SECTION PG

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

CONTENTS

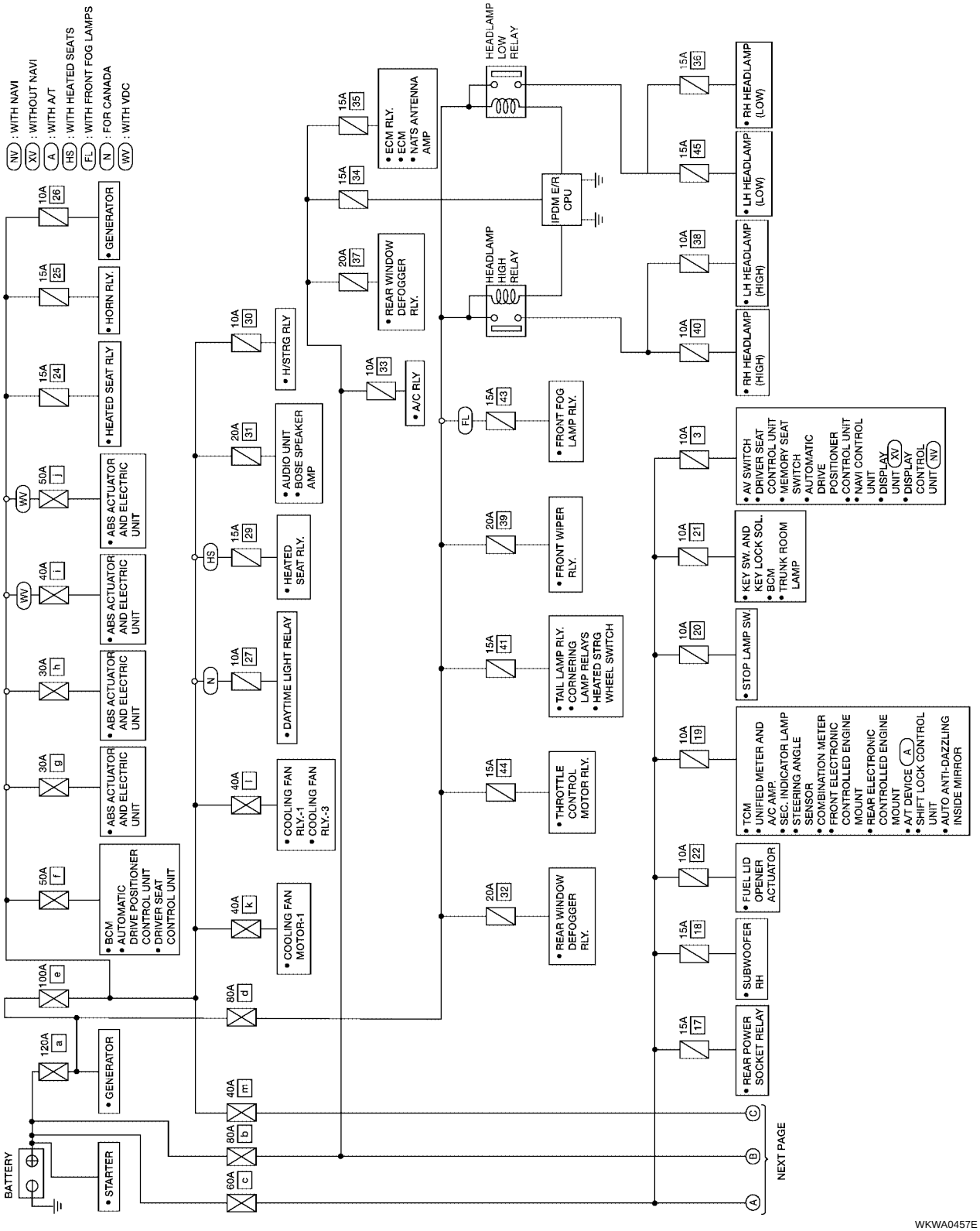
POWER SUPPLY ROUTING CIRCUIT

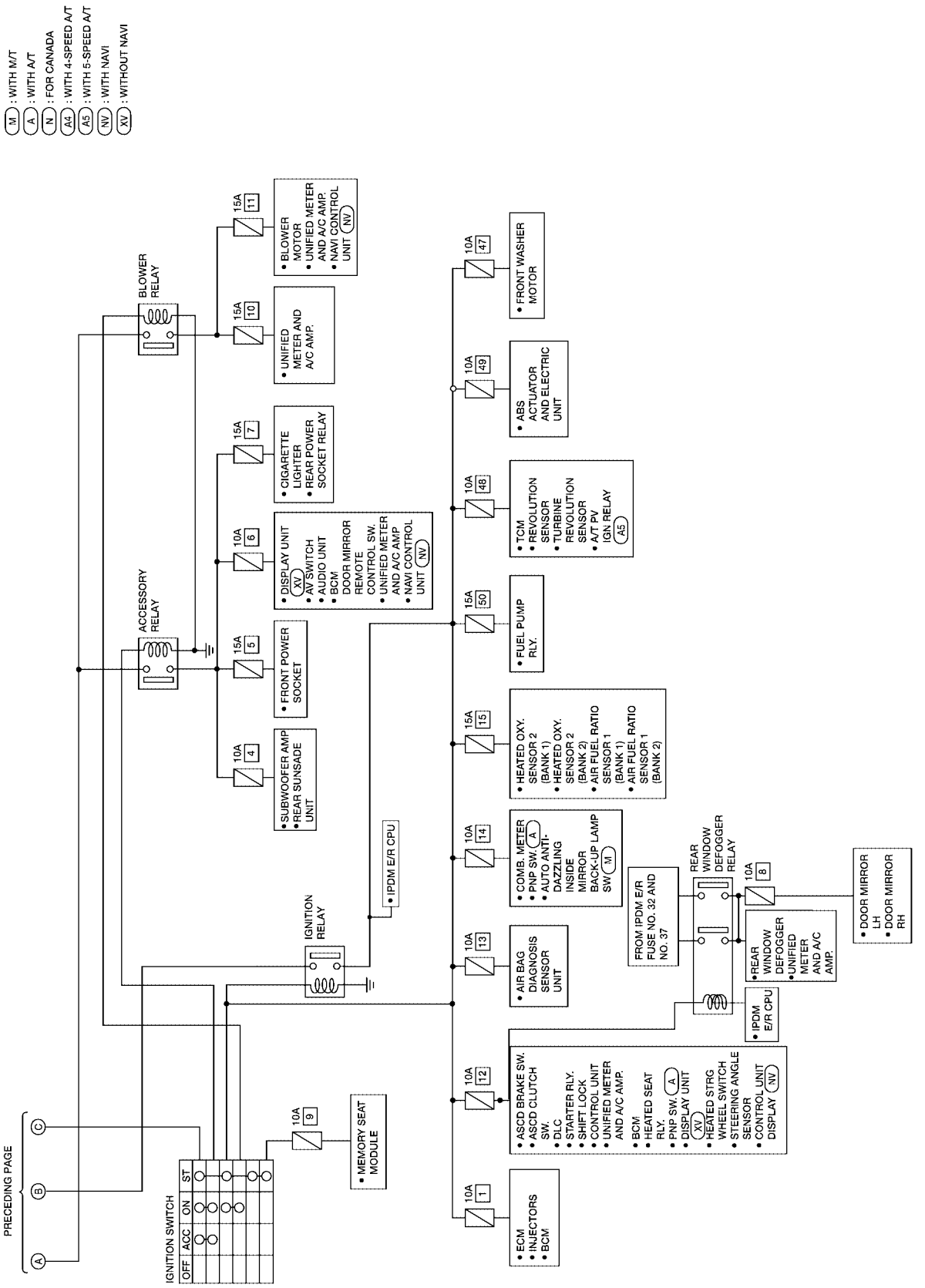
PFP:24110

Schematic

EKS003X1

For detailed ground distribution, refer to PG-27, "Ground Distribution" .

