/3	: Heater and cooling unit (With navigation system)	G3	(M155)	BR/6	: Heated seat switch (Passenger side)
D3	(M26)	W/2	: Ignition key hole illumination	E1	(M61)	W/4	: (Via sub-harness)	F3	(M159)	W/12	: To (M89)
D3	(M27)	W/8	: NATS antenna amp.	E1	(M62)	W/6	: Intake sensor	G3	(M159)	W/12	: To (M89)
C3	(M28)	W/10	: Door mirror remote control switch	F2	(M62)	W/6	: Blower motor	G3	(M159)	BR/6	: Heated seat switch (Passenger side)
D2	(M29)	W/16	: Combination switch	E1	(M63)	W/3	: Optical sensor	F3	(M159)	W/12	: To (M89)
C1	★ (M30)	-	: Body ground	F2	(M64)	W/2	: Glove box lamp	G3	(M159)	BR/6	: Heated seat switch (Passenger side)
D1	(M31)	GY/20	: Display and A/C auto amp.	E1	(M65)	Y/4	: Front passenger air bag module (Via sub-harness)	F3	(M159)	W/12	: To (M89)
D1	(M32)	GY/16	: Display and A/C auto amp.	E1	(M66)	-	: Body ground	G3	(M159)	W/6	: Heated seat switch (Driver side)
D1	(M33)	W/4	: Clock	E1	(M67)	W/3	: Intake door motor	G3	(M159)	BR/6	: Heated seat switch (Passenger side)
D1	(M34)	W/2	: Security indicator lamp	F2	(M68)	Bulb	: Upper glove box lamp	F3	(M159)	W/12	: To (M89)
D2	(M35)	W/24	: Display unit	E1	(M70)	W/18	: (Without navigation system)	G3	(M159)	W/6	: Heated seat switch (Driver side)
D3	(M37)	W/8	: (With navigation system)	E1	(M70)	W/18	: (Without navigation system)	G3	(M159)	W/6	: Heated seat switch (Driver side)
E3	(M38)	W/12	: (With navigation system)	E1	(M70)	W/18	: (Without navigation system)	G3	(M159)	W/6	: Heated seat switch (Driver side)
D4	(M39)	W/16	: A/C and audio controller	F2	(M68)	Bulb	: Upper glove box lamp	G3	(M159)	BR/6	: Heated seat switch (Passenger side)
D4	(M40)	W/10	: Audio unit	E1	(M70)	W/18	: (Without navigation system)	G3	(M159)	W/6	: Heated seat switch (Driver side)

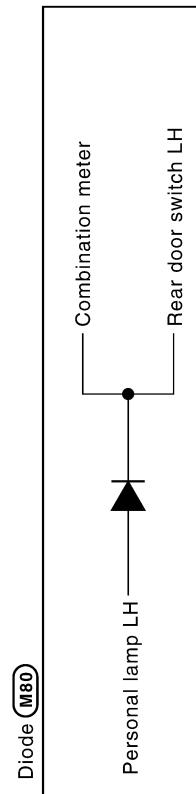
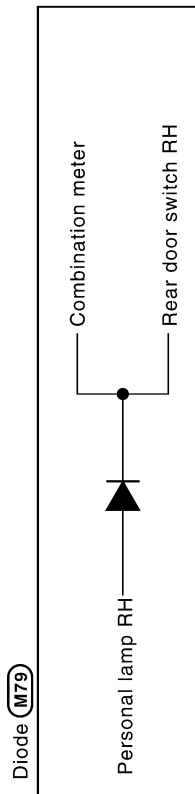
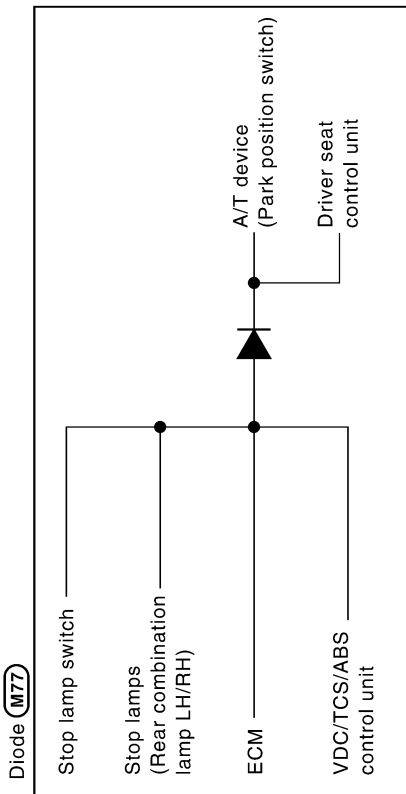
★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

### Switch sub-harness (With M/T)

G3	(M154)	W/6	: Heated seat switch (Driver side)
G3	(M155)	BR/6	: Heated seat switch (Passenger side)
F3	(M159)	W/12	: To (M89)

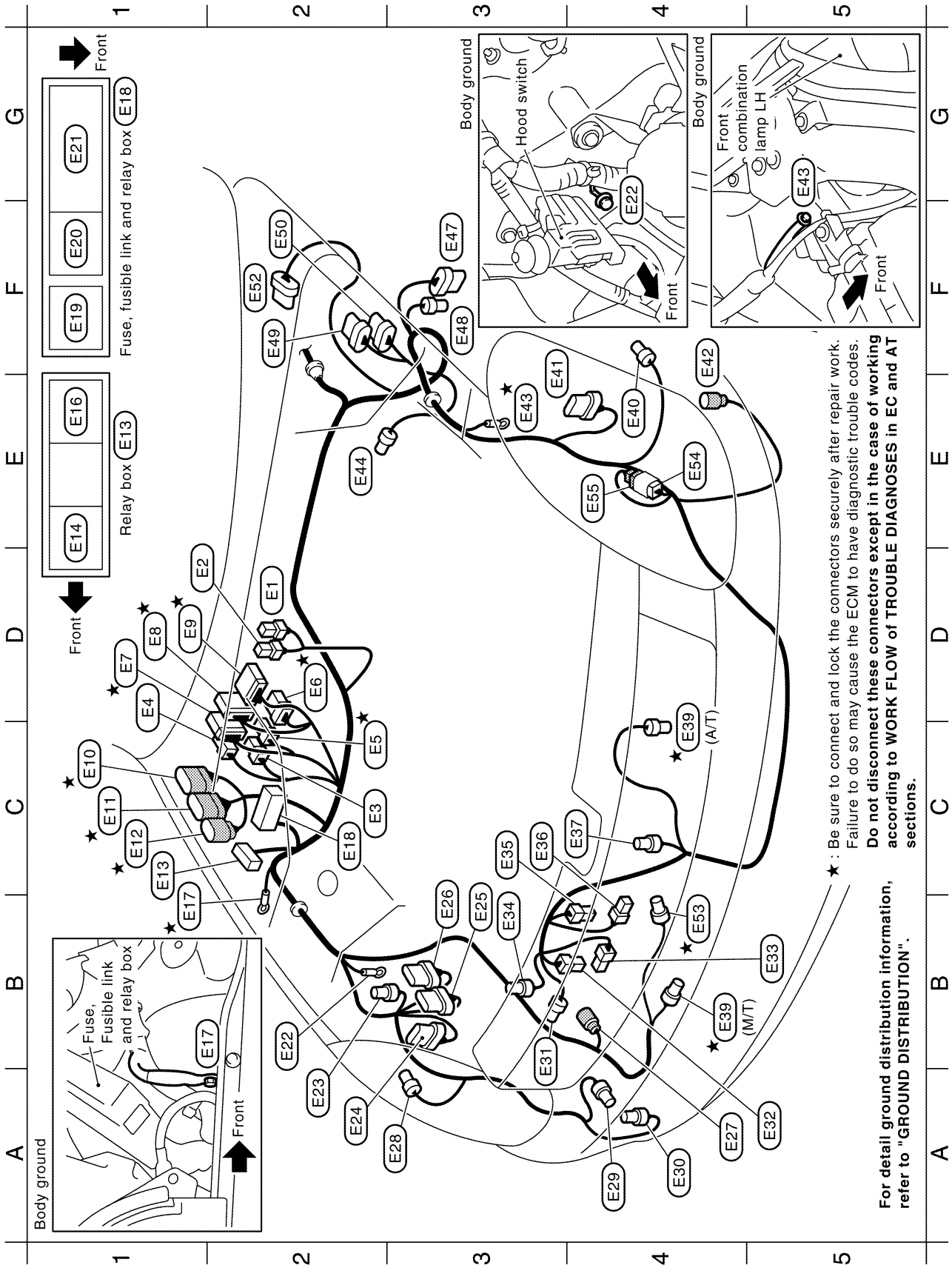
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# HARNESS



# HARNESS

## ENGINE ROOM HARNESS Engine Compartment



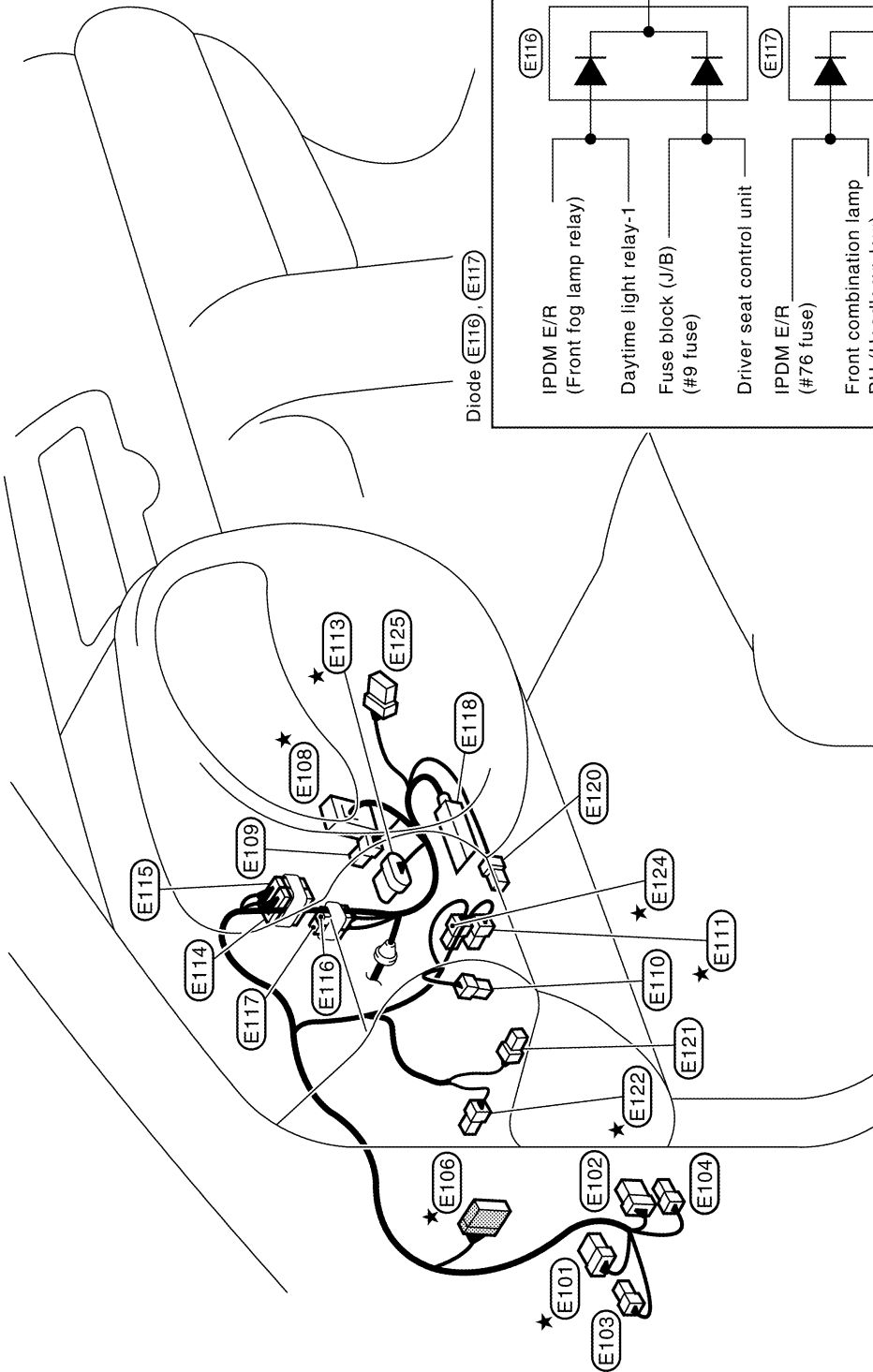
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D2	(E1)	B/2	:	Fusible link holder		F4	(E42)	B/2	:	Front wheel sensor LH
D1	(E2)	GY/2	:	Fusible link holder		E3	★ (E43)	—	:	Body ground
C2	(E3)	B/2	:	IPDM E/R (Intelligent power distribution module engine room)		E2	(E44)	GY/2	:	Brake fluid level switch
D1	(E4)	W/4	:	IPDM E/R (Intelligent power distribution module engine room)		F3	(E47)	B/8	:	VDC relay box
C2	★ (E5)	B/4	:	IPDM E/R (Intelligent power distribution module engine room)		F3	(E48)	B/2	:	VDC relay box
D2	★ (E6)	W/6	:	IPDM E/R (Intelligent power distribution module engine room)		F2	(E49)	GY/8	:	VDC actuator
D1	★ (E7)	GY/16	:	IPDM E/R (Intelligent power distribution module engine room)		F2	(E50)	B/8	:	VDC actuator
D1	★ (E8)	W/12	:	IPDM E/R (Intelligent power distribution module engine room)		F2	(E52)	GY/5	:	Front wiper motor
D1	★ (E9)	W/16	:	IPDM E/R (Intelligent power distribution module engine room)		B4	★ (E53)	GY/4	:	Cooling fan motor-2 (With M/T)
C1	★ (E10)	GY/9	:	To (F1)		E4	(E54)	GY/2	:	To (E55)
C1	★ (E11)	GY/10	:	To (F2)		E4	(E55)	GY/2	:	To (E54)
C1	★ (E12)	B/8	:	To (F3)						
C1	(E13)	—	:	Relay box (For Canada)						
E1	(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						
B2	(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)						
B3	(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						
A4	(E29)	GY/2	:	Front washer motor						
A4	(E30)	BR/2	:	Washer level sensor						
B3	(E31)	B/3	:	Refrigerant pressure sensor						
A5	(E32)	B/1	:	Horn (Low)						
B5	(E33)	B/1	:	Horn (Low)						
B3	(E34)	B/2	:	Ambient sensor						
C3	(E35)	B/1	:	Horn (High)						
C3	(E36)	B/1	:	Horn (High)						
C4	(E37)	Y/2	:	Crash zone sensor						
B4,C4	★ (E39)	GY/4	:	Cooling fan motor-1						
E4	(E40)	GY/2	:	Front side marker lamp LH						
E3	(E41)	B/8	:	Front combination lamp LH						