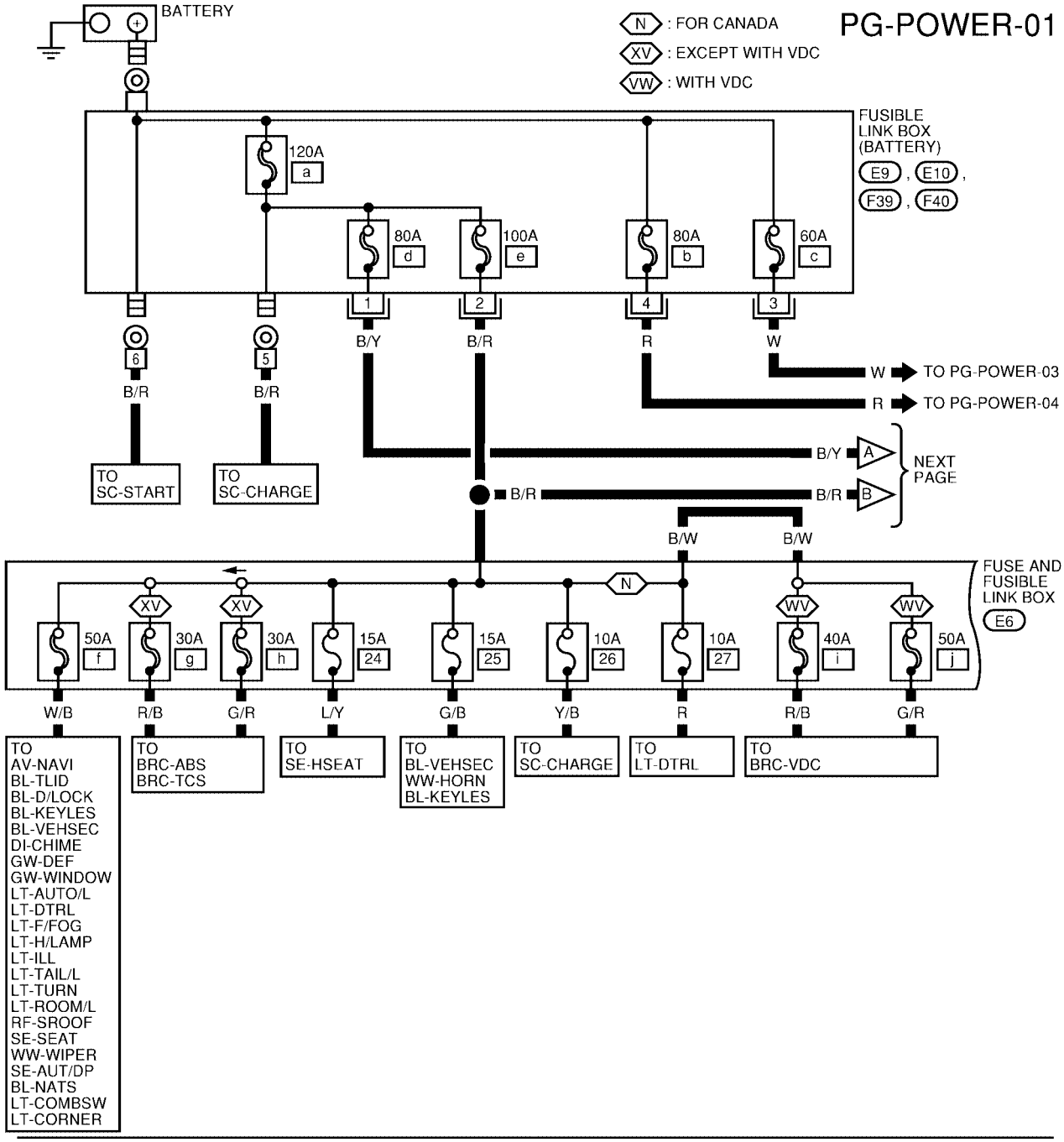


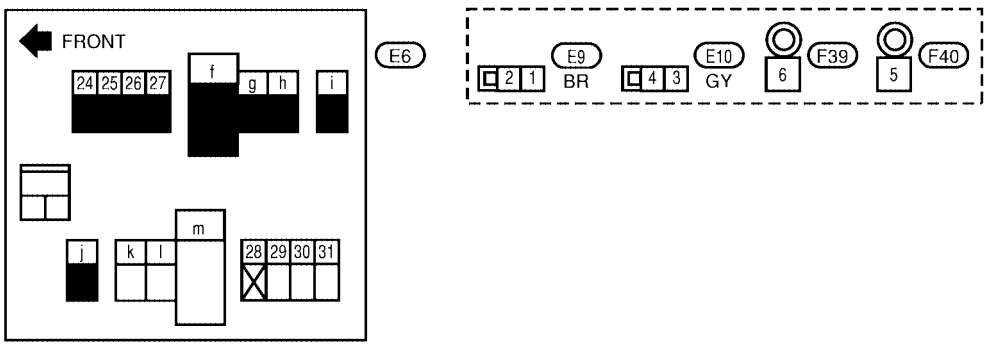

M : WITH M/T
A : WITH A/T
N : FOR CANADA
A4 : WITH 4-SPEED A/T
A5 : WITH 5-SPEED A/T
NV : WITH NAVI
XV : WITHOUT NAVI
PRECEDING PAGE
IGNITION SWITCH
OFF
ACC
ON
ST
BLOWER RELAY
ACCESSORY RELAY
IGNITION RELAY
IPDM E/R CPU
FROM IPDM E/R FUSE NO. 32 AND NO. 37
REAR WINDOW DEFOGGER RELAY
10A 1 • ECM • INJECTORS • BCM
10A 4 • SUBWOOFER AMP • REAR SUNSADE UNIT
15A 5 • FRONT POWER SOCKET
10A 6 • DISPLAY UNIT (XV) • AV SWITCH • AUDIO UNIT • BCM • DOOR MIRROR REMOTE CONTROL SW. • UNIFIED METER AND A/C AMP • NAVI CONTROL UNIT (NV)
15A 7 • CIGARETTE LIGHTER • REAR POWER SOCKET RELAY
10A 9 • MEMORY SEAT MODULE
15A 10 • UNIFIED METER AND A/C AMP.
15A 11 • BLOWER MOTOR • UNIFIED METER AND A/C AMP. • NAVI CONTROL UNIT (NV)
10A 12 • ASCD BRAKE SW. • ASCD CLUTCH SW. • DLC • STARTER RLY. • SHIFT LOCK • CONTROL UNIT • UNIFIED METER AND A/C AMP. • BCM • HEATED SEAT RLY. • PNP SW. (A) • DISPLAY UNIT (XV) • HEATED STRG. WHEEL SWITCH • STEERING ANGLE SENSOR • CONTROL UNIT DISPLAY (NV)
10A 13 • AIR BAG DIAGNOSIS SENSOR UNIT
10A 14 • COMB. METER • PNP SW. (A) • AUTO ANTI-DAZZLING INSIDE MIRROR • BACK-UP LAMP SW. (M)
15A 15 • HEATED OXY. SENSOR 2 (BANK 1) • HEATED OXY. SENSOR 2 (BANK 2) • AIR FUEL RATIO SENSOR 1 (BANK 1) • AIR FUEL RATIO SENSOR 1 (BANK 2)
15A 50 • FUEL PUMP RLY.
10A 47 • FRONT WASHER MOTOR
10A 49 • ABS ACTUATOR AND ELECTRIC UNIT
10A 48 • TCM • REVOLUTION SENSOR • TURBINE REVOLUTION SENSOR • A/T PV • IGN RELAY (A5)
10A 8 • REAR WINDOW DEFOGGER • UNIFIED METER AND A/C AMP. • IPDM E/R CPU
• DOOR MIRROR LH • DOOR MIRROR RH
WKWA0458E

Wiring Diagram — POWER —

EKS003X2

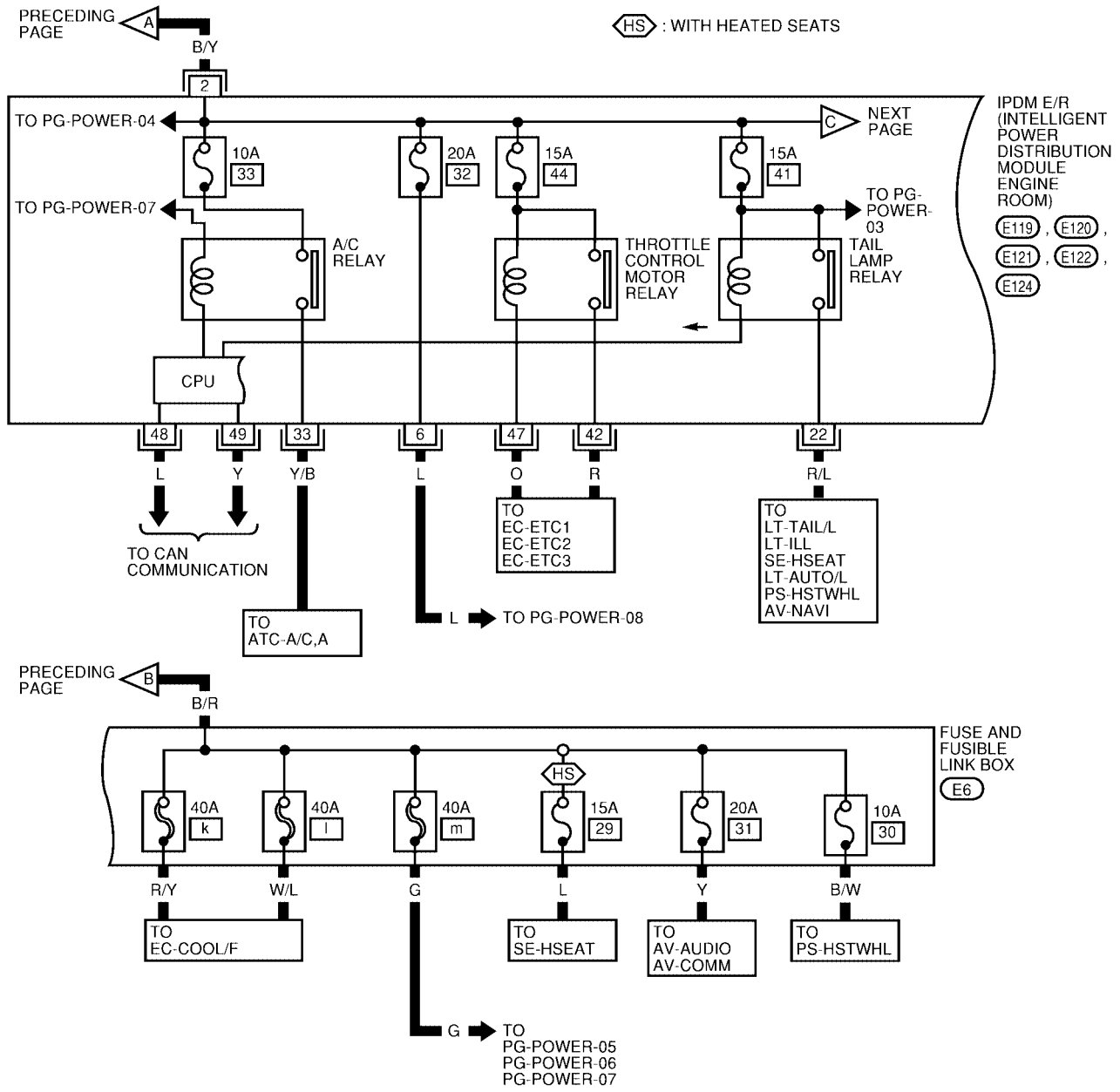
BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

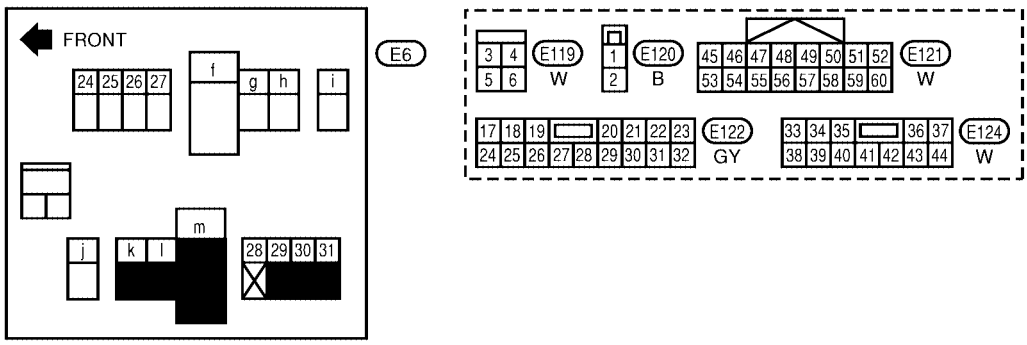




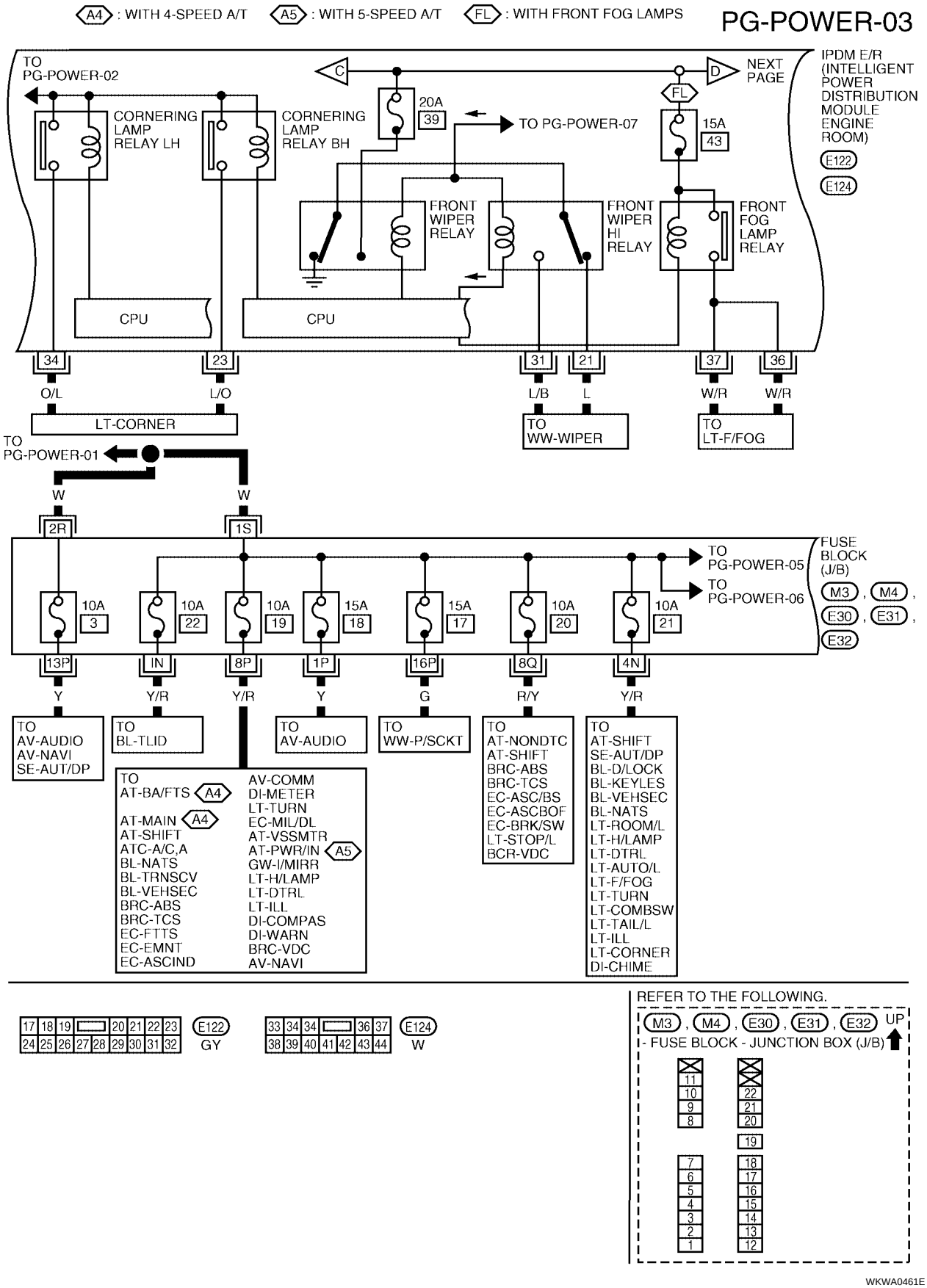
WKWA0459E

PG-POWER-02

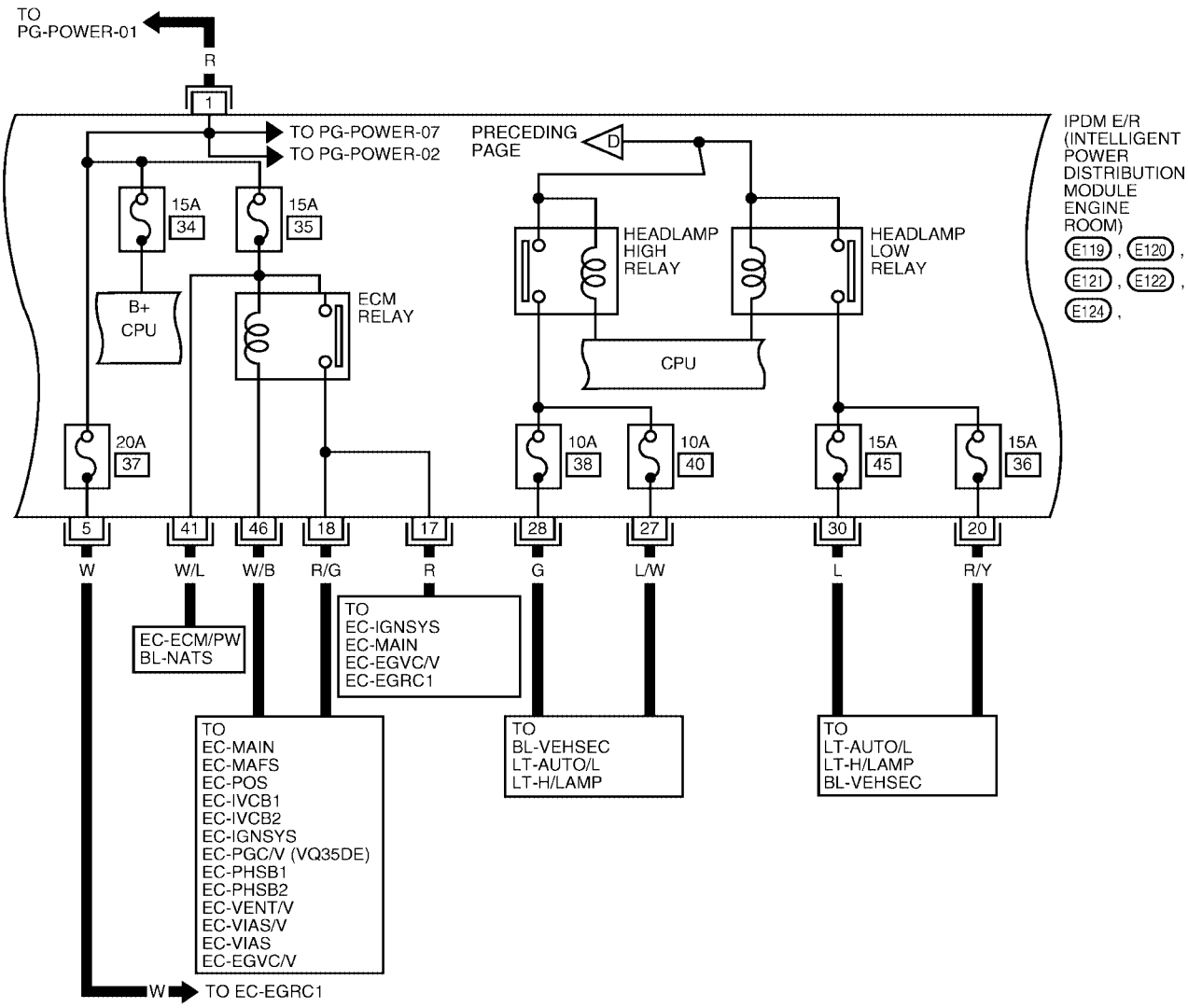


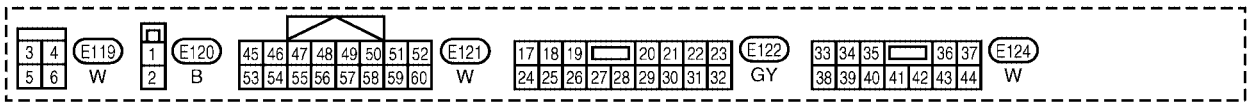


WKWA0460E


A4 : WITH 4-SPEED A/T
A5 : WITH 5-SPEED A/T
FL : WITH FRONT FOG LAMPS
PG-POWER-03
TO PG-POWER-02
CORNERING LAMP RELAY LH
CORNERING LAMP RELAY BH
20A 39
TO PG-POWER-07
NEXT PAGE
15A 43
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E122
E124
FRONT WIPER RELAY
FRONT WIPER HI RELAY
FRONT FOG LAMP RELAY
CPU
CPU
34 23 31 21 37 36
O/L L/O L/B L W/R W/R
LT-CORNER
TO WW-WIPER
TO LT-F/FOG
TO PG-POWER-01
W W
2R 1S
10A 3
10A 22
10A 19
15A 18
15A 17
10A 20
10A 21
TO PG-POWER-05
TO PG-POWER-06
FUSE BLOCK (J/B)
M3, M4, E30, E31, E32
13P IN 8P 1P 16P 8Q 4N
Y Y/R Y/R Y G R/Y Y/R
TO AV-AUDIO AV-NAVI SE-AUT/DP
TO BL-TLID
TO AV-AUDIO
TO WW-P/SCKT
TO AT-NONDTC AT-SHIFT BRC-ABS BRC-TCS EC-ASC/BS EC-ASCBOF EC-BRK/SW LT-STOP/L BCR-VDC
TO AT-SHIFT SE-AUT/DP BL-D/LOCK BL-KEYLES BL-VEHSEC BL-NATS LT-ROOM/L LT-H/LAMP LT-DTRL LT-AUTO/L LT-F/FOG LT-TURN LT-COMBSW LT-TAIL/L LT-ILL LT-CORNER DI-CHIME
TO AT-BA/FTS A4
AT-MAIN A4
AT-SHIFT
ATC-A/C,A
BL-NATS
BL-TRNSCV
BL-VEHSEC
BRC-ABS
BRC-TCS
EC-FTTS
EC-EMNT
EC-ASCIND
AV-COMM
DI-METER
LT-TURN
EC-MIL/DL
AT-VSSMTR
AT-PWR/IN A5
GW-I/MIRR
LT-H/LAMP
LT-DTRL
LT-ILL
DI-COMPAS
DI-WARN
BRC-VDC
AV-NAVI
17 18 19 20 21 22 23
24 25 26 27 28 29 30 31 32
E122 GY
33 34 34 36 37
38 39 40 41 42 43 44
E124 W
REFER TO THE FOLLOWING.
M3, M4, E30, E31, E32 UP
- FUSE BLOCK - JUNCTION BOX (J/B)
11 10 9 8
22 21 20
19
7 6 5 4 3 2 1
18 17 16 15 14 13 12

WKWA0461E

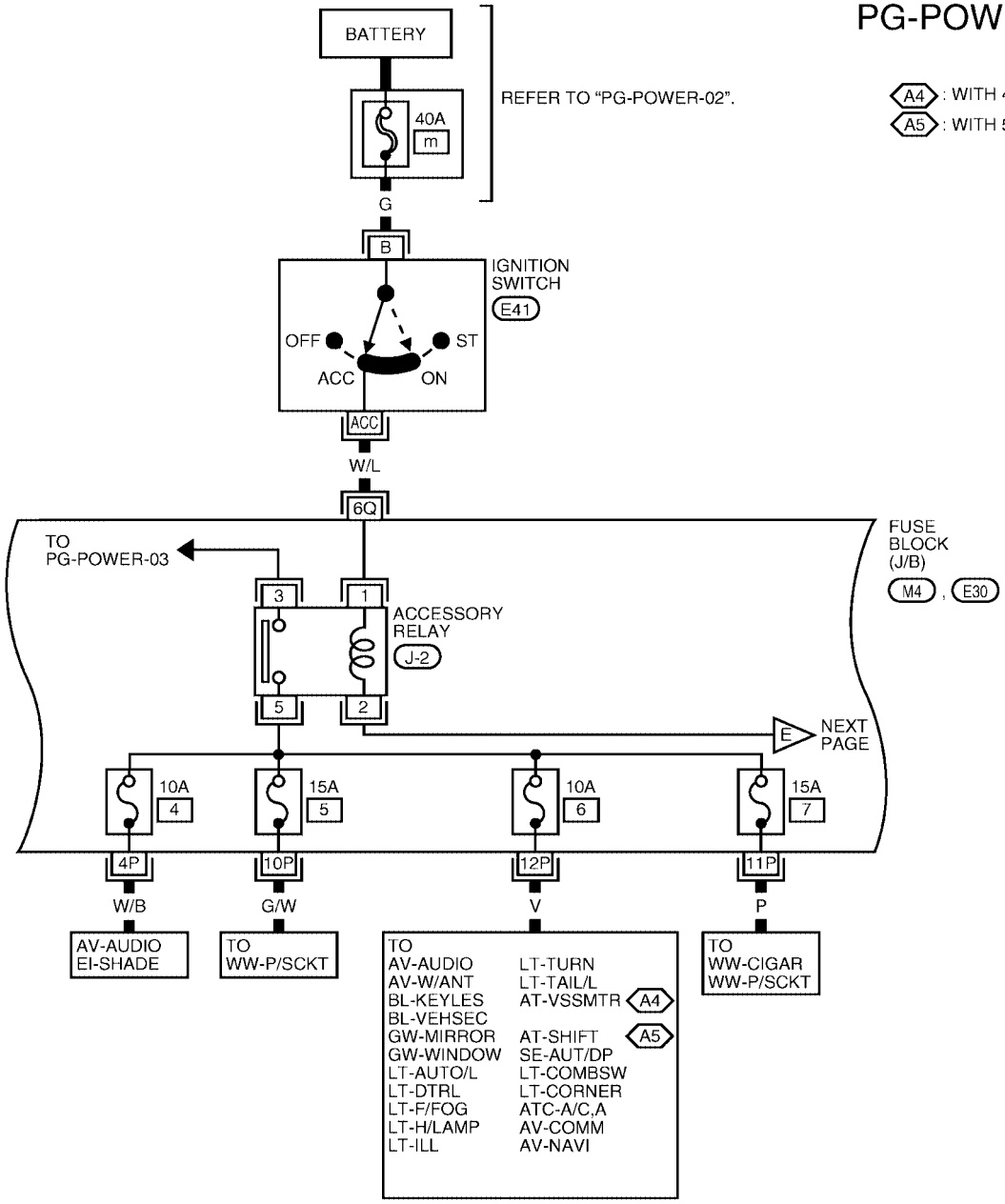

TO
PG-POWER-01
R
1
TO PG-POWER-07
TO PG-POWER-02
PRECEDING
PAGE
D
IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE
ROOM)
E119 , E120 ,
E121 , E122 ,
E124 ,
15A
34
15A
35
B+
CPU
ECM
RELAY
HEADLAMP
HIGH
RELAY
HEADLAMP
LOW
RELAY
CPU
20A
37
10A
38
10A
40
15A
45
15A
36
5
41
46
18
17
28
27
30
20
W
W/L
W/B
R/G
R
G
L/W
L
R/Y
EC-ECM/PW
BL-NATS
TO
EC-IGNSYS
EC-MAIN
EC-EGVC/V
EC-EGRC1
TO
EC-MAIN
EC-MAFS
EC-POS
EC-IVCB1
EC-IVCB2
EC-IGNSYS
EC-PGC/V (VQ35DE)
EC-PHSB1
EC-PHSB2
EC-VENT/V
EC-VIAS/V
EC-VIAS
EC-EGVC/V
TO
BL-VEHSEC
LT-AUTO/L
LT-H/LAMP
TO
LT-AUTO/L
LT-H/LAMP
BL-VEHSEC
W
TO EC-EGRC1


E119
W
E120
B
E121
W
E122
GY
E124
W

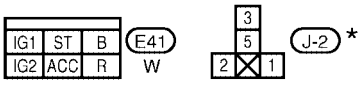
WKWA0462E

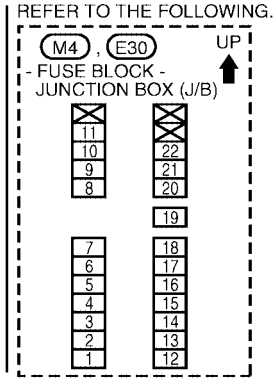
ACCESSORY POWER SUPPLY — IGNITION SW. IN ACC OR ON