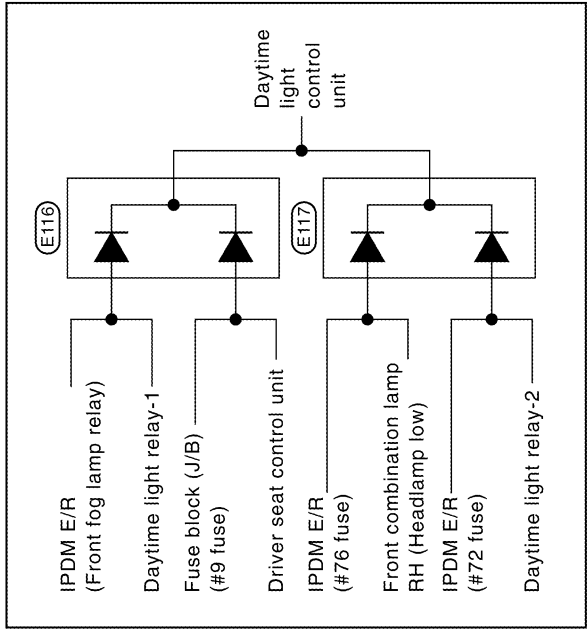
★ : Be sure to connect and lock the connectors securely after repair work.  
 Failure to do so may cause the ECM to have diagnostic trouble codes.  
**Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

# HARNESS

## Passenger Compartment



Diode (E116), (E117)



★ : 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.**

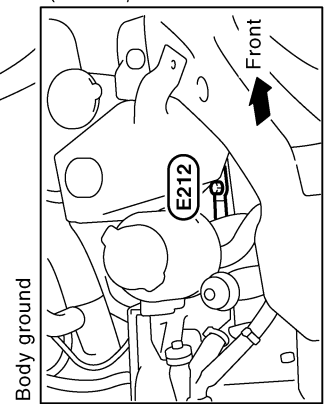
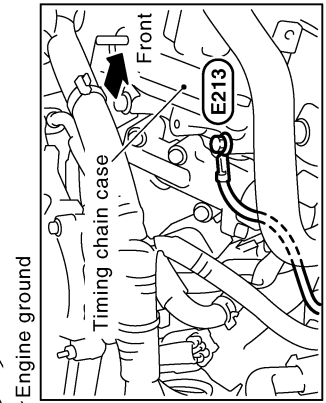
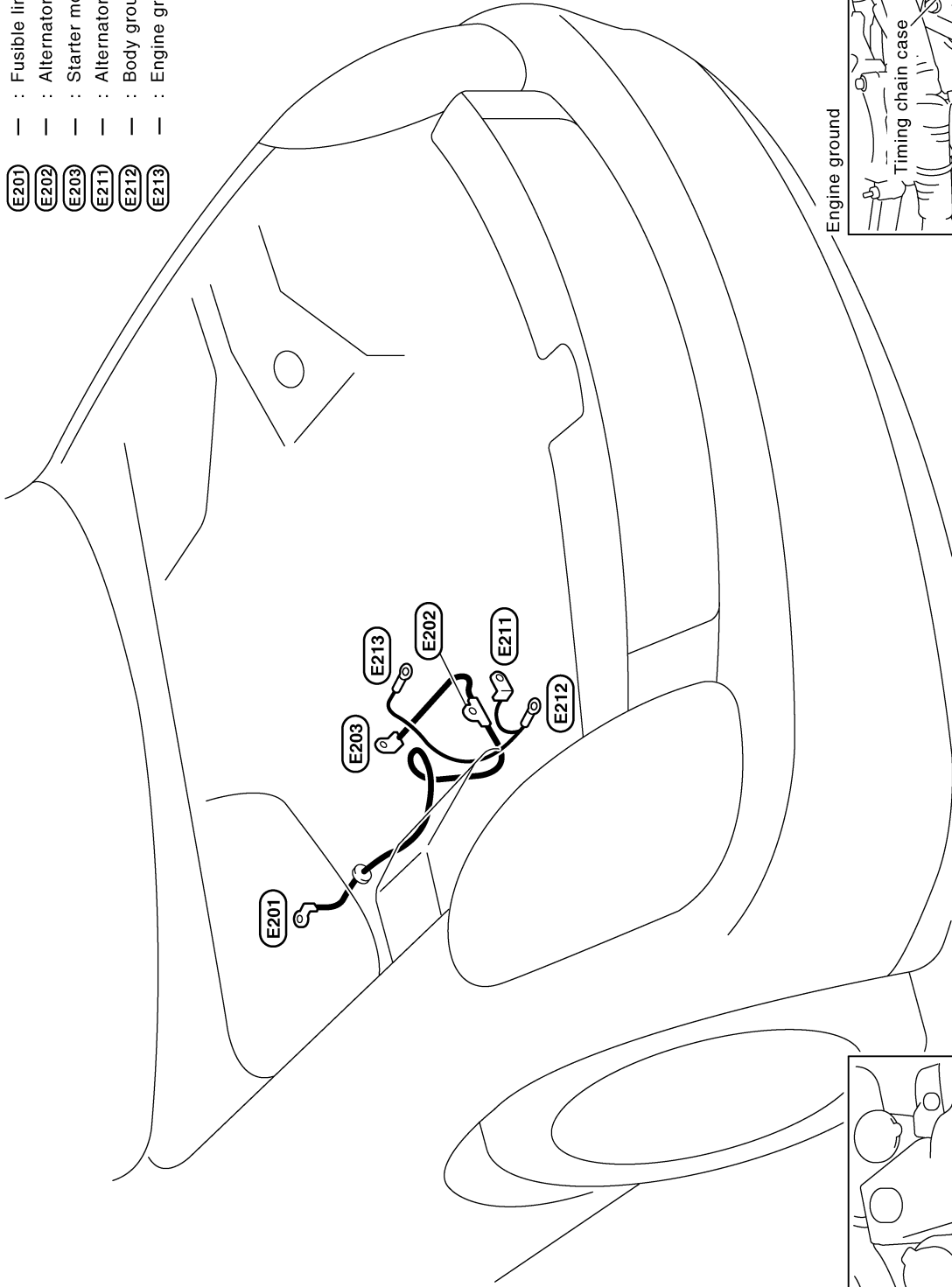
- ★ (E101) W/8 : Fuse block (J/B)
- (E102) W/6 : Fuse block (J/B)
- (E103) B/1 : Fuse block (J/B)
- (E104) B/2 : Fuse block (J/B)
- ★ (E106) W/18 : To (B2)
- ★ (E108) SMJ : To (M15)
- (E109) Y/4 : To (M16)
- (E110) W/1 : Parking brake switch (With A/T)
- ★ (E111) BR/2 : ASCD brake switch
- ★ (E113) GY/6 : Accelerator pedal position sensor
- (E114) BR/20 : Joint connector-1
- (E115) OR/20 : Joint connector-2
- (E116) -/3 : Diode (For Canada)
- (E117) -/3 : Diode (For Canada)
- (E118) SMJ : VDC/TCS/ABS control unit
- (E120) W/2 : To (B35)
- (E121) L/2 : Clutch interlock switch (With M/T)
- ★ (E122) L/2 : ASCD clutch switch (With M/T)
- ★ (E124) W/4 : Stop lamp switch
- (E125) W/6 : Ignition switch

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# HARNESS

## Battery Cable

- (E201) : Fusible link holder
- (E202) : Alternator (B)
- (E203) : Starter motor
- (E211) : Alternator (E)
- (E212) : Body ground
- (E213) : Engine ground



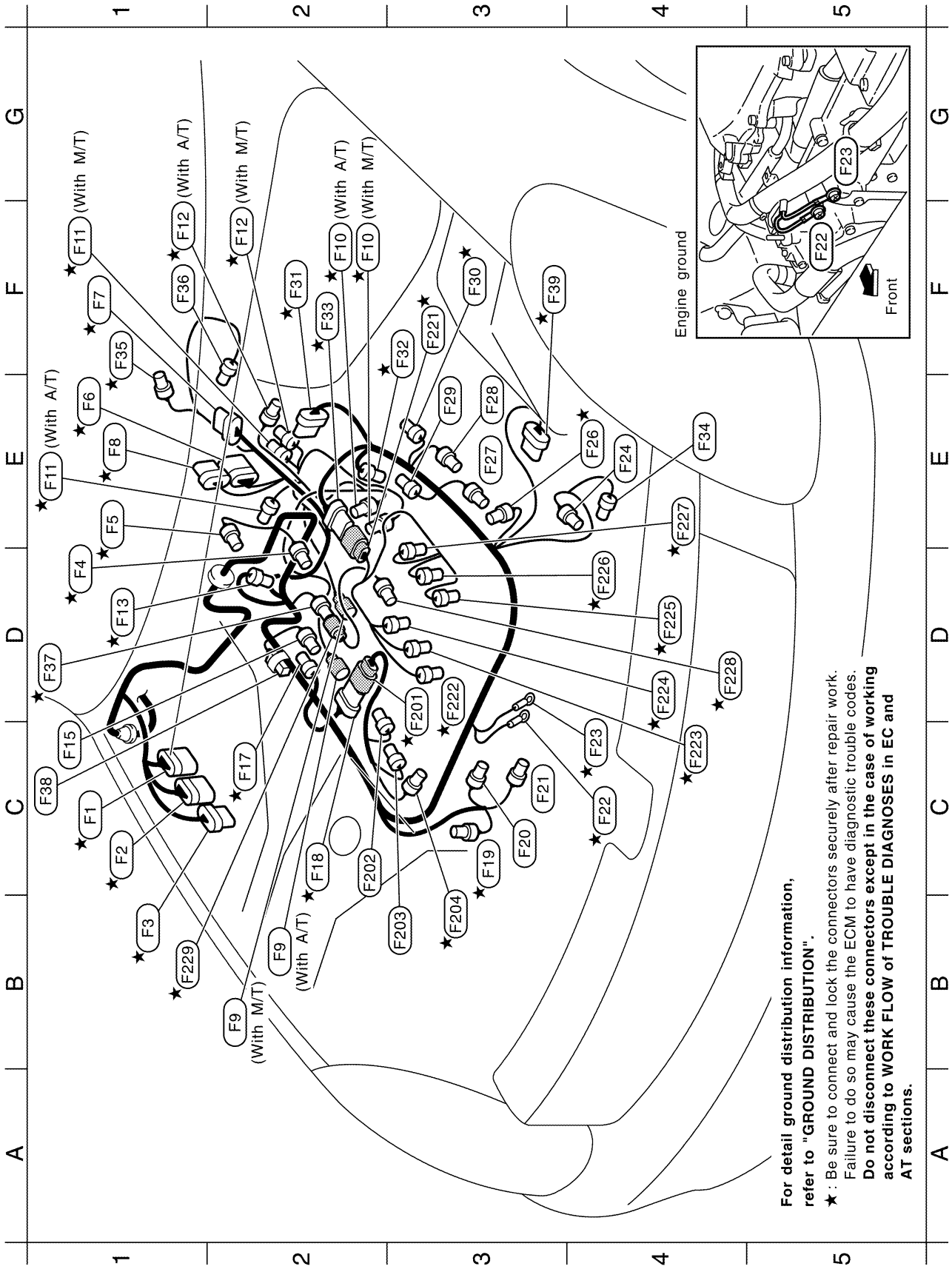
For detail ground distribution information, refer to "GROUND DISTRIBUTION".