PG-POWER-05



A4 : WITH 4 SPEED A/T
A5 : WITH 5 SPEED A/T

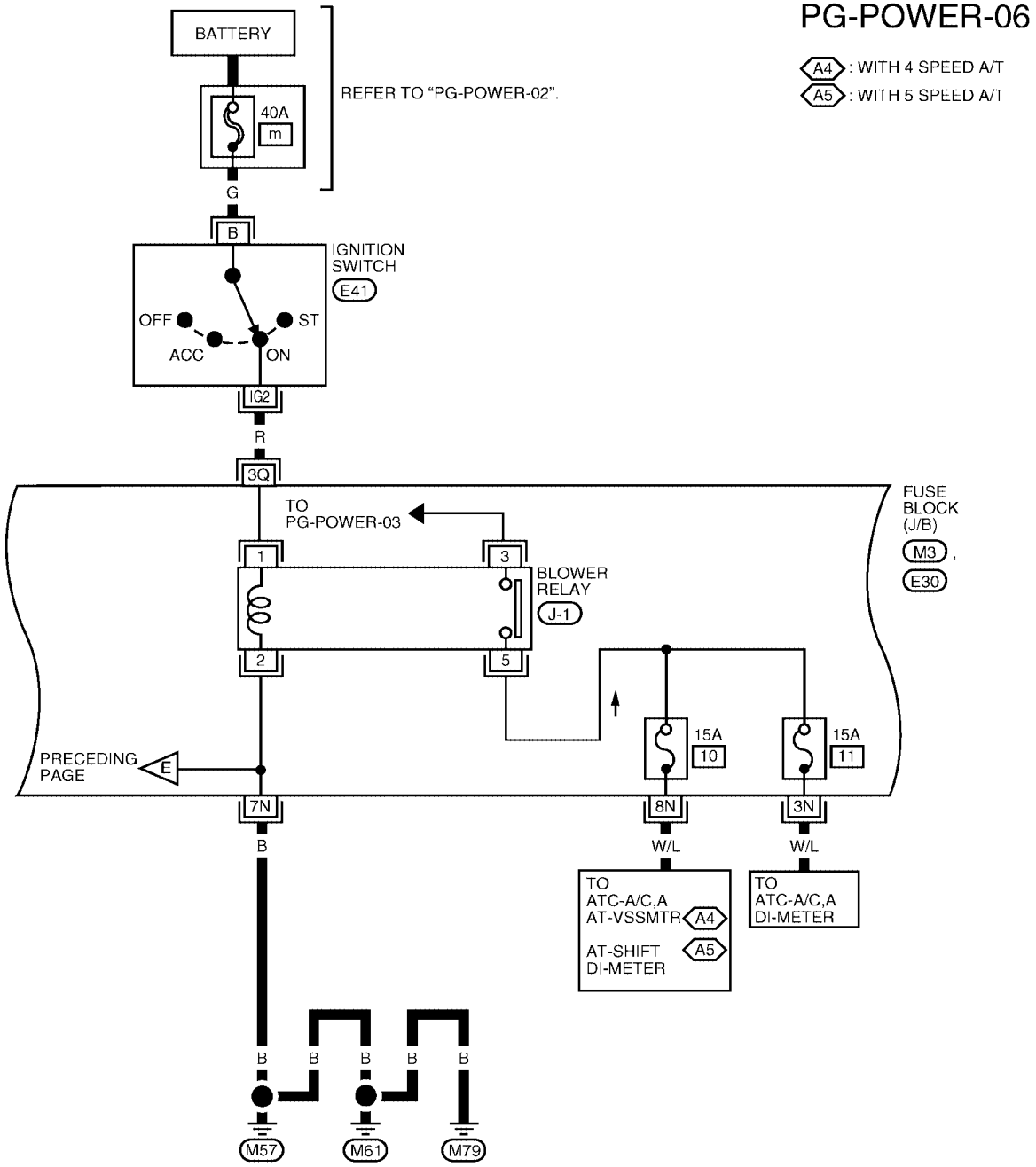


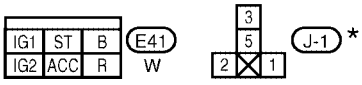


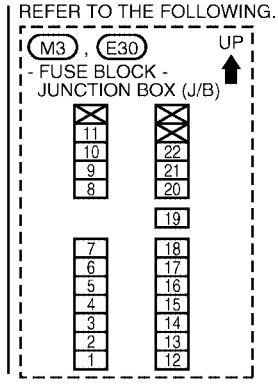
WKWA0463E

*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT".

IGNITION POWER SUPPLY — IGNITION SW. IN ON



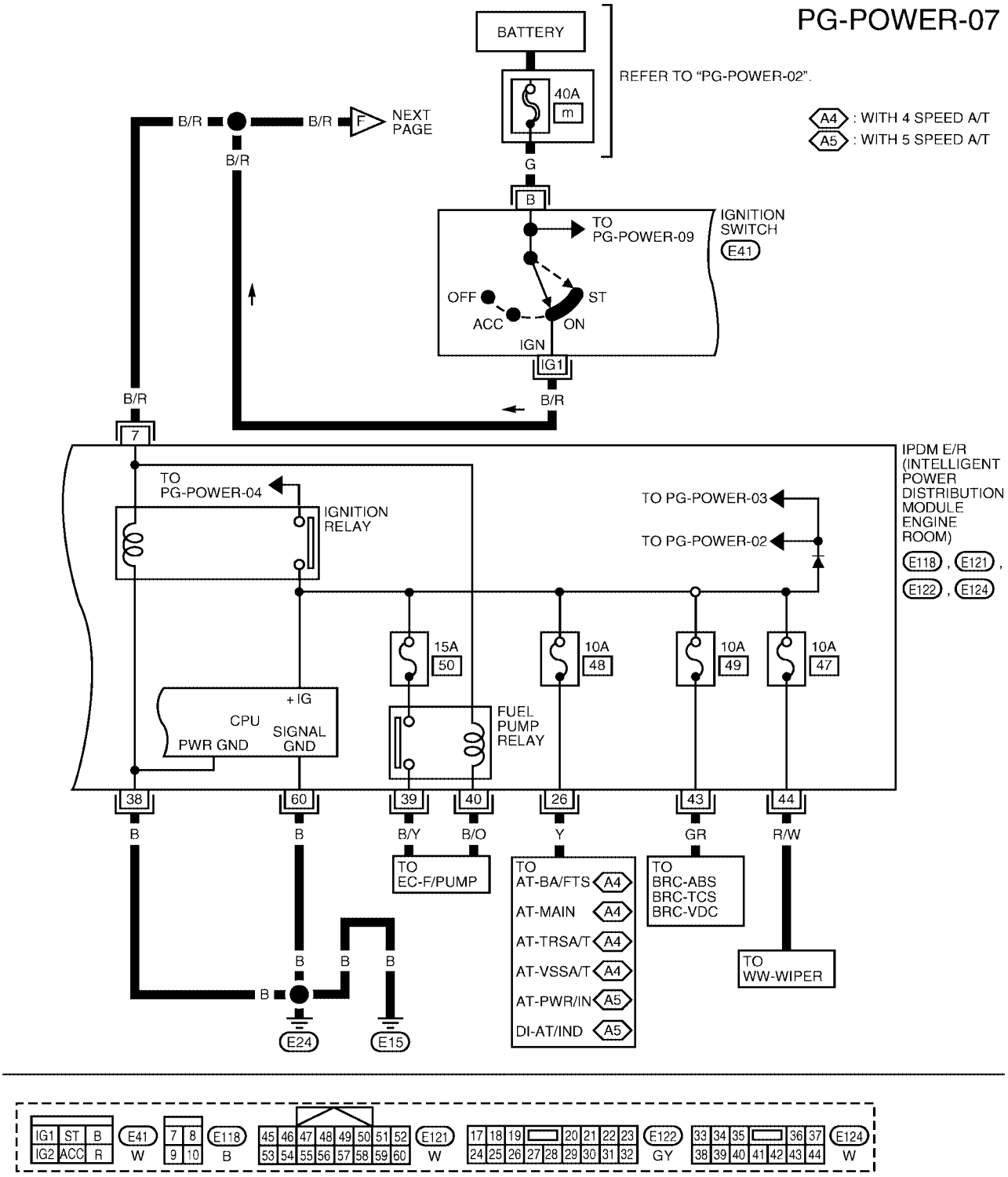




WKWA0464E

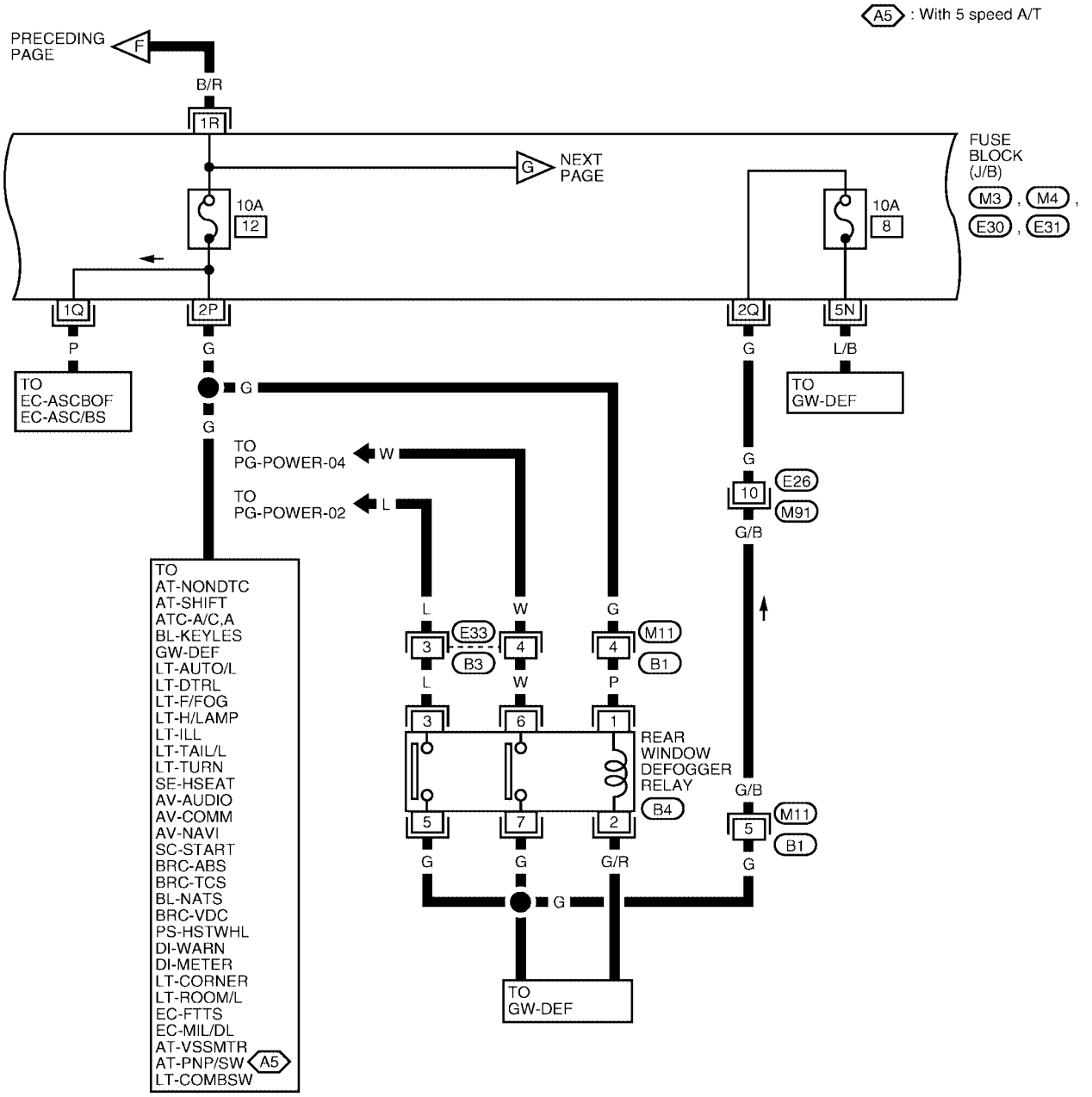
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT".

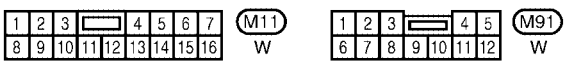
IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START

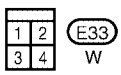


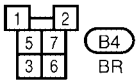
WKWA0465E

PG-POWER-08

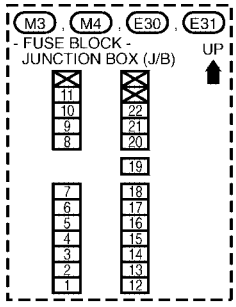




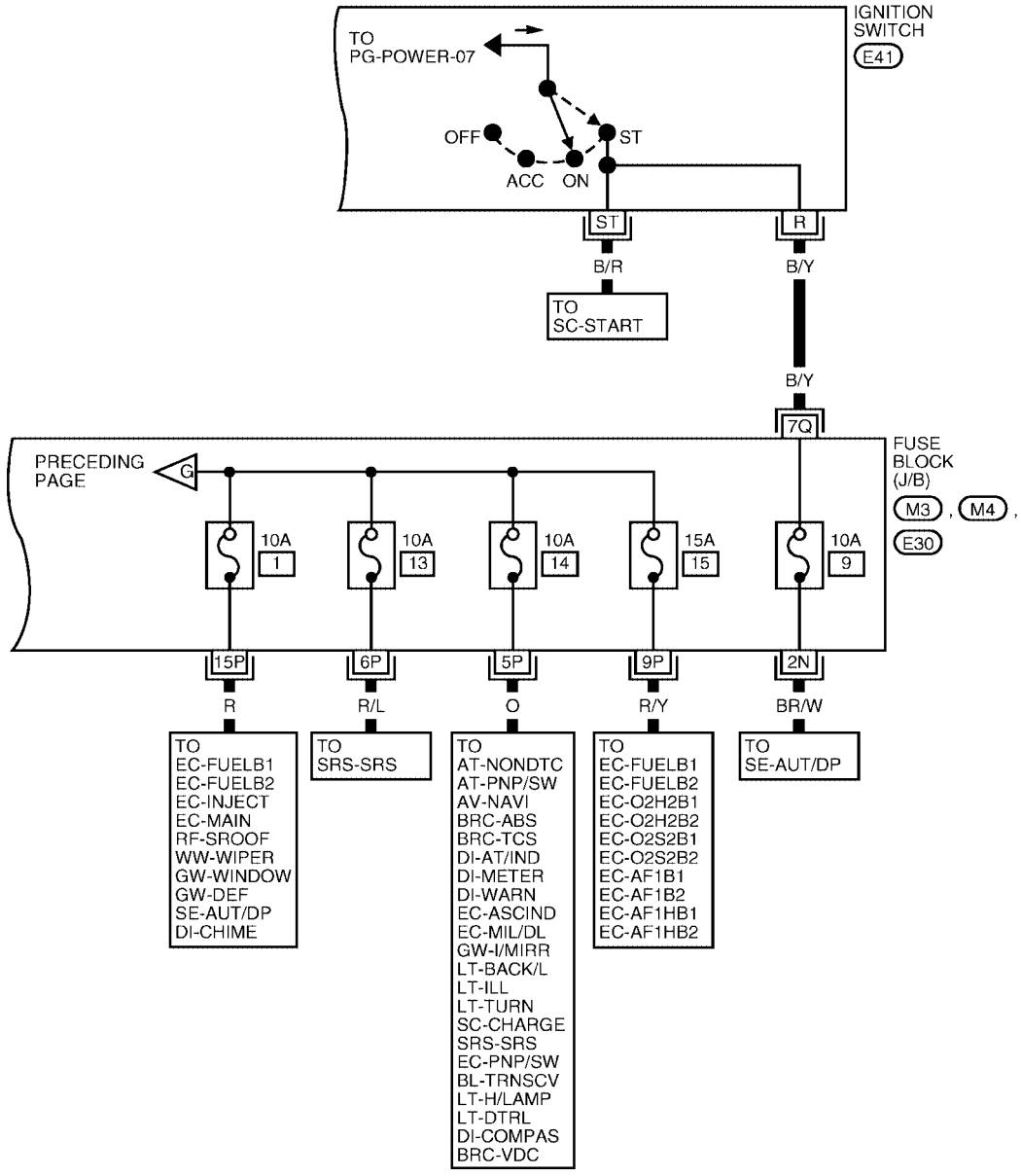


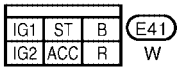


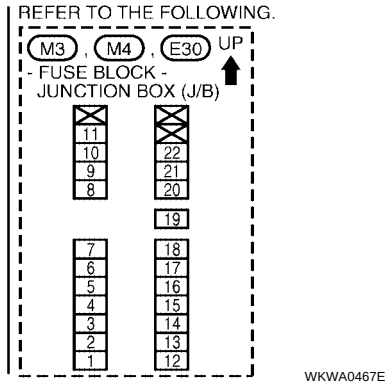
REFER TO THE FOLLOWING.



WKWA0466E


TO
PG-POWER-07
IGNITION
SWITCH
E41
OFF
ACC
ON
ST
ST
R
B/R
B/Y
TO
SC-START
B/Y
7Q
FUSE
BLOCK
(J/B)
M3 , M4 ,
E30
PRECEDING
PAGE
G
10A
1
10A
13
10A
14
15A
15
10A
9
15P
6P
5P
9P
2N
R
R/L
O
R/Y
BR/W
TO
EC-FUELB1
EC-FUELB2
EC-INJECT
EC-MAIN
RF-SROOF
WW-WIPER
GW-WINDOW
GW-DEF
SE-AUT/DP
DI-CHIME
TO
SRS-SRS
TO
AT-NONDTC
AT-PNP/SW
AV-NAVI
BRC-ABS
BRC-TCS
DI-AT/IND
DI-METER
DI-WARN
EC-ASCIND
EC-MIL/DL
GW-I/MIRR
LT-BACK/L
LT-ILL
LT-TURN
SC-CHARGE
SRS-SRS
EC-PNP/SW
BL-TRNSCV
LT-H/LAMP
LT-DTRL
DI-COMPAS
BRC-VDC
TO
EC-FUELB1
EC-FUELB2
EC-O2H2B1
EC-O2H2B2
EC-O2S2B1
EC-O2S2B2
EC-AF1B1
EC-AF1B2
EC-AF1HB1
EC-AF1HB2
TO
SE-AUT/DP


IG1
ST
B
IG2
ACC
R
E41
W


REFER TO THE FOLLOWING.
M3 , M4 , E30
UP
- FUSE BLOCK -
JUNCTION BOX (J/B)
11
10
9
8
22
21
20
19
7
6
5
4
3
2
1
18
17
16
15
14
13
12

WKWA0467E

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

PFP:284B7

System Description

EKS005GU

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

CAUTION:

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

SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control
   Using CAN communication lines, it receives signal from BCM and controls the following lamps:
   - Head lamps (Hi, Lo)
   - Parking lamps
   - Tail lamps
   - Cornering lamps
   - Front fog lamps
2. Wiper control
   Using CAN communication lines, it receives signals from BCM and controls the front wipers.
3. Rear window defogger relay control
   Using CAN communication lines, it receives signals from BCM and controls the rear window defogger relay.
4. A/C compressor control
   Using CAN communication lines, it receives signals from ECM and controls the A/C compressor (magnetic clutch).
5. Cooling fan control
   Using CAN communication lines, it receives signals from ECM and controls cooling fan.
6. Horn control
   Using CAN communication lines, 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 a maximum amount of information with minimum wiring. Each control unit can transmit and receive data, and reads necessary information only.

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

Controlled system	Fail-safe mode
Headlamp	● With the ignition switch ON, the headlamp (low) is ON. ● With the ignition switch OFF, the headlamp (low) is OFF.
Tail and parking lamps	● With the ignition switch ON, the tail and parking lamps are ON. ● With the ignition switch OFF, the tail and parking lamps are OFF.
Cooling fan	● 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 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 second has 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 signal is detected, mode switches to CAN communication status.
   - When a change in ignition switch signal is detected, mode switches to CAN communication status.

Function of Detecting Ignition Relay Malfunction

EKS005GW

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

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

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

CONSULT-II Function

EKS005H6

CONSULT-II executes the following functions by combining data reception and command transmission via the CAN communication lines from the IPDM E/R.

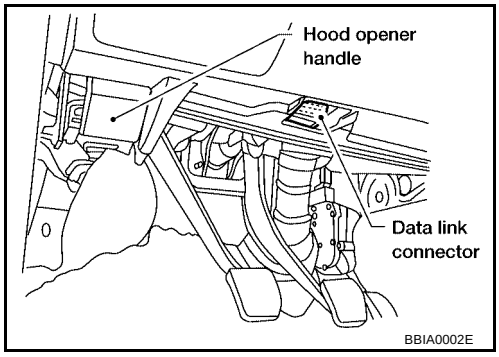
Inspection Item, Diagnosis Mode	Description
SELF-DIAG RESULTS	The IPDM E/R performs diagnosis of CAN communication and self-diagnosis.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
ACTIVE TEST	The IPDM E/R sends a drive signal to electronic components to check their operation.

CONSULT-II BASIC OPERATION

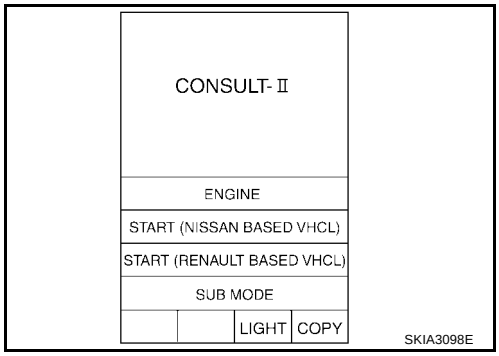
CAUTION:

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.

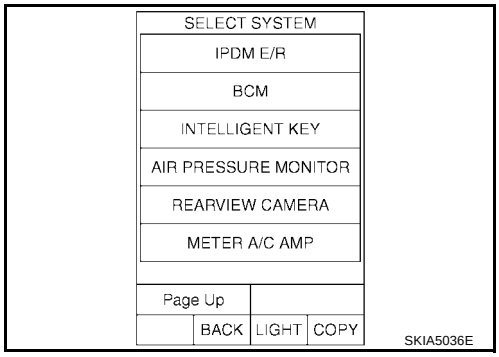
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON.



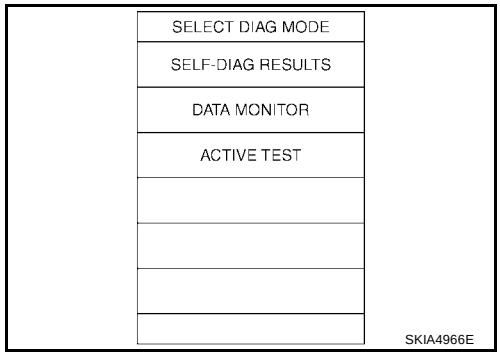
2. Touch “START (NISSAN BASED VHCL)”.



3. Touch “IPDM E/R” on “SELECT SYSTEM” screen.
   - If “IPDM E/R” is not displayed, print "SELECT SYSTEM" screen, then refer to LAN-6, "Precautions for CAN System" .



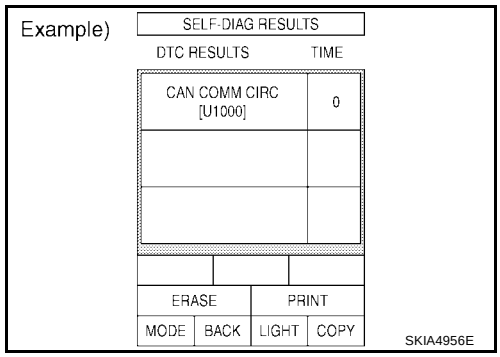
4. Select “SELF-DIAG RESULTS” or “DATA MONITOR”.



SELF-DIAGNOSTIC RESULTS

Operation Procedure

1. Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
2. Self-diagnosis results are displayed.



Display Item List

Display items	CONSULT-II display code	Error return condition	TIME		Possible causes
			CRNT	PAST	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	—	—	—	—	—
CAN COMM CIRC	U1000	● If CAN communication reception/transmission data has an error, or if any of the control units fail, data reception/transmission cannot be confirmed. ● When the data in CAN communication is not received before the specified time.	X	X	Any of items listed below have errors: ● CAN CIRC 1 ● CAN CIRC 2 ● CAN CIRC 3

NOTE:
The details for display of the period are as follows:

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

DATA MONITOR

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch "ALL SIGNALS”, “MAIN SIGNALS” or “SELECT FROM MENU” on the “DATA MONITOR” screen.

ALL SIGNALS	All signals will be monitored.
MAIN SIGNALS	Monitors the predetermined item(s).
SELECT FROM MENU	Selects and monitors individual signal(s).

3. Touch “START”.
4. Touch the required monitoring item on "SELECT ITEM MENU".
5. Touch “RECORD” while monitoring to record the status of the item being monitored. To stop recording, touch “STOP”.

All Signals, Main Signals, Select From Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECT FROM MENU	
Motor fan request	MOTOR FAN REQ	1/2/3/4	X	X	X	Signal status input from ECM
Compressor request	AC COMP REQ	ON/OFF	X	X	X	Signal status input from ECM
Tail & clear request	TAIL & CLR REQ	ON/OFF	X	X	X	Signal status input from BCM
H/L LO request	HL LO REQ	ON/OFF	X	X	X	Signal status input from BCM
H/L HI request	HL HI REQ	ON/OFF	X	X	X	Signal status input from BCM
FR fog request	FR FOG REQ	ON/OFF	X	X	X	Signal status input from BCM
FR wiper request	FR WIP REQ	STOP/1LO/LO/HI	X	X	X	Signal status input from BCM
Wiper auto stop	WIP AUTO STOP	ACT P/STOP P	X	X	X	Output status of IPDM E/R
Wiper protection	WIP PROT	OFF/LS/HS/Block	X		X	Control status of IPDM E/R
Starter request	ST RLY REQ	ON/OFF	X		X	Status of input signal NOTE
Ignition relay status	IGN RLY	ON/OFF	X	X	X	Ignition relay status monitored with IPDM E/R
Rear defogger request	RR DEF REQ	ON/OFF	X	X	X	Signal status input from BCM
Oil pressure switch	OIL P SW	OPEN/CLOSE	X		X	Signal status input from IPDM E/R
Theft warning horn request	THFT HRN REQ	ON/OFF	X		X	Signal status input from BCM
Horn chirp	HORN CHIRP	ON/OFF	X		X	Output status of IPDM E/R
Cornering lamp request	CRNRNG LMP REQ	OFF/LEFT/RIGHT	X		X	Signal status input from BCM

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

CAN DIAGNOSIS SUPPORT MONITOR

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT MONITOR ITEM” screen.
2. Touch "CAN DIAG SUPPORT MNTR” on the “DATA MONITOR” screen.
3. Touch “START”.
4. Touch “RECORD” while monitoring to record the status of the item being monitored. To stop recording, touch “STOP”.

Item name	Display
CAN CIRC 1	OK/UNKWN
CAN CIRC 2	OK/UNKWN
CAN CIRC 3	OK/UNKWN
CAN 1 STAT	0 - 40
CAN 2 STAT	0 - 40
CAN 3 STAT	0 - 40

NOTE:
- 0: Normal
- 1 - 40: Error detected in the past and stored in IPDM E/R memory.

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 name	CONSULT-II screen display	Description
Tail lamp output	TAIL LAMP	With a certain ON-OFF operation, the tail lamp relay can be operated.
Rear defogger output	REAR DEFOGGER	With a certain ON-OFF operation, the rear defogger relay can be operated.
Front wiper (HI, LO) output	FRONT WIPER	With a certain operation (OFF, HI ON, LO ON), the front wiper 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.
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.
Cornering lamp output	CORNERING LAMP	—
Horn output	HORN	With a certain ON-OFF operation, the horn relay can be operated.