TKIT0031E



# 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.

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## Passenger compartment

- 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) SB/2 : To (F229)
- C1 (F38) GY/2 : Condenser
- F3 ★ (F39) B/6 : Mass air flow sensor

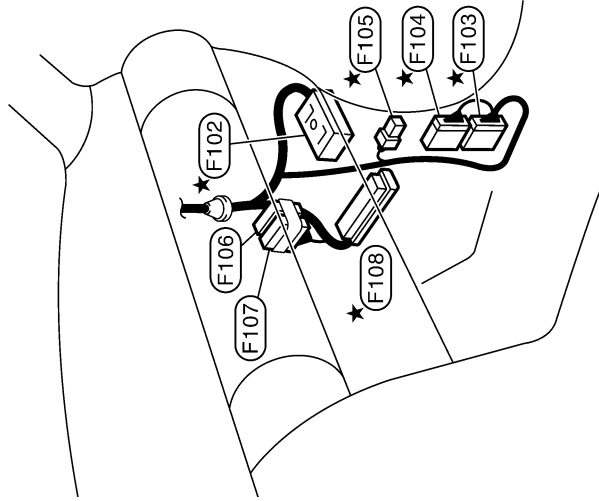
### Engine control sub-harness-1

- 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
- B1 ★ (F229) SB/2 : To (F37)

- 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) L/2 : EVAP canister purge volume control solenoid valve
- E1 ★ (F6) GY/10 : A/T assembly (With A/T)
- F1 ★ (F7) GY/8 : A/T assembly (With A/T)
- E1 ★ (F8) B/8 : A/T assembly (With A/T)
- 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
- C1 (F15) GY/3 : Ignition coil No. 5 (With power transistor)
- C2 ★ (F17) GY/4 : Heated oxygen sensor 1 (Bank 1)
- C2 ★ (F18) L/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)
- F3 ★ (F30) GY/4 : Heated oxygen sensor 1 (Bank 2)
- F2 ★ (F31) GY/6 : Electric throttle control actuator
- F3 ★ (F32) B/3 : Camshaft position sensor (PHASE) (Bank 2)



- ★ (F102) SMJ : To (M72)
- ★ (F103) W/24 : TCM (Transmission control module) (With A/T)
- ★ (F104) GY/24 : TCM (Transmission control module) (With A/T)
- ★ (F105) L/4 : A/T PV IGN relay (With A/T)
- (F106) L/20 : Joint connector-3
- (F107) P/20 : Joint connector-4
- ★ (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.**



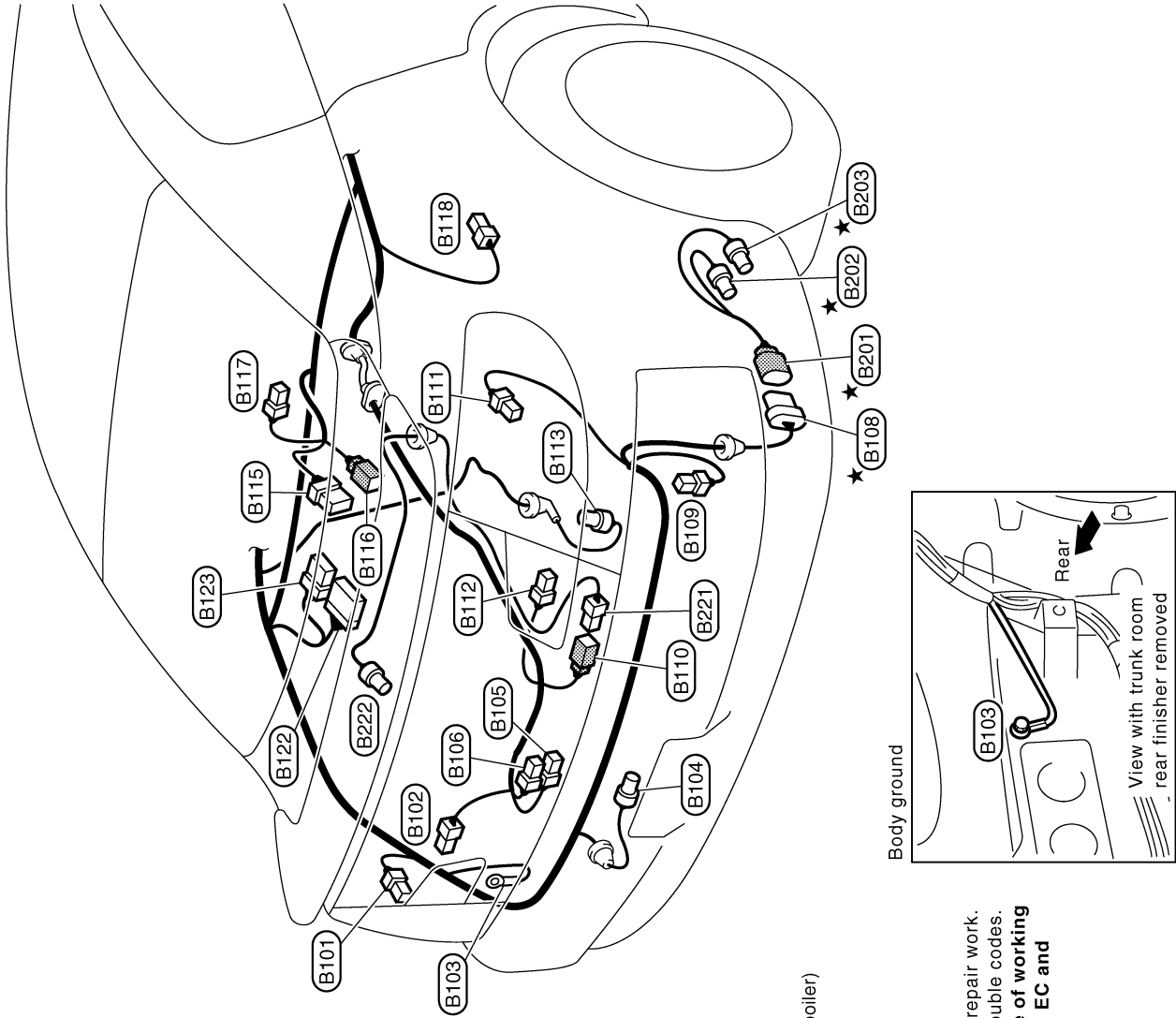
B2 ★	(B1)	SMJ	:	To	(M12)
A2 ★	(B2)	W/18	:	To	(E109)
A3	(B4)	W/15	:	BCM	(Body control module)
B3	(B5)	—	:	Body	ground
C2	(B6)	W/12	:	Front	power seat (Driver side) (With drive positioner)
C3	(B7)	W/4	:	Front	power seat (Driver side) (Without drive positioner)
C2	(B8)	W/3	:	Seat	belt buckle switch (Driver side)
B4	(B9)	Y/2	:	Front	LH side air bag module
D3	(B10)	Y/2	:	Front	RH side air bag module
D3	(B11)	W/3	:	Seat	belt buckle switch (Passenger side)
D3	(B12)	W/4	:	Front	power seat (Passenger side)
C4	(B13)	Y/12	:	Air	bag diagnosis sensor unit
D4	(B14)	Y/12	:	Air	bag diagnosis sensor unit
B3	(B15)	Y/2	:	LH	side air bag (Satellite) sensor
B3	(B16)	Y/2	:	Front	LH seat belt pre-tensioner
B3	(B17)	W/3	:	Front	door switch driver side
B2	(B18)	—	:	Body	ground
B3	(B19)	W/18	:	To	(D51)
C2	(B20)	W/3	:	Rear	door switch LH
E3	(B21)	Y/2	:	RH	side air bag (Satellite) sensor
E3	(B22)	Y/2	:	Front	RH seat belt pre-tensioner
D2	(B23)	W/3	:	Front	door switch passenger side
D2	(B24)	—	:	Body	ground
E2	(B25)	W/18	:	To	(D71)
C4	(B26)	W/2	:	Condenser	
E4 ★	(B27)	GY/5	:	Fuel	level sensor unit and fuel pump
C4	(B28)	GY/2	:	Fuel	level sensor unit (Sub)
C1	(B29)	—	:	Body	ground
D2	(B30)	Y/2	:	LH	side curtain air bag module
E3	(B32)	W/3	:	Rear	door switch RH
E2	(B33)	Y/2	:	RH	side curtain air bag module
F2	(B34)	W/1	:	Condenser	
A2	(B35)	W/2	:	To	(E120)
C2	(B37)	B/1	:	Parking	brake switch (With M/T)

## Body sub-harness

D2	(B241)	B/1	:	Rear	window defogger (-)
D2	(B242)	—	:	Body	ground

★ : 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.**

## Trunk Room



- B101 W/4 : Rear combination lamp LH
- B102 W/2 : Back-up lamp LH
- B103 — : Body ground
- B104 BR/2 : License plate lamp
- B105 W/2 : Trunk room lamp switch
- B106 B/2 : Trunk lid opener actuator
- ★ B108 G/6 : To (B201)
- B109 BR/6 : Rear window defogger relay
- B110 GY/2 : To (B221) (With rear air spoiler)
- B111 W/4 : Rear combination lamp RH
- B112 W/2 : Back-up lamp RH
- B113 SB/4 : Rear wheel sensor
- B115 BR/6 : Woofer (With BOSE system)
- B116 BR/2 : High-mounted stop lamp (On the rear parcel shelf)
- B117 W/2 : Trunk room lamp
- B118 W/4 : Fuel lid lock actuator
- B122 B/24 : BOSE speaker amp. (With BOSE system)
- B123 GY/8 : BOSE speaker amp. (With BOSE system)

### Body sub-harness-1

- ★ B201 G/6 : To (B108)
- ★ B202 GY/3 : EVAP control system pressure sensor
- ★ B203 B/2 : EVAP canister vent control valve

### Body sub-harness-2

- B221 GY/2 : To (B110)
- B222 GY/2 : High-mounted stop lamp (In the rear air spoiler)

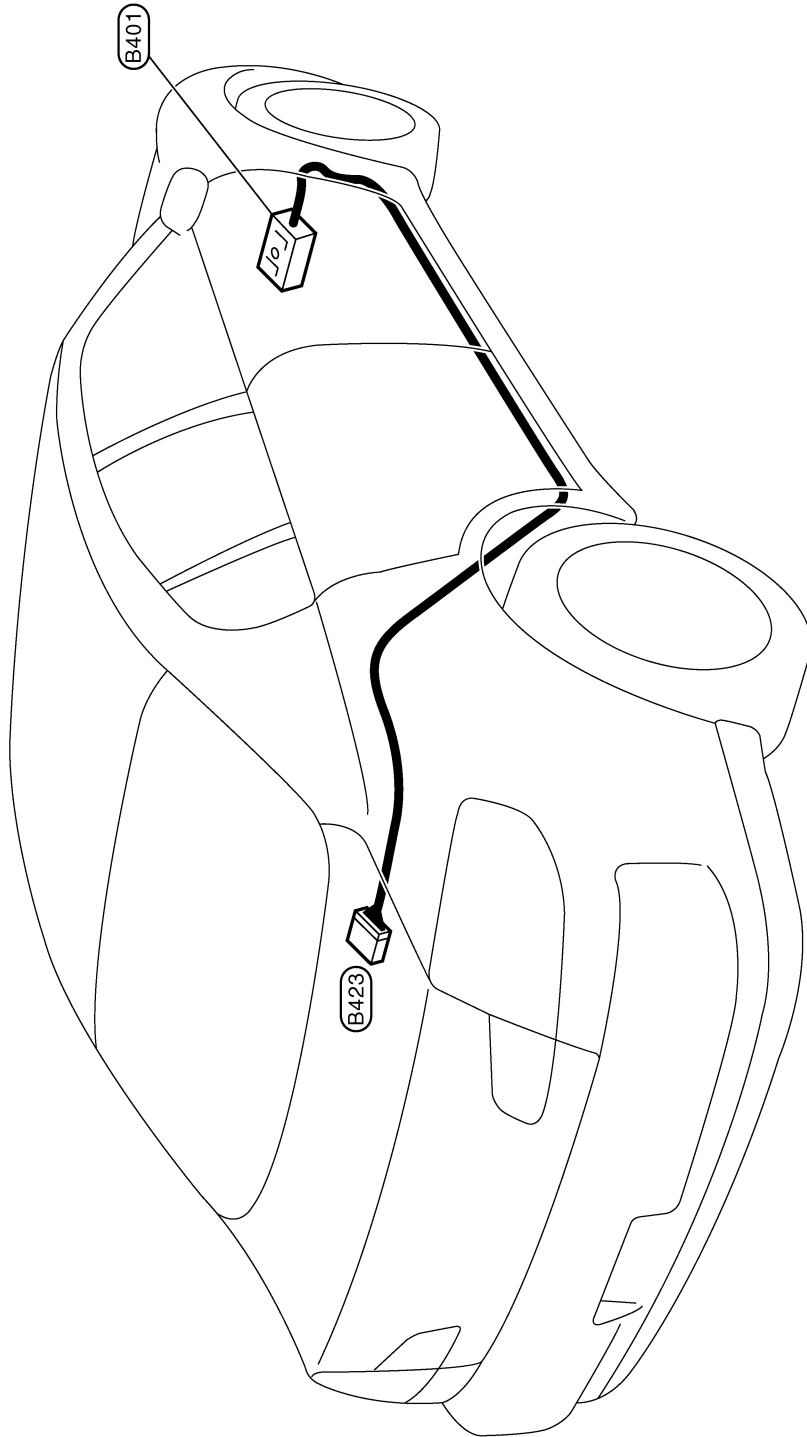
★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

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

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# HARNESS

## BODY NO.2 HARNESS



(B401) SMJ : To (M87)  
(B423) W/16 : Option connector for satellite radio receiver

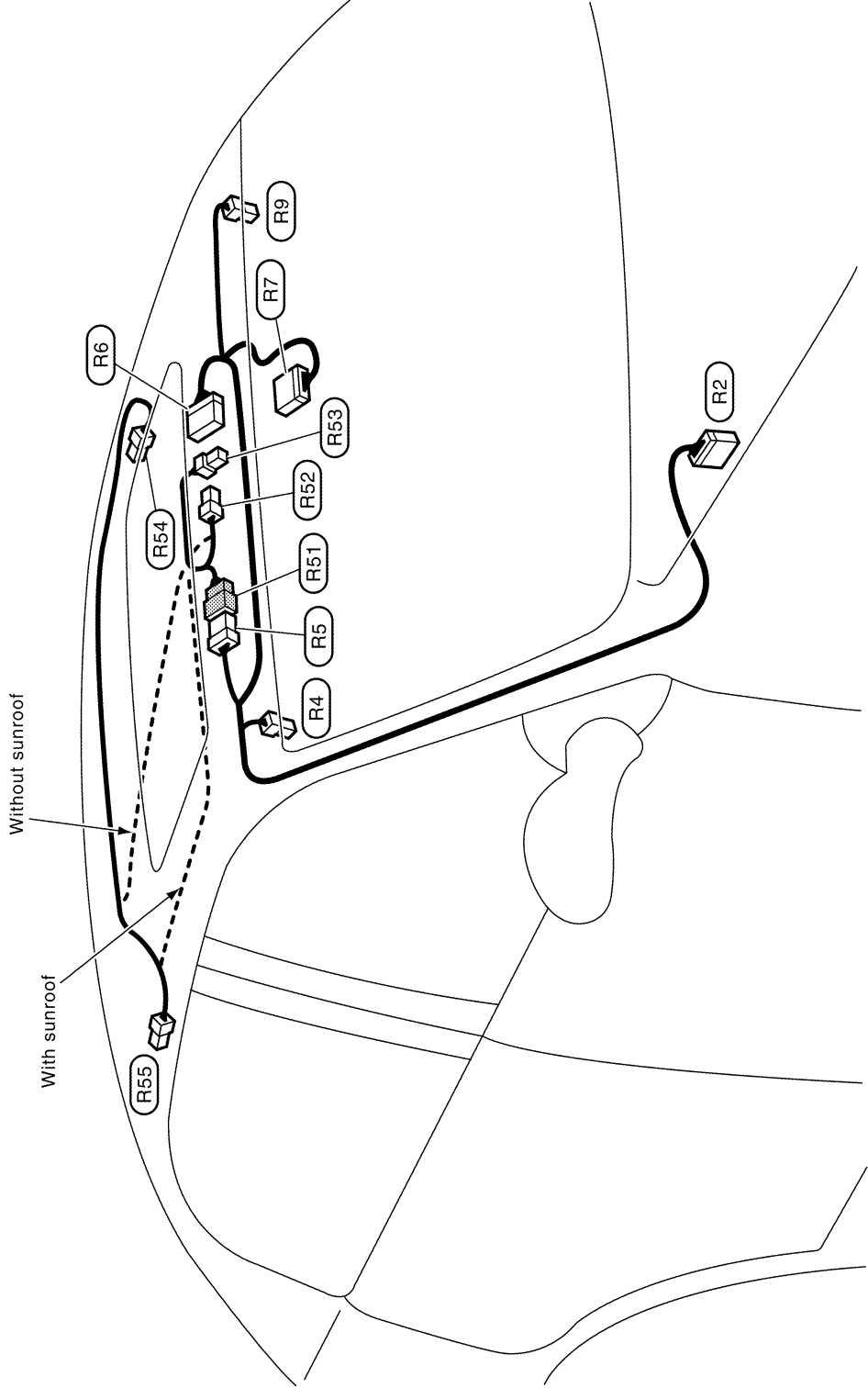
# HARNESS

## ROOM LAMP HARNESS

### Room lamp sub-harness

- (R51) W/8 : To (R5)
- (R52) W/3 : Map lamp
- (R53) W/3 : Sunroof switch (With sunroof)
- (R54) W/3 : Personal lamp LH
- (R55) W/3 : Personal lamp RH

- (R2) W/18 : To (W70)
- (R4) W/2 : Vanity mirror lamp RH
- (R5) W/8 : To (R51)
- (R6) B/12 : Sunroof motor assembly (With sunroof)
- (R7) B/10 : Auto anti-dazzling inside mirror (With drive positioner)
- (R9) W/2 : Vanity mirror lamp LH

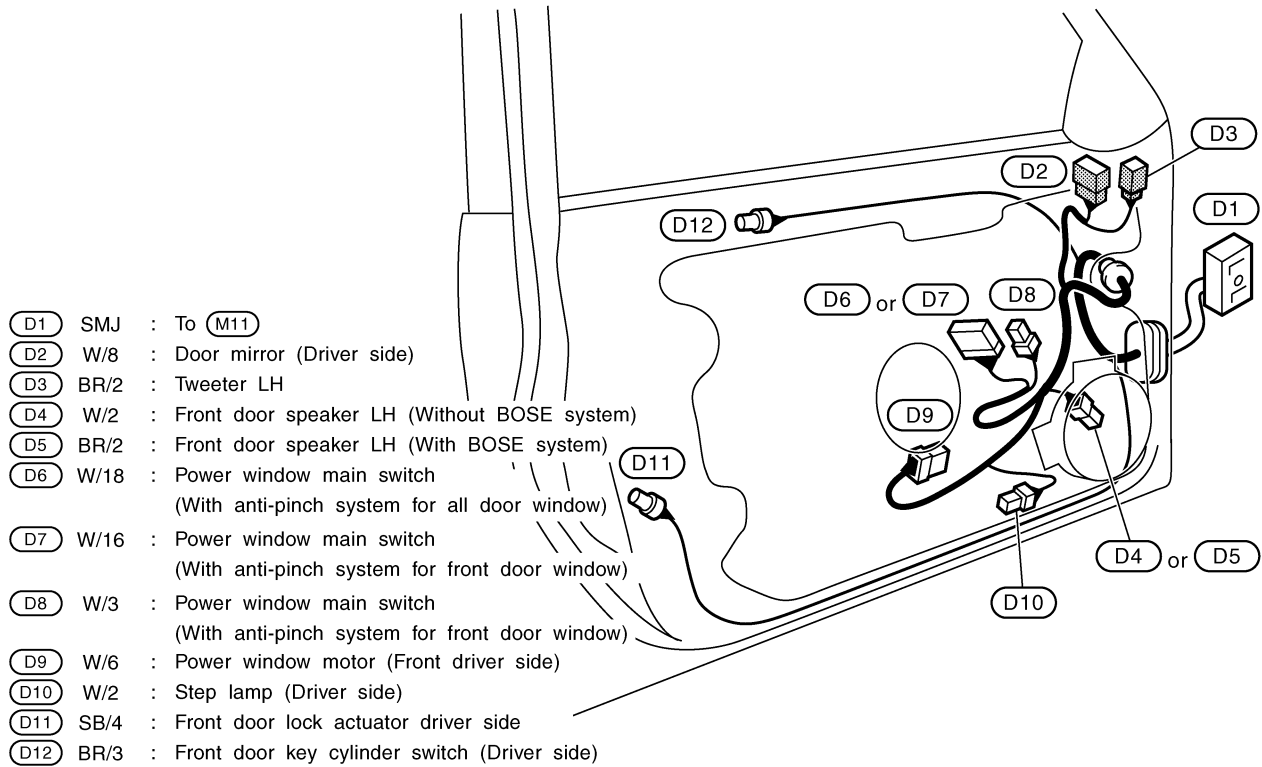


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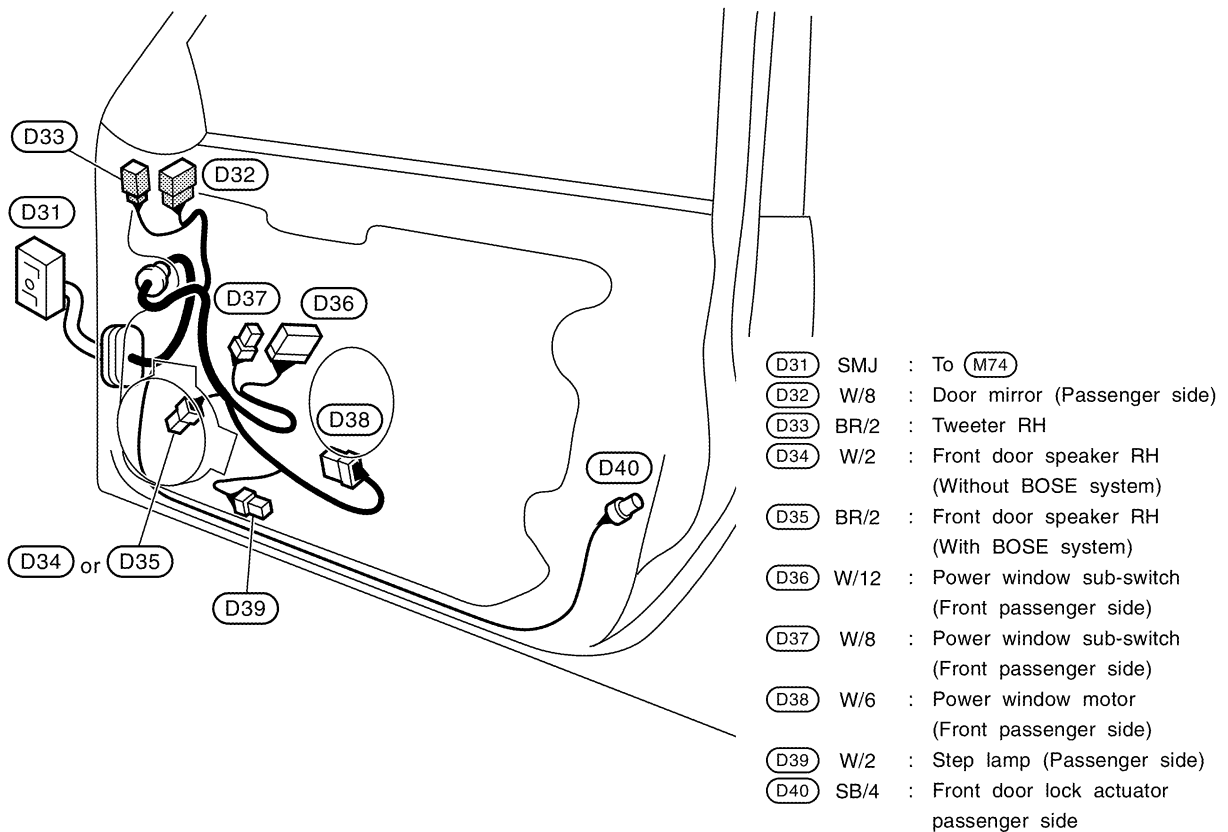
## FRONT DOOR HARNESS

### LH Side



TKIT0192E

### RH Side



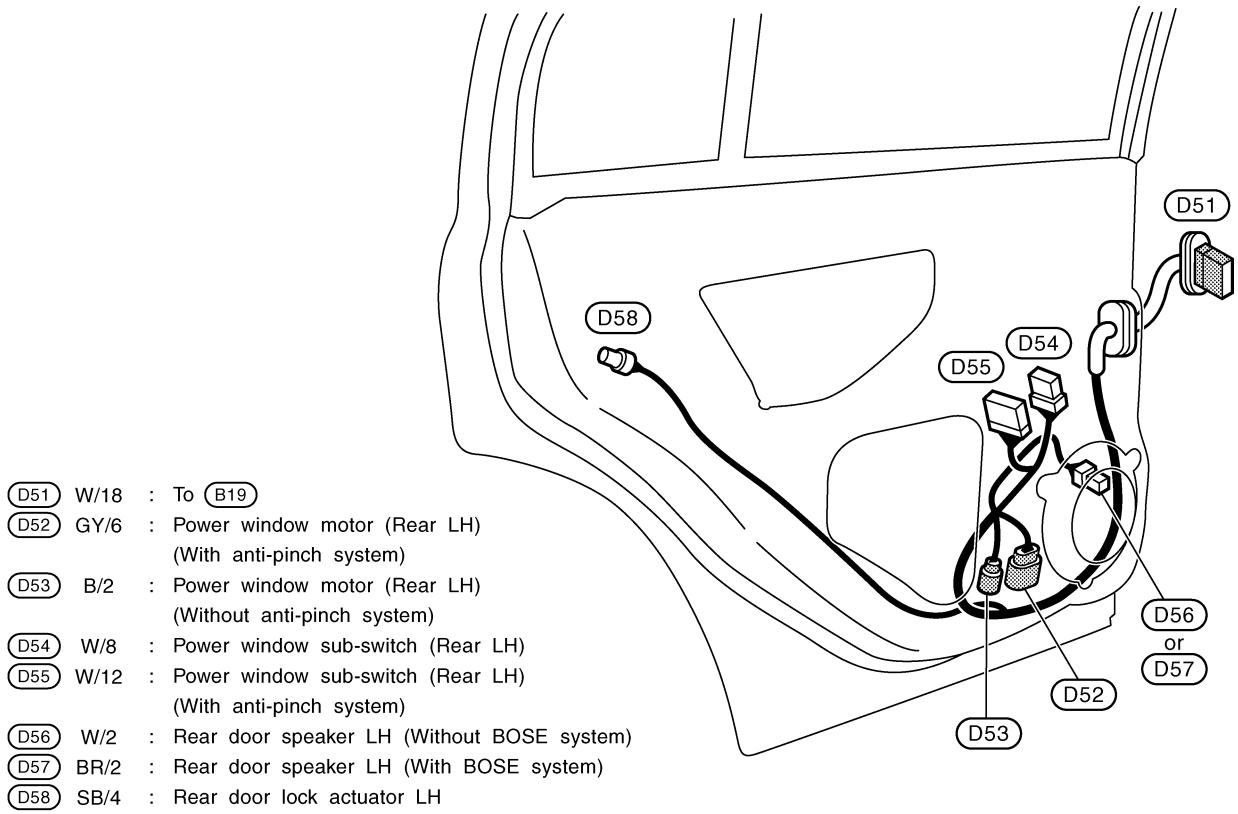
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# HARNESS

## REAR DOOR HARNESS

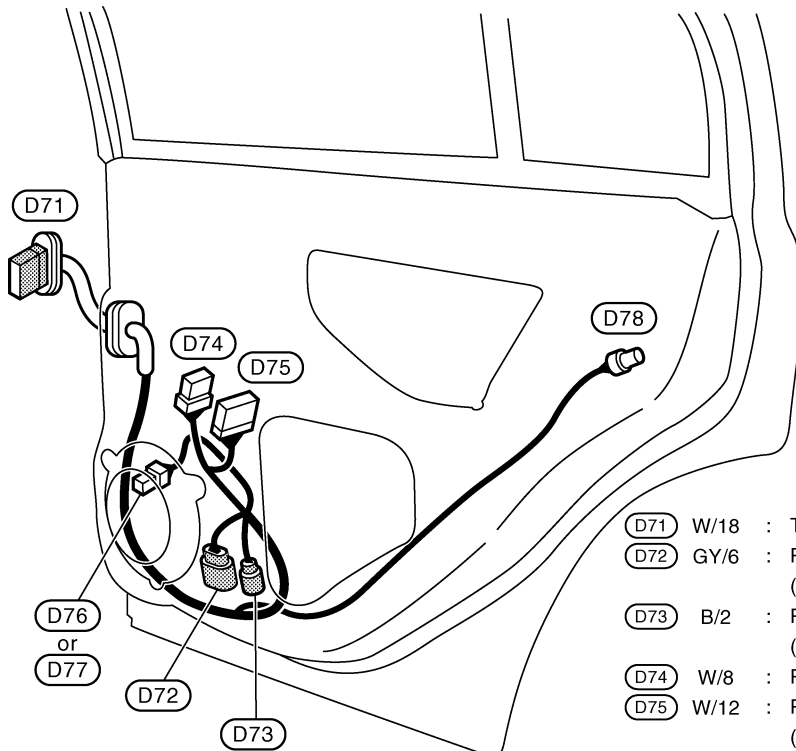
### LH Side



- (D51) W/18 : To (B19)
- (D52) GY/6 : Power window motor (Rear LH)  
(With anti-pinch system)
- (D53) B/2 : Power window motor (Rear LH)  
(Without anti-pinch system)
- (D54) W/8 : Power window sub-switch (Rear LH)
- (D55) W/12 : Power window sub-switch (Rear LH)  
(With anti-pinch system)
- (D56) W/2 : Rear door speaker LH (Without BOSE system)
- (D57) BR/2 : Rear door speaker LH (With BOSE system)
- (D58) SB/4 : Rear door lock actuator LH