Auto Active Test

EKS005GX

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
  - Cornering lamps
  - Front fog lamps
  - Headlamps (Hi, Lo)
  - A/C compressor (magnetic clutch)
  - Cooling fan

OPERATION PROCEDURE

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

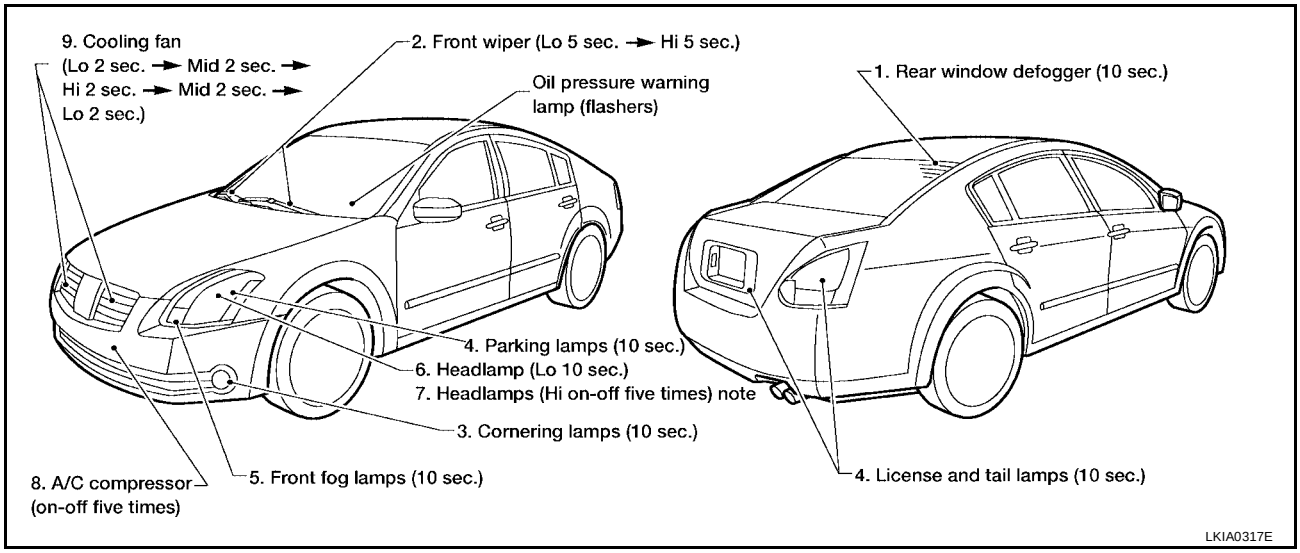
   NOTE:
   When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn ignition switch OFF.
3. Turn ignition switch ON and, within 20 seconds, press front door switch LH 10 times. Then turn ignition switch OFF.
4. Turn ignition switch ON within 10 seconds after 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 perform BL-29, "Door Switch Check" when the auto active test cannot be performed.

INSPECTION IN AUTO ACTIVE TEST MODE

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



NOTE:
Turns ON-OFF the solenoid to switch Hi/Lo. In this case, the bulb does not illuminate.

Concept of Auto Active Test

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

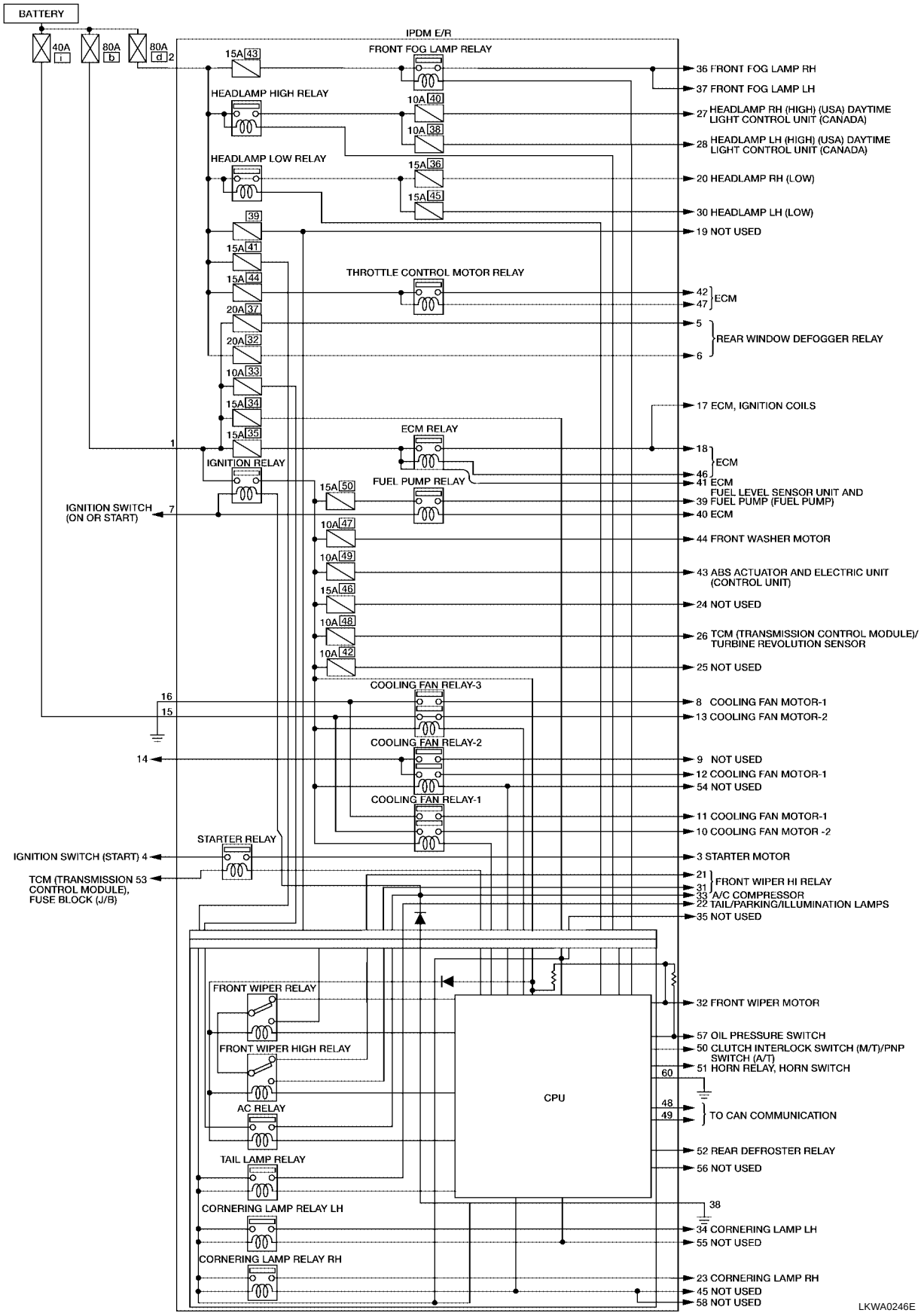
Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
Any of front wipers, tail and parking lamps, front fog lamps, cornering lamps, and head lamps (Hi, Lo) do not operate.	Perform auto active test. Does system in question operate?	YES	● BCM signal input system
		NO	● Lamp/wiper motor malfunction ● Lamp/wiper motor ground circuit malfunction ● Harness/connector malfunction between IPDM E/R and system in question ● IPDM E/R (integrated relay) malfunction
Rear window defogger does not operate.	Perform auto active test. Does rear window defogger operate?	YES	● BCM signal input circuit
		NO	● Rear window defogger relay circuit ● Open circuit of rear window defogger ● IPDM E/R malfunction
A/C compressor does not operate.	Perform auto active test. Does magnetic clutch operate?	YES	● BCM signal input circuit ● CAN communication signal between BCM and ECM. ● CAN communication signal between ECM and IPDM E/R
		NO	● 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	● ECM signal input circuit ● CAN communication signal between ECM and IPDM E/R
		NO	● Cooling fan motor malfunction ● Harness/connector malfunction between IPDM E/R and cooling fan motor ● IPDM E/R (integrated relay) malfunction

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate.	Perform auto active test. Does oil pressure warning lamp blink?	YES	● Harness/connector malfunction between IPDM E/R and oil pressure switch ● Oil pressure switch malfunction
		NO	● CAN communication signal between BCM and Unified Meter and A/C Amp ● Combination meter

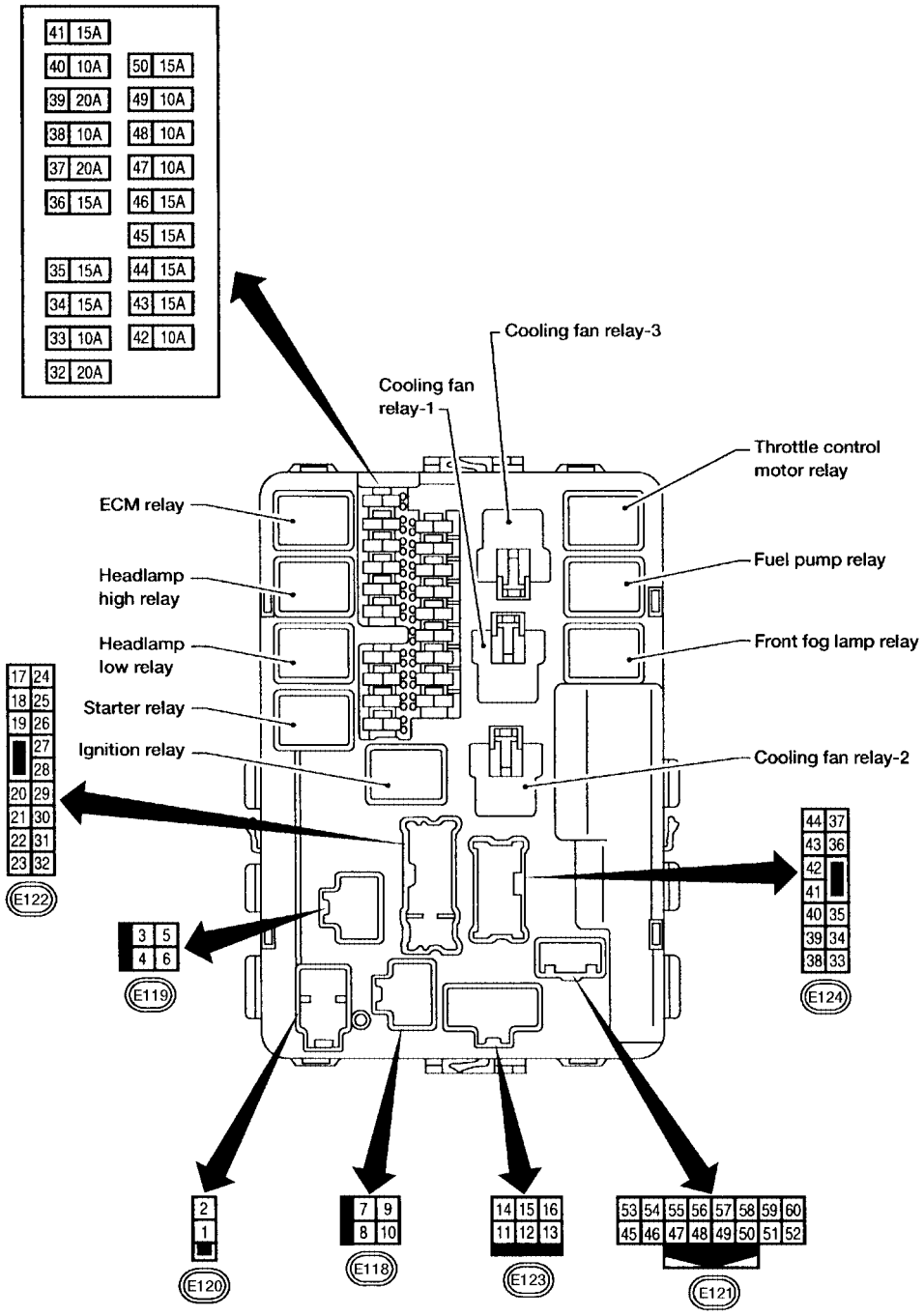
Schematic

EKS005GY



IPDM E/R Terminal Arrangement

EKS005GZ



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IPDM E/R Power/Ground Circuit Inspection

EKS005H0

1. FUSE AND FUSIBLE LINK INSPECTION

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

Terminal No.	Signal name	Fuse, fusible link No.
1, 2, 15	Battery power	a, b, d, e, l

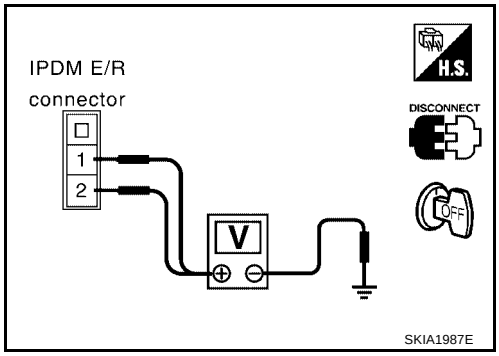
OK or NG?

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

2. POWER CIRCUIT INSPECTION

1. Disconnect IPDM E/R harness connector E120.
2. Check voltage between IPDM E/R harness connector E120 terminals 1 (R), 2 (B/Y) and ground.

Battery voltage should exist



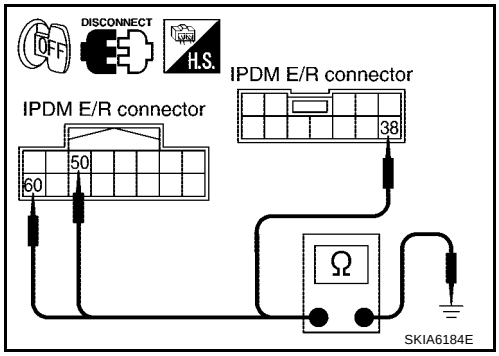
OK or NG

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

3. GROUND CIRCUIT INSPECTION

1. Disconnect IPDM E/R harness connectors E121 and E124.
2. Check continuity between IPDM E/R harness connector E121 terminal 50 (B) (A/T model only), E121 terminal 60 (B), E124 terminal 38 (B), E123 terminal 16 (B) and 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)

EKS005H9

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

1. SELF-DIAGNOSIS RESULT CHECK

1. Connect CONSULT-II and select "IPDM E/R" on the Diagnosis System Selection screen.
2. Select "SELF-DIAG RESULTS" on the diagnosis mode selection screen.
3. Check display content in self-diagnosis 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	X	X	Any of items listed below have errors: ● CAN CIRC 1 ● CAN CIRC 2 ● CAN CIRC 3

NOTE:
The Details for Display for the Period are as follows:

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

Contents displayed

NO DTC DETECTED. FURTHER TESTING MAY BE REQUIRED.>>INSPECTION END.
CAN COMM CIRC>>Print out the self-diagnosis result and Go TO 2.

2. SYMPTOM CHECK

1. Select "CAN DIAG SUPPORT MNTR" on the DATA MONITOR.
2. Select "START" and check display contents..

Diagnosis item	Data monitor display contents	
	Normal	Error (example)
CAN CIRC 1	OK	UNKWN
CAN CIRC 2	OK	UNKWN
CAN CIRC 3	OK	UNKWN
CAN 1 STAT	0	1 - 40
CAN 2 STAT	0	1 - 40
CAN 3 STAT	0	1 - 40

NOTE:
CAN status indicates the condition of the CAN communication judged by each signal input.

- Normal: If no problems were found in the past, CAN status indicates “0”. If the system is presently operating properly, but had a malfunction in the past, the CAN status will indicate “39-1”.
- Malfunction: If there is a malfunction, CAN indicates “40”.

After the system returns to its normal operating condition, every time the ignition switch is cycled (turned OFF from ON), a value will be removed from the counter (i.e. “39”→“38”→“37”···“1”). If a malfunction is detected again, CAN status indicates “40”. (Although the system has returned to normal operating condition, “0” is not immediately indicated. To reset, select and press “ERASE” on the “SELF-DIAGNOSIS” screen.)

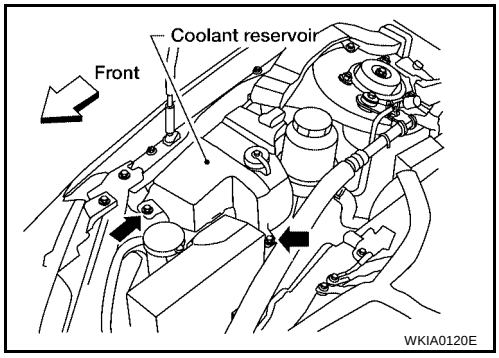
>> After print-out of the monitored items, refer to LAN-6, "Precautions for CAN System" .

Removal and Installation of IPDM E/R

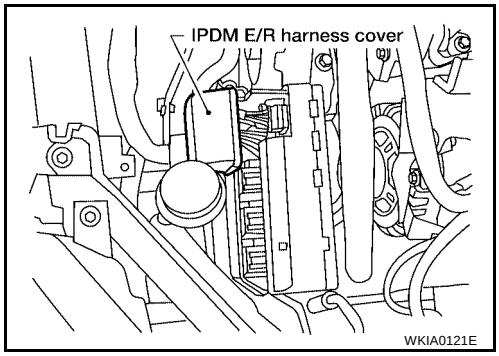
EKS005H1

REMOVAL

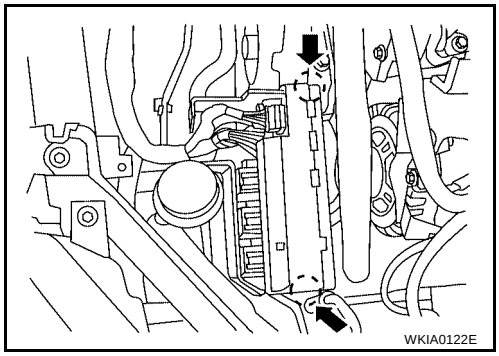
1. Disconnect negative battery cable.
2. Remove engine side cover RH.
3. Remove 2 bolts and position coolant reservoir aside.
4. Remove IPDM E/R upper cover.



5. Remove IPDM E/R harness cover.



6. Release 2 clips and pull IPDM E/R up from case.
7. Disconnect IPDM E/R connectors and remove the IPDM E/R.



INSTALLATION

Install in the reverse order of removal.

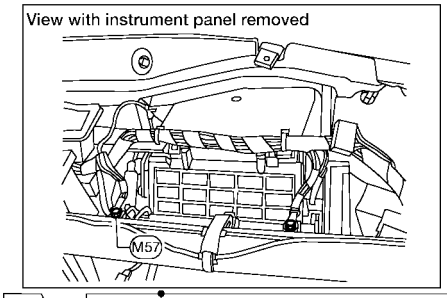
GROUND CIRCUIT

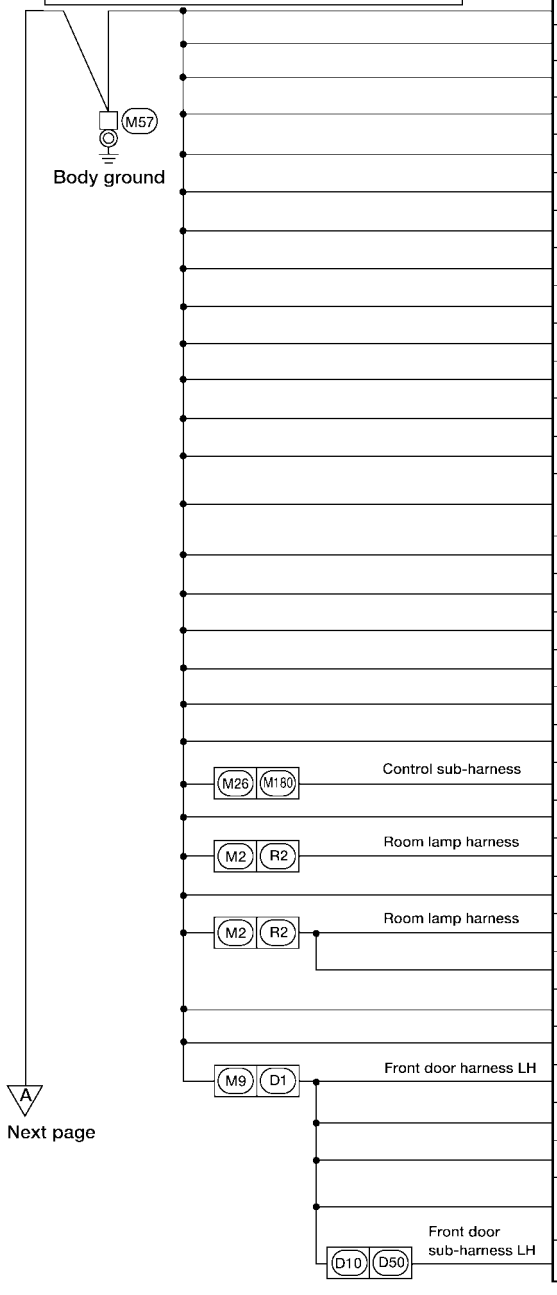
PFP:24080

Ground Distribution

EKS003XA

MAIN HARNESS





CONNECTOR NUMBER	CONNECT TO
M3	Fuse box (J/B) (Terminal No. 7N)
M6	VDC OFF switch
M7	Driver mirror control switch
M16	ADP steering switch
M19	BCM (Body control module) (Terminal No. 49)
M19	BCM (Body control module) (Terminal No. 52)
M21	NATS antenna amplifier
M22	Data link connector (Terminal No. 4)
M22	Data link connector (Terminal No. 5)
M24	Combination meter (Terminal No. 10)
M24	Combination meter (Terminal No. 11)
M24	Combination meter (Terminal No. 12)
M28	Combination switch
M34	A/T device (Terminal No. 2) (Overdrive control switch) (with 4-speed A/T)
M35	Air bag diagnosis sensor unit
M38	Heated steering combination switch
M47	Steering angle sensor
M56	Cigarette lighter socket
M93	Display unit
M108	Heated steering wheel switch
M181	Front heated seat switch LH
M182	Front heated seat switch RH
R3	Vanity mirror lamp LH
R4	Sunroof motor assembly
R7	Auto anti-dazzling inside mirror
R8	Vanity mirror lamp RH
R13	Personal lamp
R14	Room/map lamps
D4	Door mirror LH
D5	Seat memory switch
D6	Trunk lid opener switch
D8	Main power window and door lock/unlock switch (Terminal No. 17)
D51	Front door key cylinder switch LH

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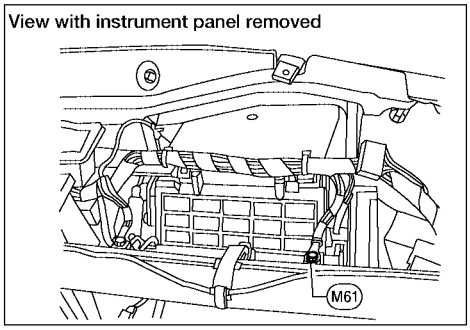

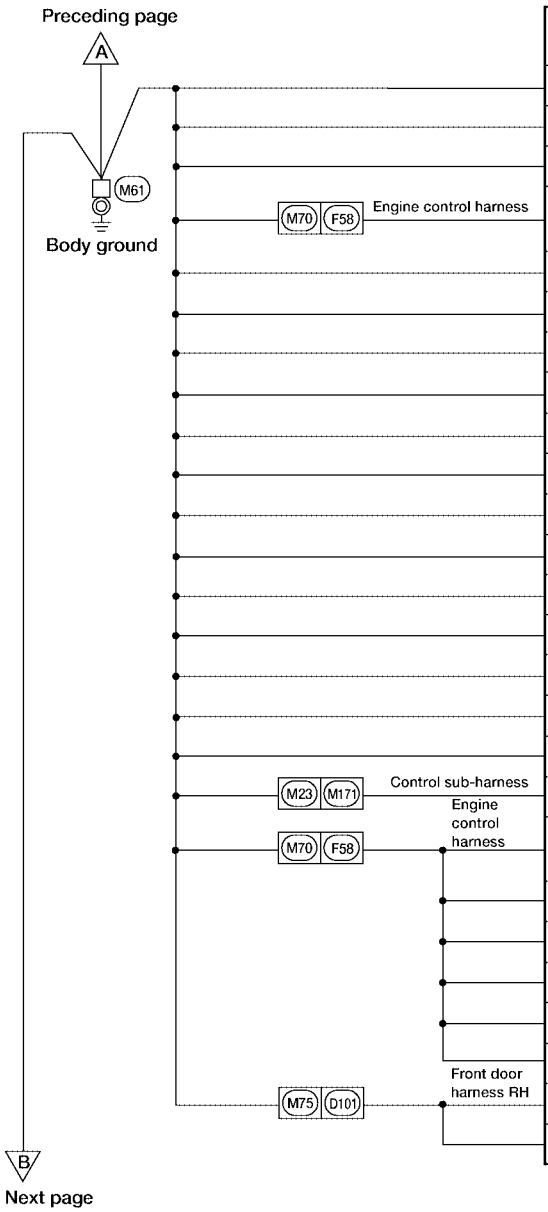

CONNECTOR NUMBER	CONNECT TO
M5	Illumination control switch
M6	TCS ON/OFF switch
M31	Shift lock control unit (Terminal No. 8)
M34	A/T device (Terminal No. 11) (Overdrive control switch) (With 5-speed A/T)
M37	Rear sunshade front switch
M39	Air mix door motor driver
M40	Mode door motor
M42	Automatic drive positioner control unit
M50	A/C auto amp. (With auto A/C) (Terminal No. 29)
M50	A/C auto amp. (With auto A/C) (Terminal No. 30)
M55	Hazard switch
M58	Intake door motor
M59	Glove box lamp
M64	Fan control amp.
M87	Air mix door motor passenger
M94	Display control unit
M98	AV switch
M172	Front power socket
F29	Park/neutral position (PNP) switch (Terminal No. 6) (with A/T)
F37	Turbine revolution sensor (shield wire)
F38	Revolution sensor (shield wire)
F56	TCM (Terminal No. 25)
F57	TCM (Terminal No. 14)
F57	TCM (Terminal No. 48)
D105	Front power window switch RH (Terminal No. 11)
D107	Door mirror RH