TKIT0194E

### RH Side



- (D71) W/18 : To (B25)
- (D72) GY/6 : Power window motor (Rear RH)  
(With anti-pinch system)
- (D73) B/2 : Power window motor (Rear RH)  
(Without anti-pinch system)
- (D74) W/8 : Power window sub-switch (Rear RH)
- (D75) W/12 : Power window sub-switch (Rear RH)  
(With anti-pinch system)
- (D76) W/2 : Rear door speaker RH (Without BOSE system)
- (D77) BR/2 : Rear door speaker RH (With BOSE system)
- (D78) SB/4 : Rear door lock actuator RH

TKIT0195E

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# HARNESS

## Wiring Diagram Codes (Cell Codes)

AKS000ID

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
APPS1	EC	Accelerator Pedal Position Sensor
APPS2	EC	Accelerator Pedal Position Sensor
APPS3	EC	Accelerator Pedal Position Sensor
ASCBOF	EC	Automatic Speed Control Device (ASCD) Brake Switch
ASC/BS	EC	Automatic Speed Control Device (ASCD) Brake Switch
ASCIND	EC	Automatic Speed Control Device (ASCD) Indicator
ASC/SW	EC	Automatic Speed Control Device (ASCD) Steering Switch
AT/IND	DI	A/T Indicator Lamp
AUDIO	AV	Audio
AUT/DP	SE	Automatic Drive Positioner
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
D/C	AT	Direct Clutch Solenoid Valve
D/CF	AT	Direct Clutch Solenoid Valve Function
DEF	GW	Rear Window Defogger
D/LOCK	BL	Power Door Lock
DTRL	LT	Headlamp - With Daytime Light System
E/BRE	AT	A/T 1st Engine Braking
ECM/PW	EC	ECM Power Supply For Back-Up
ECTS	EC	Engine Coolant Temperature Sensor
ETC1	EC	Electric Throttle Control Function
ETC2	EC	Throttle Control Motor Relay
ETC3	EC	Throttle Control Motor
F/FOG	LT	Front Fog Lamp
FPSW1	AT	ATF Pressure Switch 1
FPSW3	AT	ATF Pressure Switch 3
FPSW5	AT	ATF Pressure Switch 5
FPSW6	AT	ATF Pressure Switch 6

# HARNESSES

Code	Section	Wiring Diagram Name
F/PUMP	EC	Fuel Pump
FR/B	AT	Front Brake Solenoid Valve
FR/BF	AT	Front Brake Solenoid Valve Function
FTS	AT	A/T Fluid Temperature Sensor Circuit
FTTS	EC	Fuel Tank Temperature Sensor
FUELB1	EC	Fuel Injection System Function (Bank 1)
FUELB2	EC	Fuel Injection System Function (Bank 2)
H/LAMP	LT	Headlamp
HLR/C	AT	High and Low Reverse Clutch Solenoid Valve
HLR/CF	AT	High and Low Reverse Clutch Solenoid Valve Function
HORN	WW	Horn
HSEAT	SE	Heated Seat
IATS	EC	Intake Air Temperature Sensor
I/C	AT	Input Clutch Solenoid Valve
I/CF	AT	Input Clutch Solenoid Valve Function
IGNSYS	EC	Ignition System
ILL	LT	Illumination
I/LOCK	AT	A/T Interlock
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
LC/B	AT	Low Coast Brake Solenoid Valve
LC/BF	AT	Low Coast Brake Solenoid Valve Function
LPSV	AT	Line Pressure Solenoid Valve
MAFS	EC	Mass Air Flow Sensor
MAIN	EC	Main Power Supply and Ground Circuit
METER	DI	Speedometer, Tachometer, Temp., and Fuel Gauges
MIL/DL	EC	Mil & Data Link Connectors
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
O2H1B1	EC	Heated Oxygen Sensor 1 Heater Bank 1
O2H1B2	EC	Heated Oxygen Sensor 1 Heater Bank 2
O2H2B1	EC	Heated Oxygen Sensor 2 Heater Bank 1
O2H2B2	EC	Heated Oxygen Sensor 2 Heater Bank 2
O2S1B1	EC	Heated Oxygen Sensor 1 Bank 1
O2S1B2	EC	Heated Oxygen Sensor 1 Bank 2
O2S2B1	EC	Heated Oxygen Sensor 2 Bank 1
O2S2B2	EC	Heated Oxygen Sensor 2 Bank 2

A  
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PG

# HARNESS

Code	Section	Wiring Diagram Name
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	AT	Transmission Control Module Power Supply
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
START	SC	Starting System
STOP/L	LT	Stop Lamp
STSIG	AT	Start Signal Circuit
TAIL/L	LT	Parking, License and Tail Lamps
TCCSIG	AT	A/T Tcc S/V Function (Lock-Up)
TCV	AT	Torque Converter Clutch Solenoid Valve
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
TRSA/T	AT	Turbine Revolution Sensor
TURN	LT	Turn Signal and Hazard Warning Lamp
T/WARN	WT	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

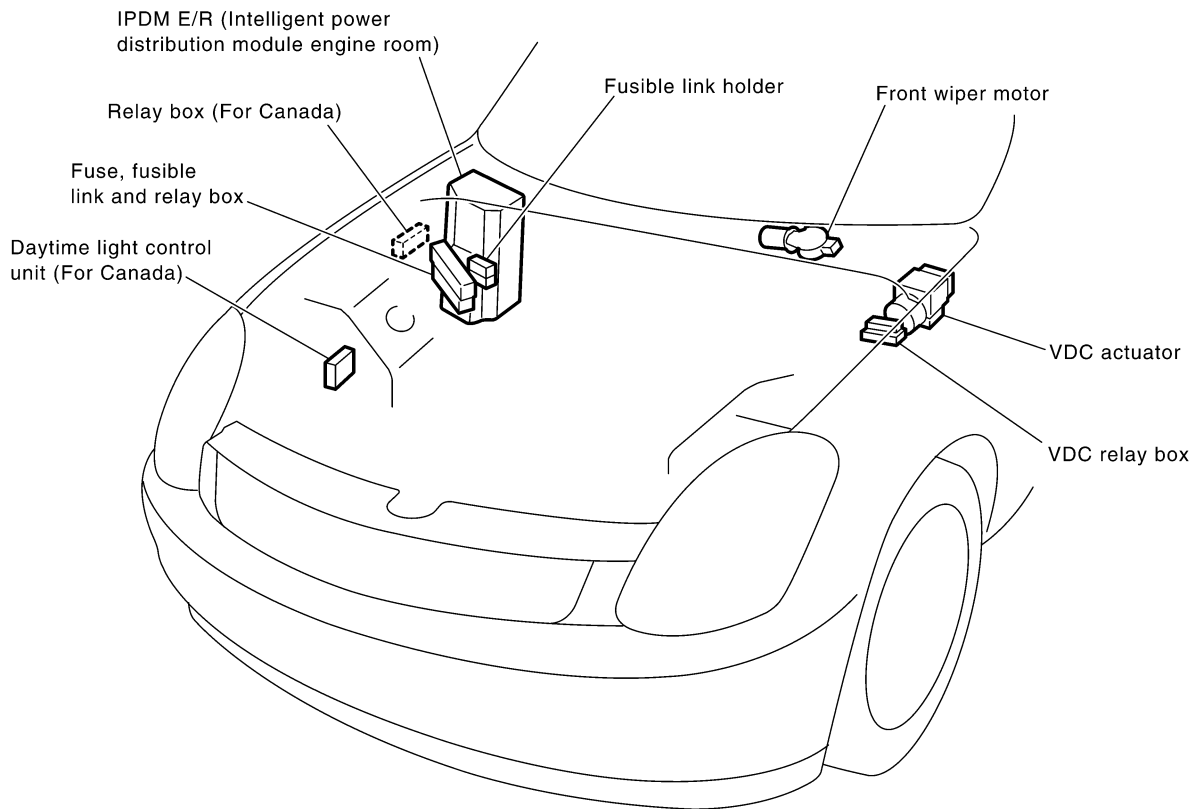
# ELECTRICAL UNITS LOCATION

## ELECTRICAL UNITS LOCATION

PPF:25230

### Electrical Units Location ENGINE COMPARTMENT

AKS0001E



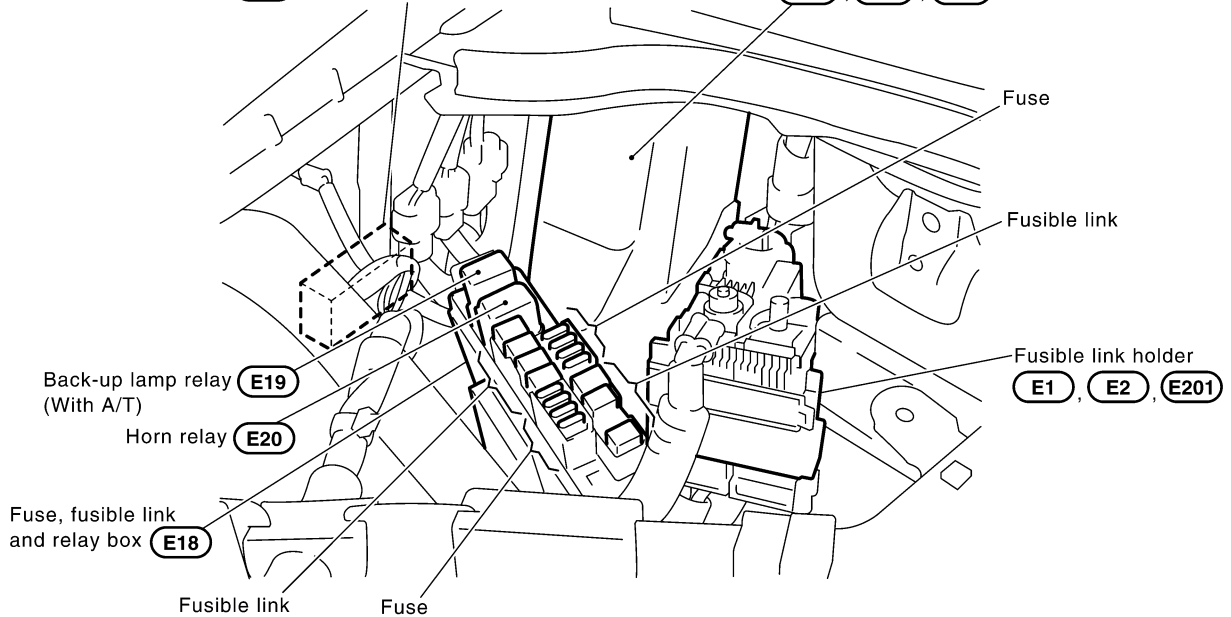
A  
B  
C  
D  
E  
F  
G  
H  
I  
J

- 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)

PG

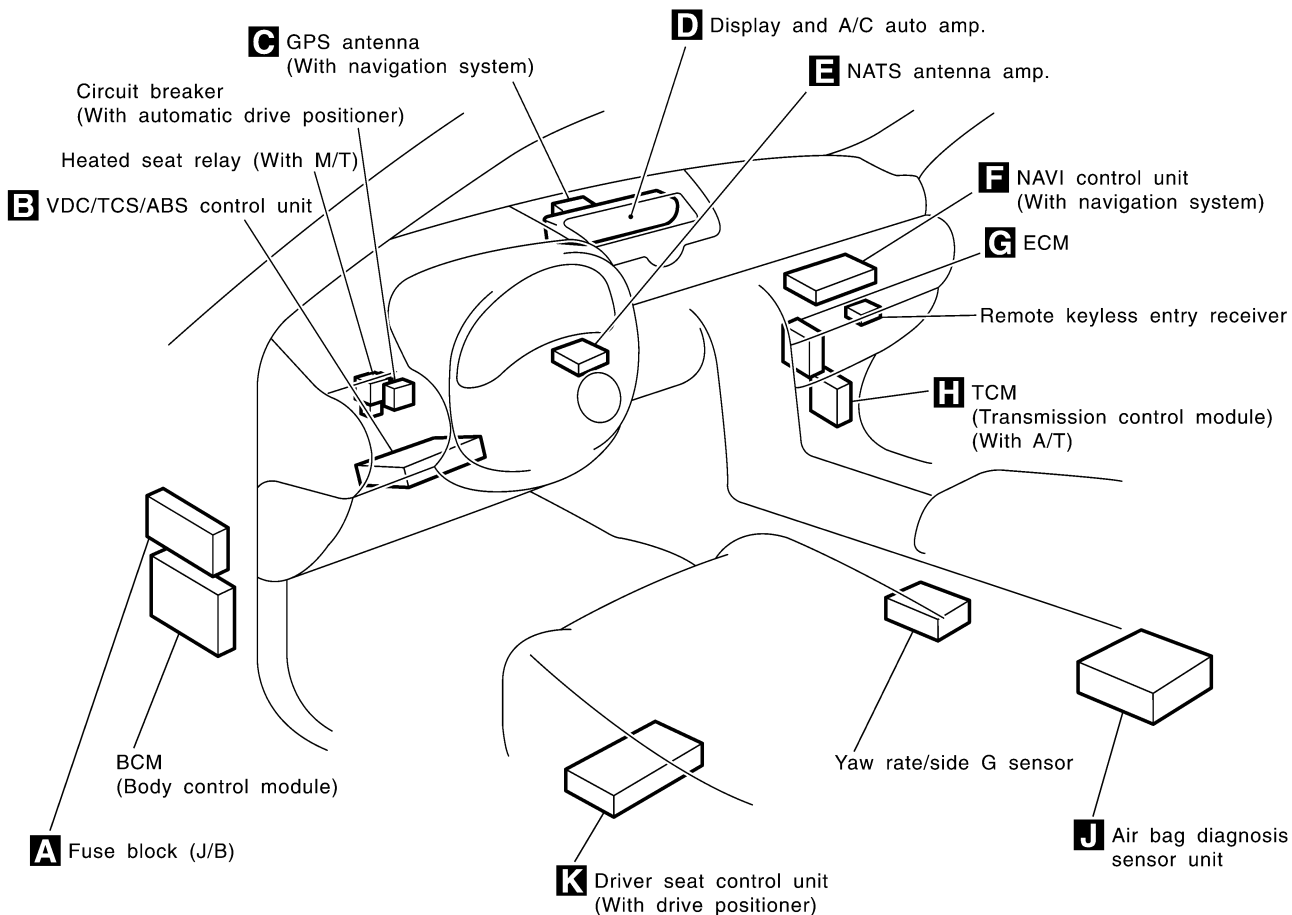


L  
M

CKIT0315E

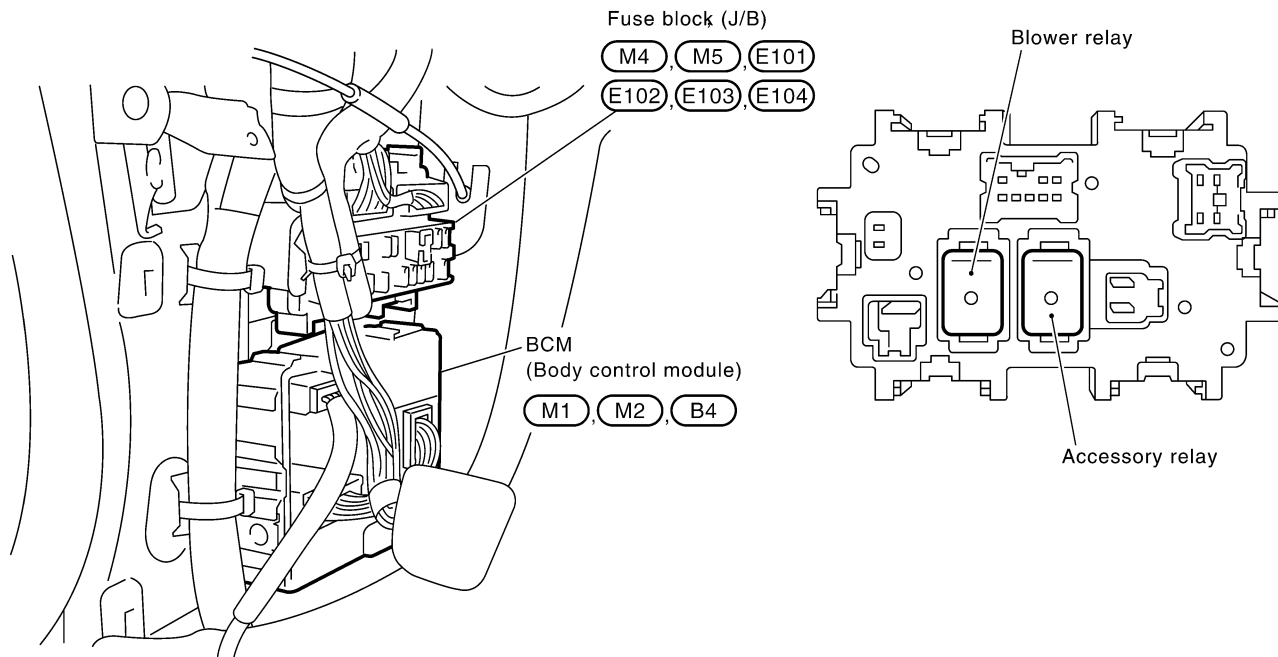
# ELECTRICAL UNITS LOCATION

## PASSENGER COMPARTMENT

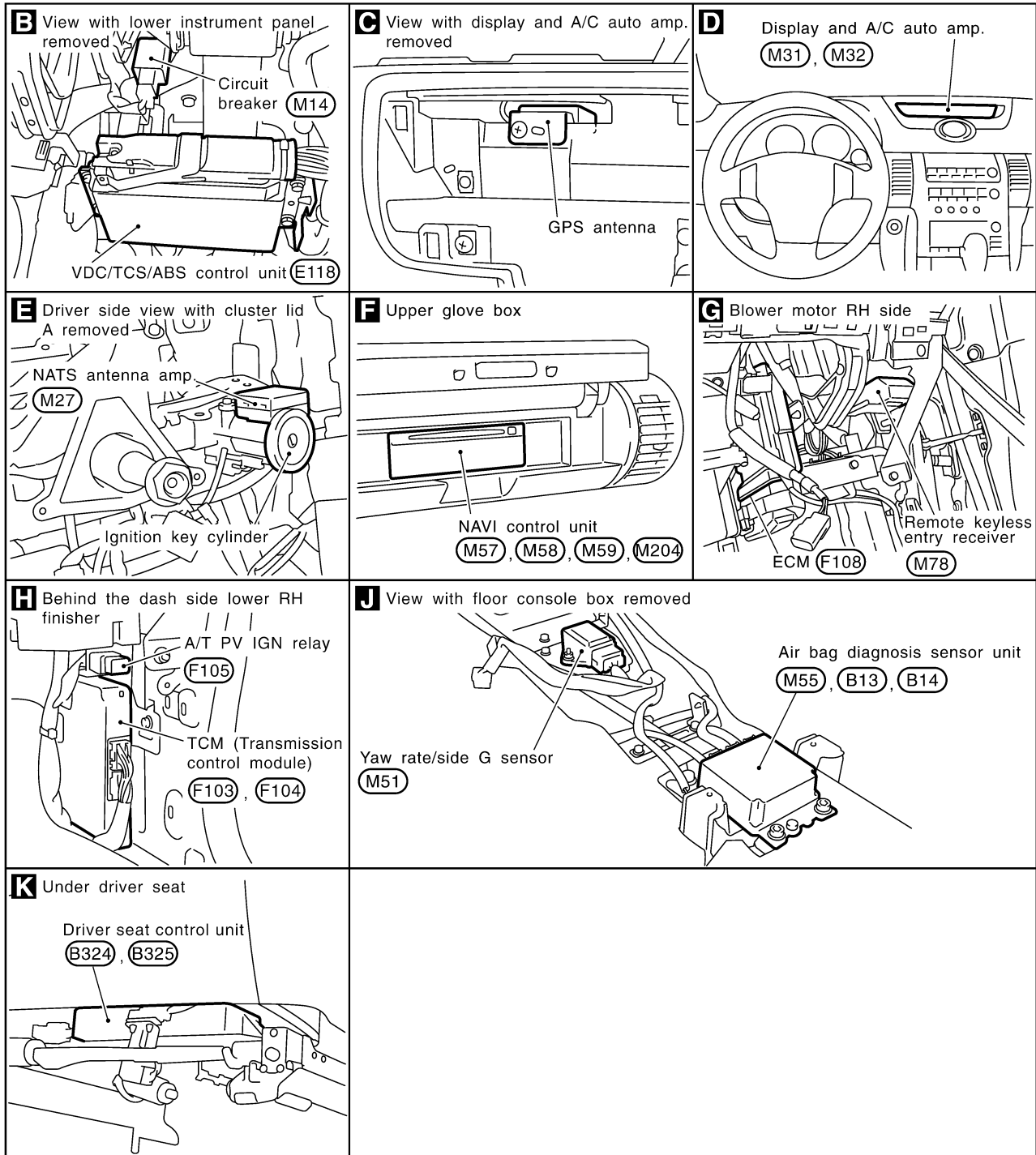


**A** Behind the dash side lower LH finisher

Fuse block (J/B) rear view



# ELECTRICAL UNITS LOCATION

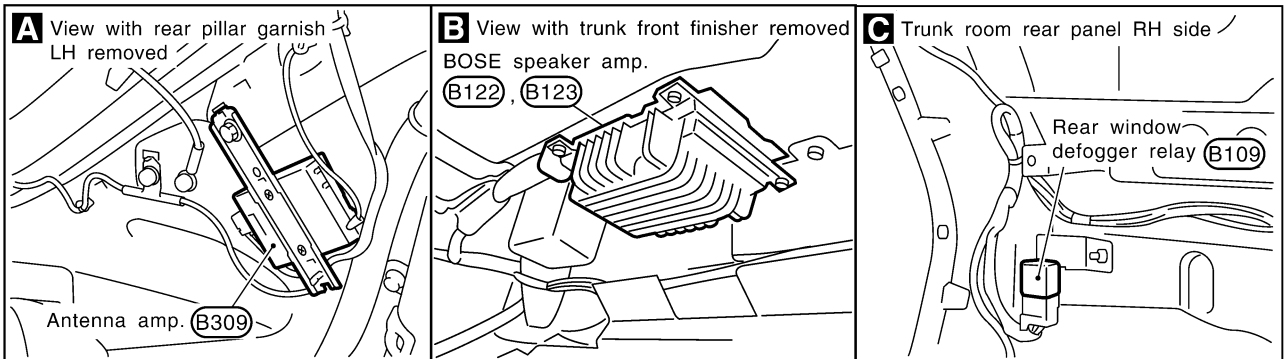
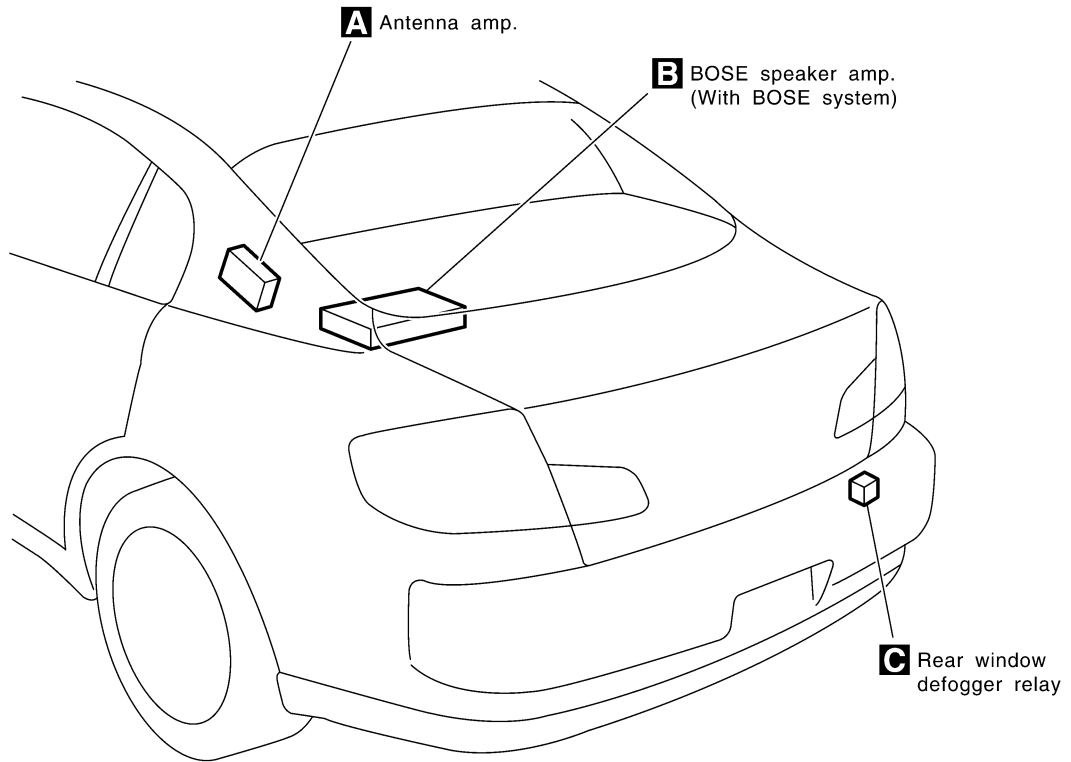


A  
B  
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G  
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I  
J  
L  
M

PG

# ELECTRICAL UNITS LOCATION

## LUGGAGE COMPARTMENT





# HARNESS CONNECTOR

## HARNESS CONNECTOR

PFP:00011

### Description

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

AKS0001F

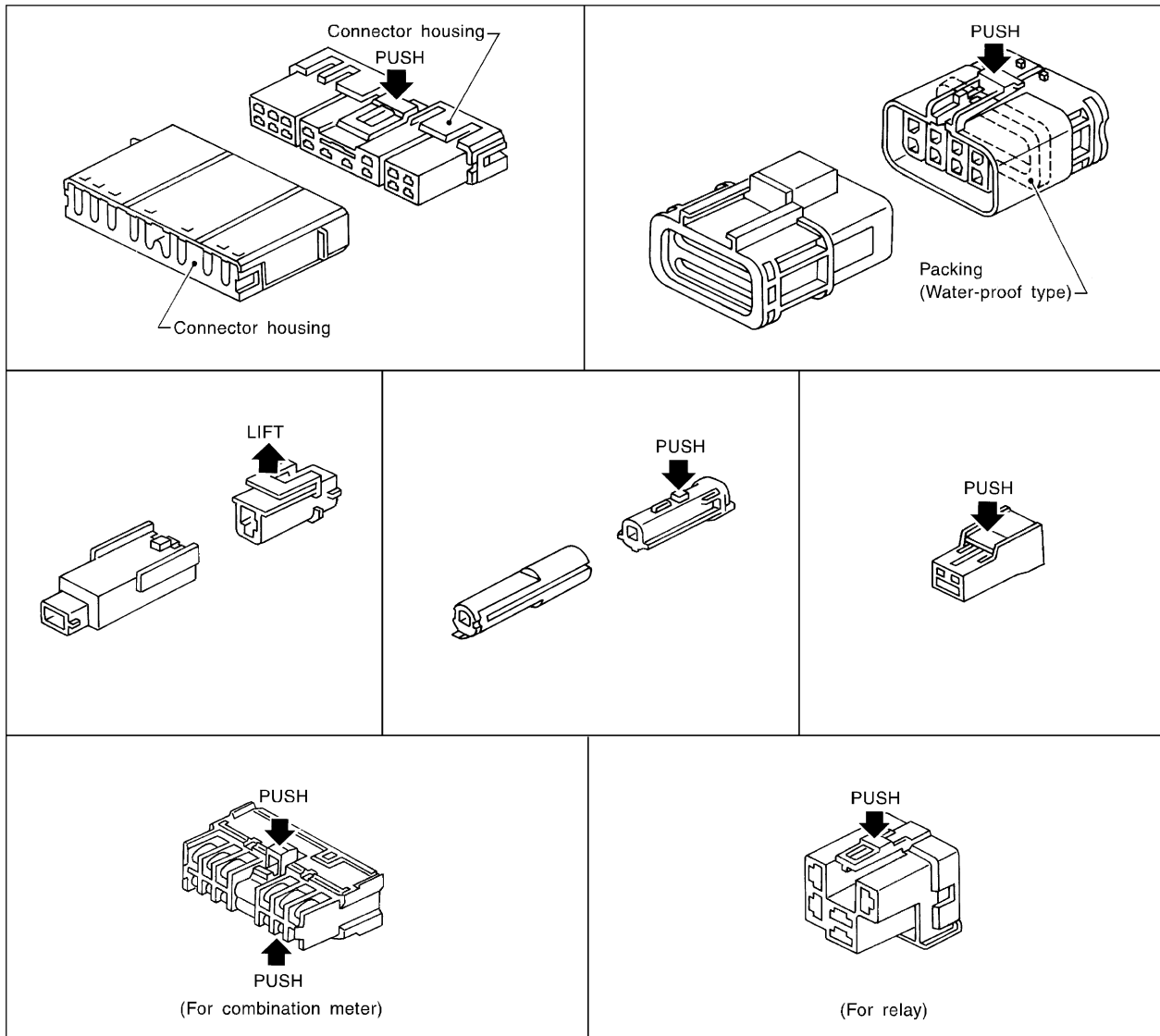
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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]



A  
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PG

SEL769DA

# HARNESS CONNECTOR

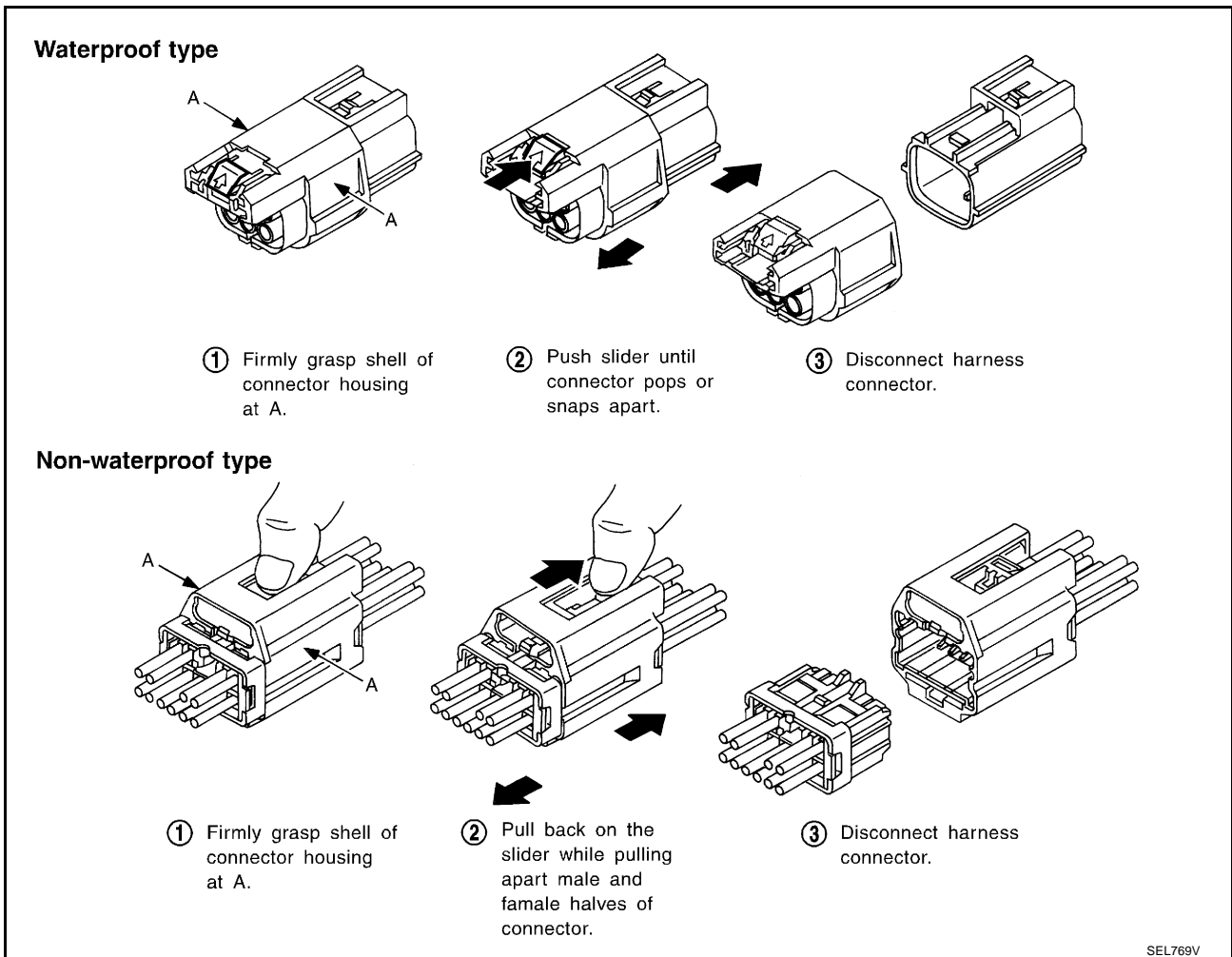
## HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- 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]



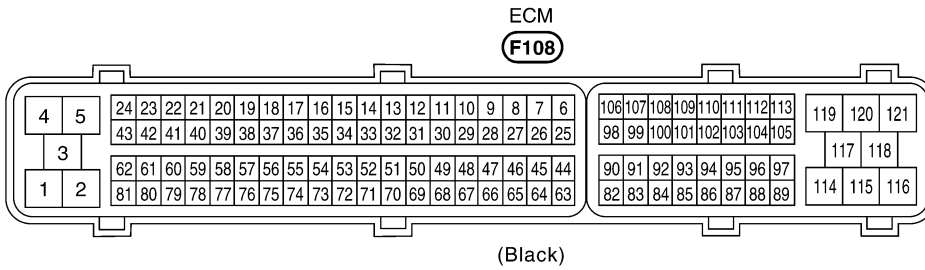
# ELECTRICAL UNITS

## ELECTRICAL UNITS

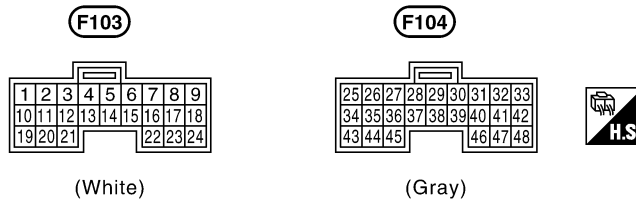
### Terminal Arrangement

PFP:00011

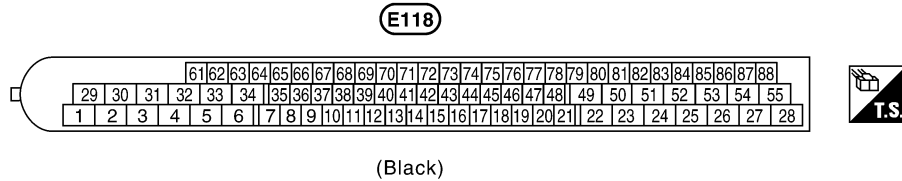
AKS00011



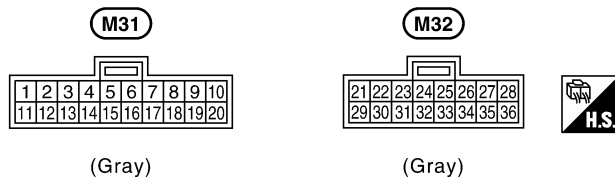
### TCM (TRANSMISSION CONTROL MODULE)



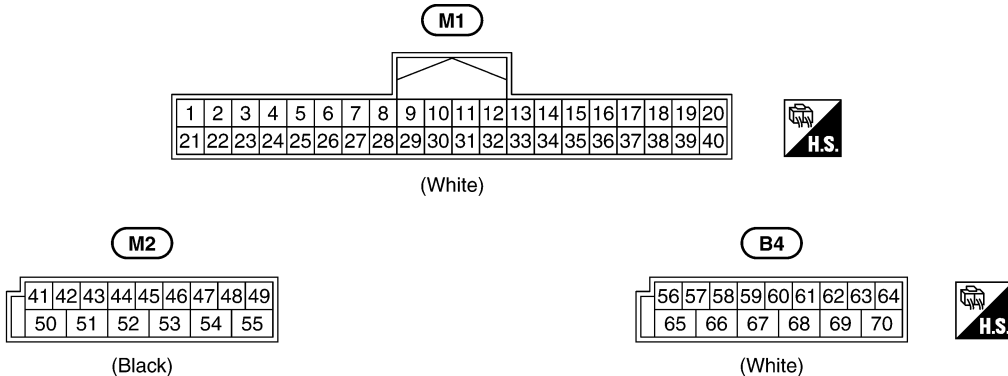
### VDC/TCS/ABS CONTROL UNIT



### DISPLAY AND A/C AUTO AMP.



### BCM (BODY CONTROL MODULE)



CKIT0449E

# SMJ (SUPER MULTIPLE JUNCTION)

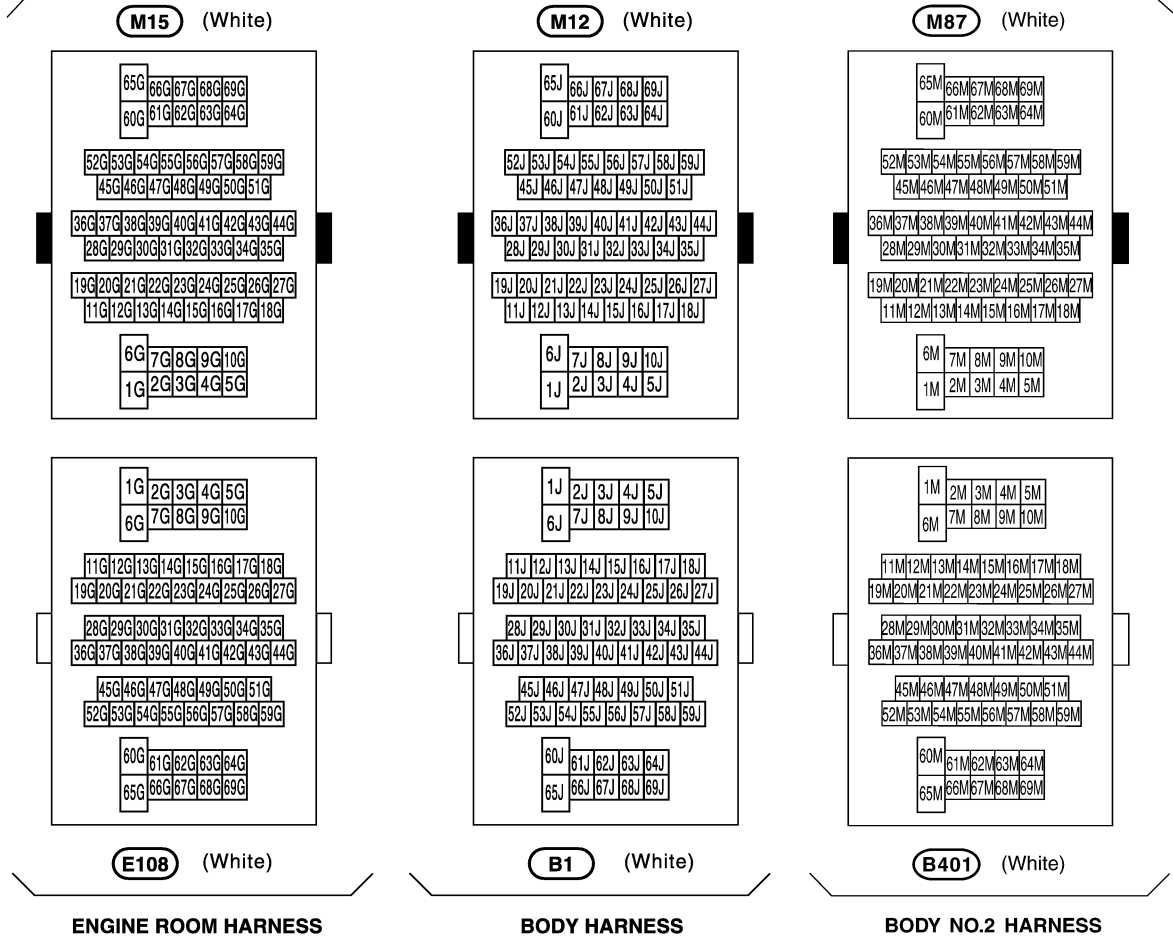
## SMJ (SUPER MULTIPLE JUNCTION)

PFP:B4341

### Terminal Arrangement

AKS000J

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

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		

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		

**D1** (White)

## FRONT DOOR HARNESS (DRIVER SIDE)

**D31** (White)

## FRONT DOOR HARNESS (PASSENGER SIDE)

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

# STANDARDIZED RELAY

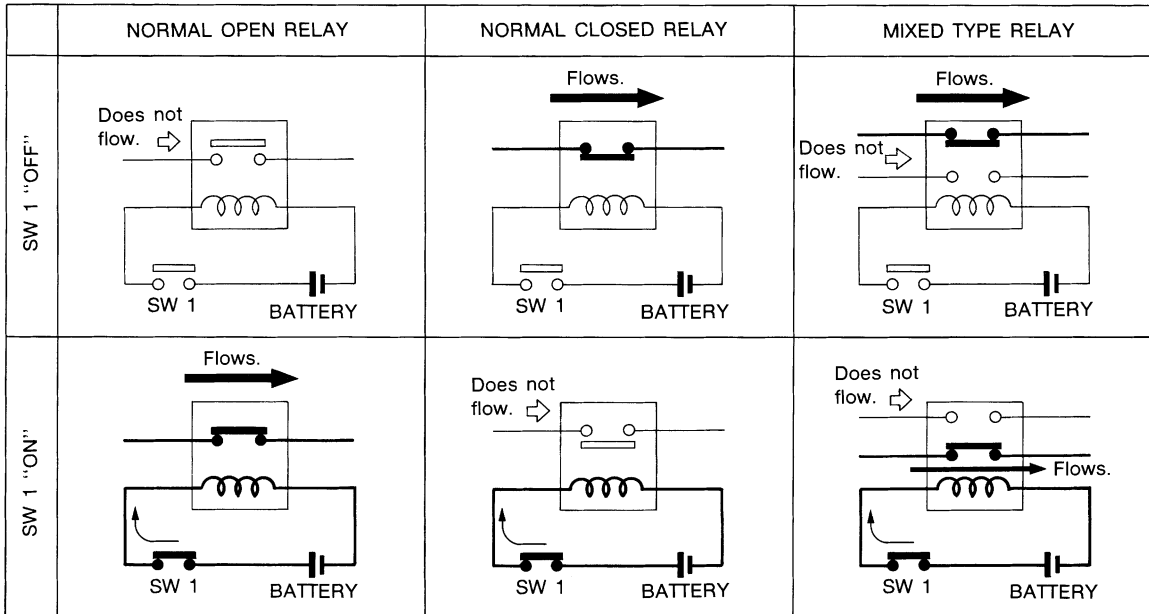
PFP:00011

AKS000IK

## STANDARDIZED RELAY

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

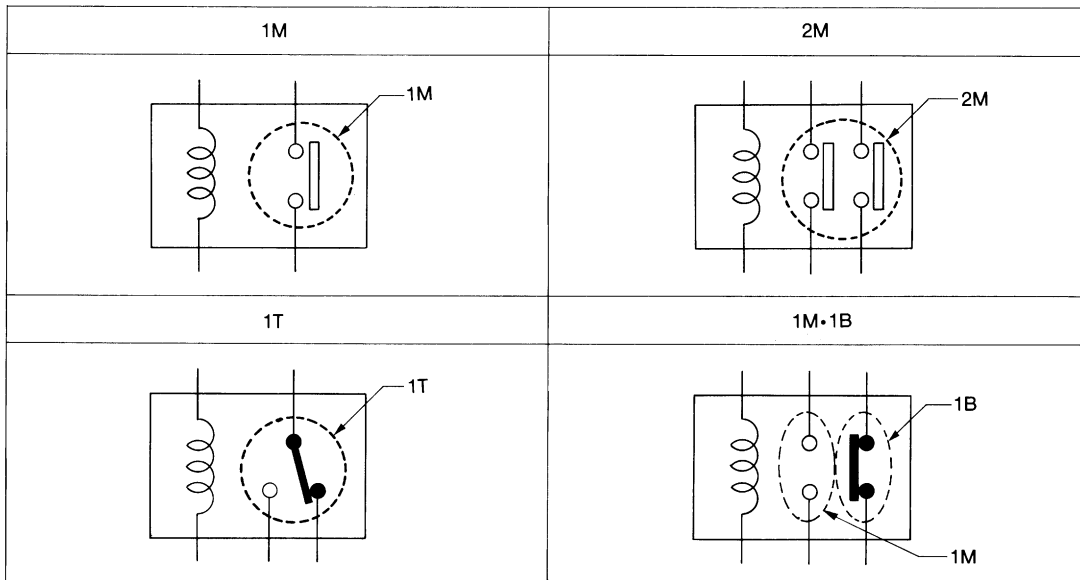
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



SEL881H

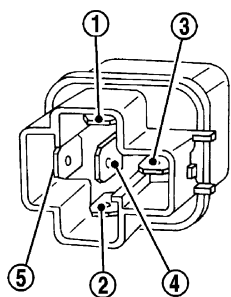
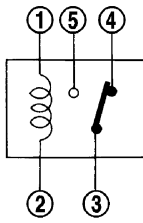
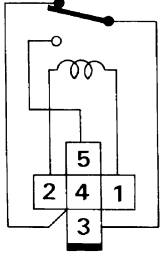
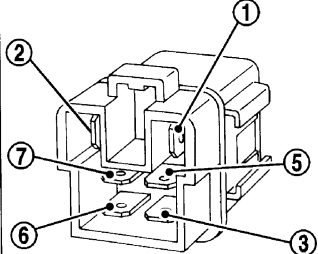
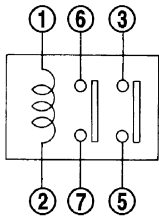
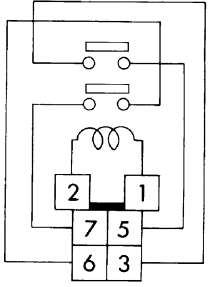
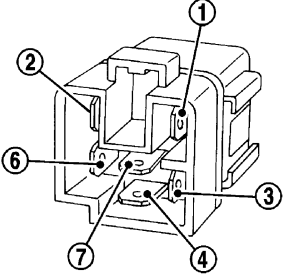
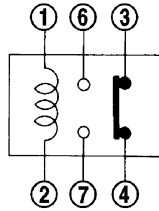
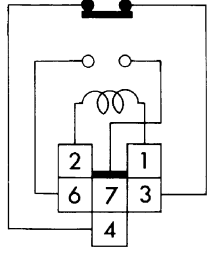
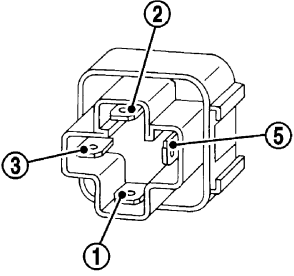
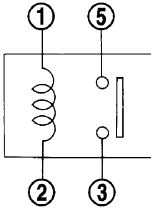
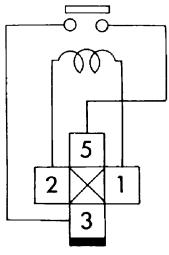
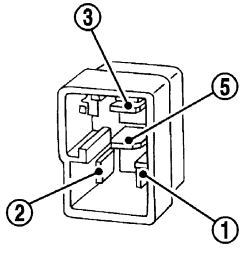
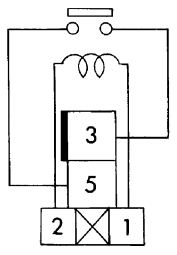
### TYPE OF STANDARDIZED RELAYS

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



SEL882H

# 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

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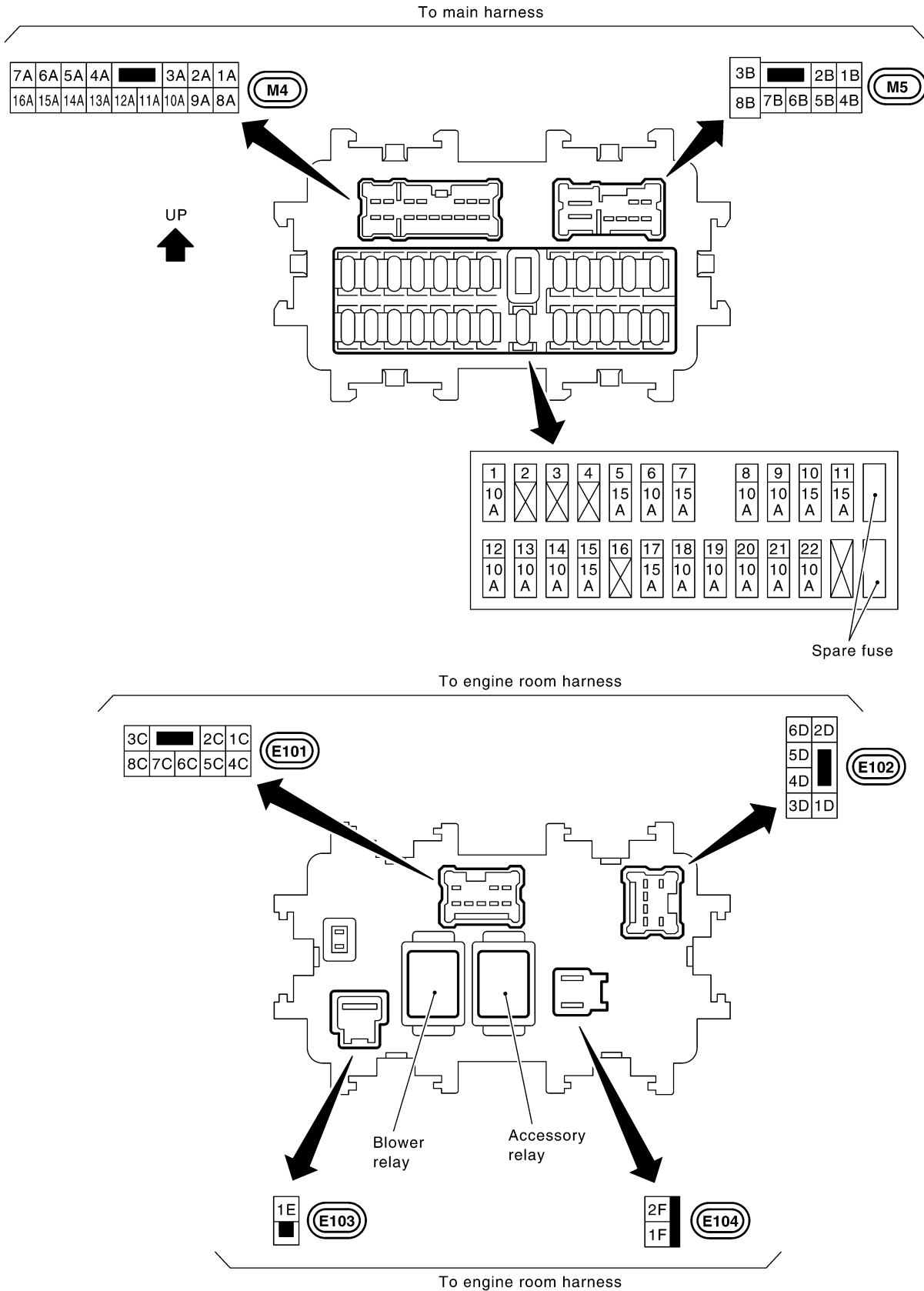
# FUSE BLOCK - JUNCTION BOX (J/B)

PFP:24350

AKS000D7

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

### Terminal Arrangement



CKIT0450E



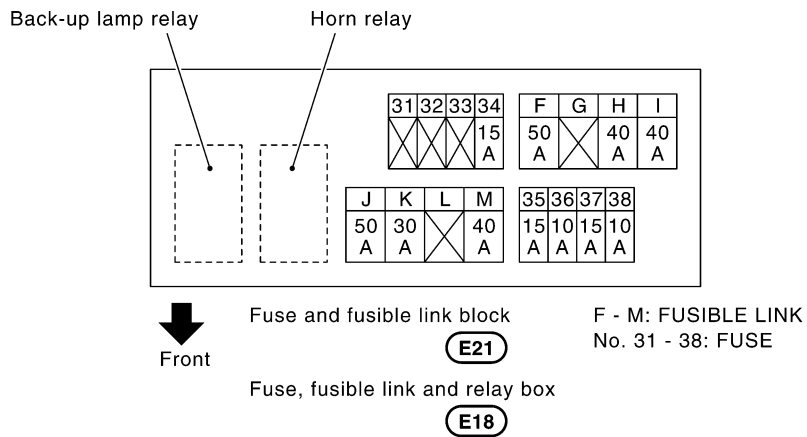
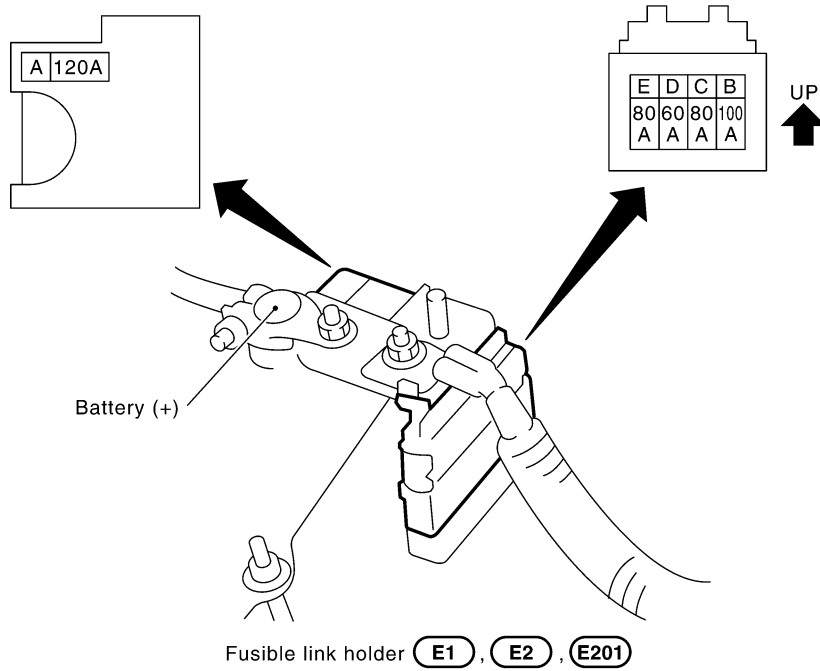
# FUSE, FUSIBLE LINK AND RELAY BOX

PPF:24382

AKS000IL

## FUSE, FUSIBLE LINK AND RELAY BOX

### Terminal Arrangement



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

## FUSE, FUSIBLE LINK AND RELAY BOX

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