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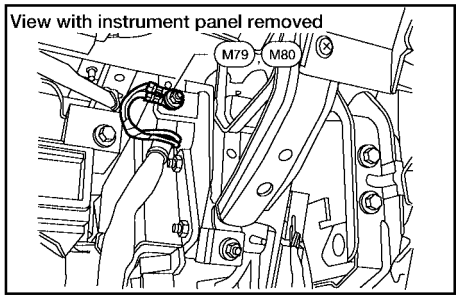
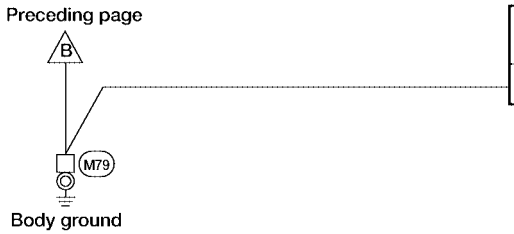
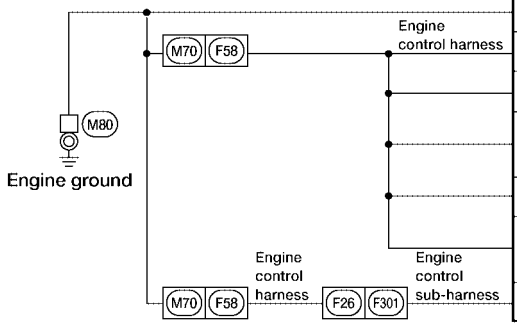




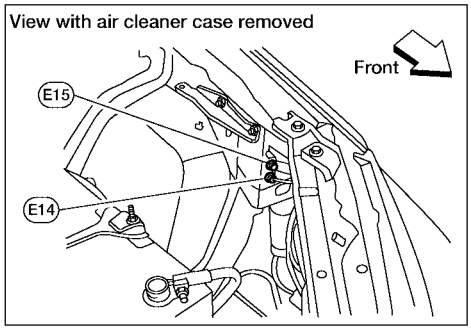
CONNECTOR NUMBER	CONNECT TO
M82	ECM (Terminal No. 116)

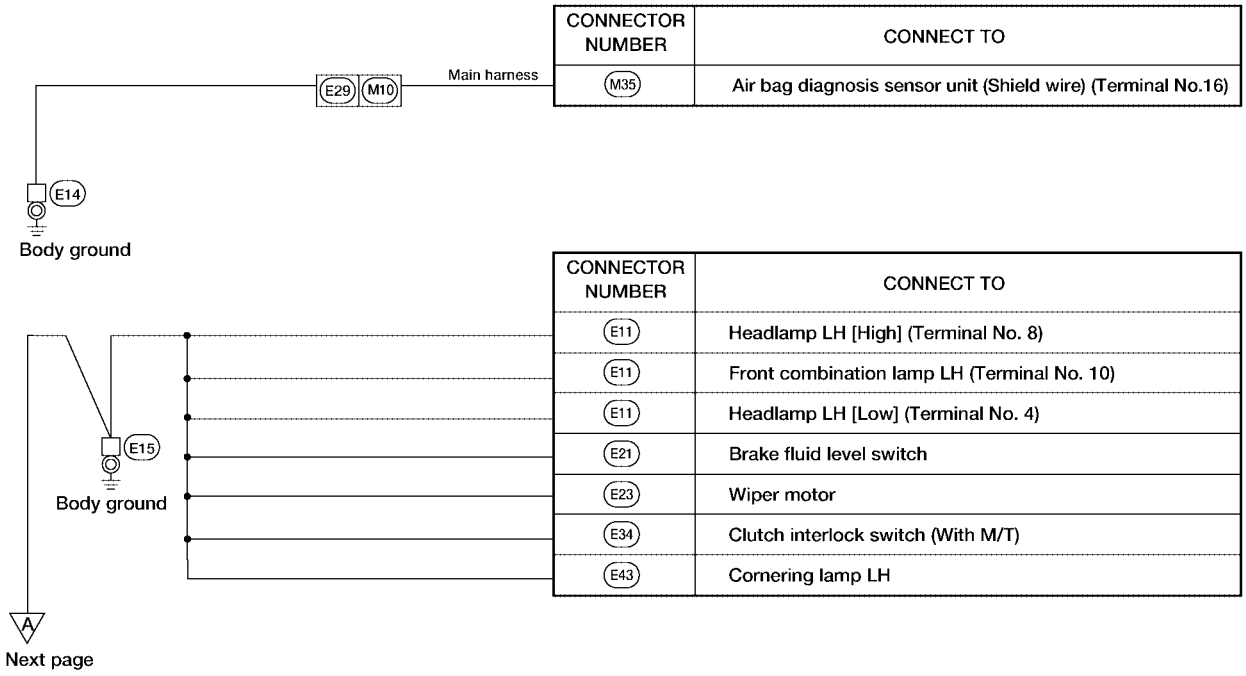


CONNECTOR NUMBER	CONNECT TO
M82	ECM (Terminal No. 115)
F11	Crankshaft position sensor (POS)
F23	Camshaft position sensor (PHASE) (BANK 2)
F42	Park/neutral position (PNP) switch (Terminal No. 2) (With M/T)
F48	Camshaft position sensor (PHASE) (BANK 1)
F50	Electric throttle control actuator (Throttle position sensor, throttle motor) (Shield wire)
F302	Knock sensor (Shield wire)

WKIA0490E

ENGINE ROOM HARNESS





CONNECTOR NUMBER	CONNECT TO
M35	Air bag diagnosis sensor unit (Shield wire) (Terminal No.16)

CONNECTOR NUMBER	CONNECT TO
E11	Headlamp LH [High] (Terminal No. 8)
E11	Front combination lamp LH (Terminal No. 10)
E11	Headlamp LH [Low] (Terminal No. 4)
E21	Brake fluid level switch
E23	Wiper motor
E34	Clutch interlock switch (With M/T)
E43	Cornering lamp LH

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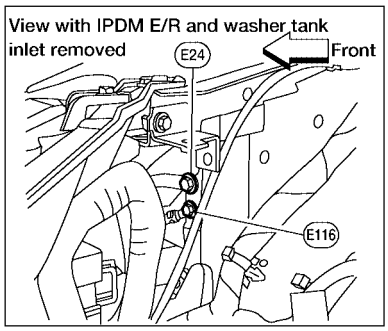
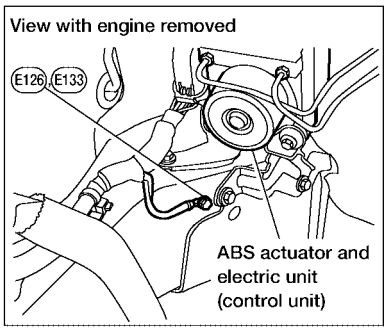
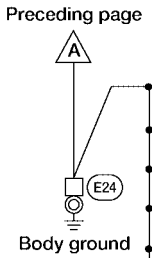
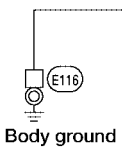


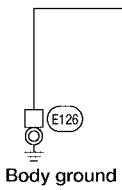




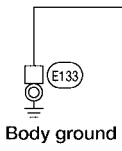
CONNECTOR NUMBER	CONNECT TO
E106	Washer level switch
E107	Headlamp RH [Low] (Terminal No. 4)
E107	Front combination lamp RH (Terminal No. 10)
E107	Headlamp RH [High] (Terminal No. 8)
E113	Cooling fan motor 1
E114	Cooling fan motor 2
E121	IPDM E/R (Terminal No. 50)
E121	IPDM E/R (Terminal No. 60)
E123	IPDM E/R [Cooling fan relay-1 and 3] (Terminal No. 16)
E124	IPDM E/R [IGN relay, A/C relay] (Terminal No. 38)
E137	Cornering lamp RH



CONNECTOR NUMBER	CONNECT TO
E112	Generator



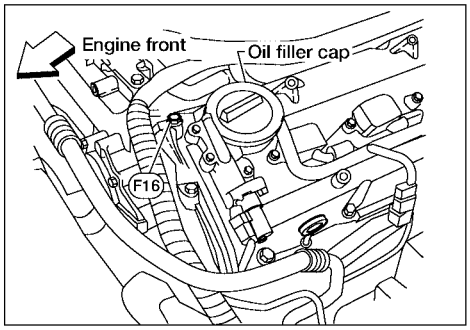
CONNECTOR NUMBER	CONNECT TO
M46	Yaw rate/side/decel G sensor (Shield wire)
E125	ABS actuator and electric unit (Control unit) (Terminal No. 16)
E125	ABS actuator and electric unit (Control unit) (Terminal No. 30)
E125	ABS/TCS/VDC actuator and electric unit (Control unit) (Terminal No. 31)

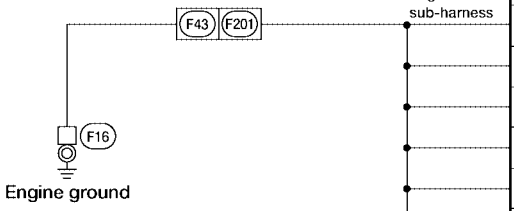


CONNECTOR NUMBER	CONNECT TO
E125	ABS/TCS/VDC actuator and electric unit (Control unit) (Terminal No. 46)

WKIA0492E

ENGINE CONTROL HARNESS

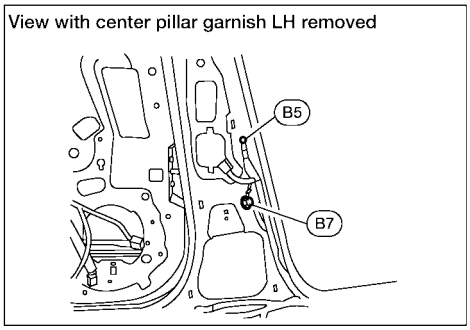


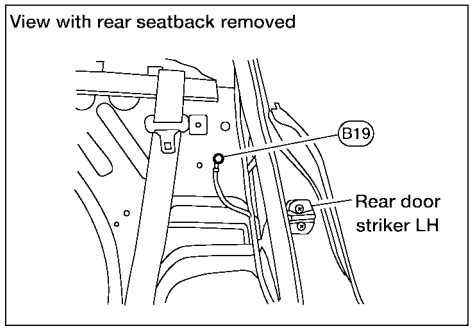


CONNECTOR NUMBER	CONNECT TO
F6	Ignition coil No. 2 (With power transistor)
F7	Ignition coil No. 4 (With power transistor)
F8	Ignition coil No. 6 (With power transistor)
F21	Condenser-2
F202	Ignition coil No. 1 (With power transistor)
F203	Ignition coil No. 3 (With power transistor)
F204	Ignition coil No. 5 (With power transistor)

WKIA0493E

BODY HARNESS

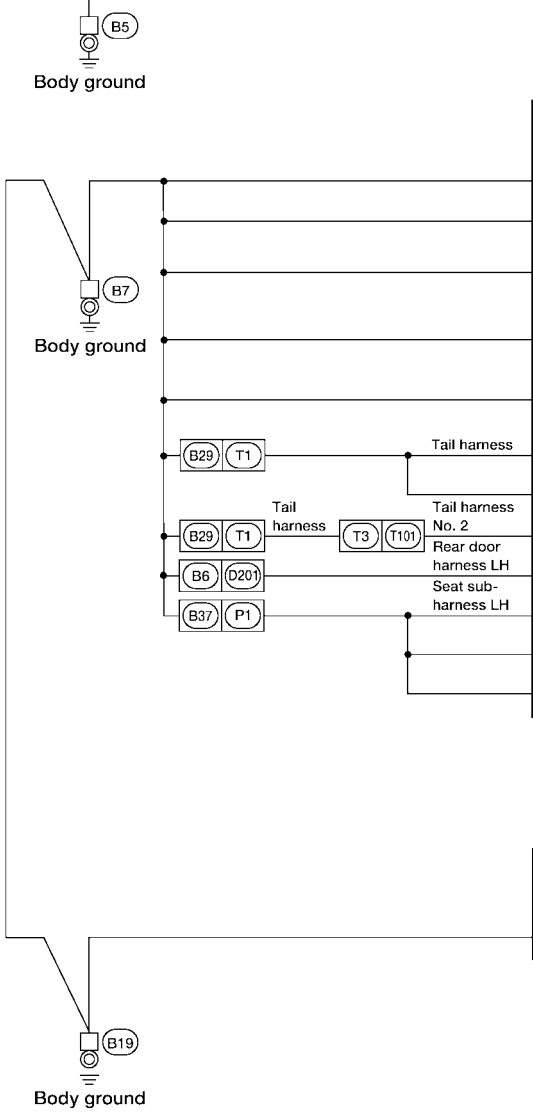




CONNECTOR NUMBER	CONNECT TO
B9	Air bag diagnosis sensor unit (Shield wire) (Terminal No. 44) (With side air bags)

CONNECTOR NUMBER	CONNECT TO
B12	Seat belt buckle switch LH
B13	Heated seat LH
B16	Fuel level sensor unit and fuel pump (Fuel pump) (Terminal No. -)
B35	Rear combination lamp LH (Turn signal, tail, back-up and stop lamp) (Terminal No. 5)
B36	Rear combination lamp RH (Turn signal, tail, back-up and stop lamp) (Terminal No. 5)
T4	License lamp LH
T5	License lamp RH
T103	Trunk lamp switch and trunk release solenoid
D203	Rear power window switch LH
P2	Driver seat control unit (Terminal No. 32)
P3	Driver seat control unit (Terminal No. 48)
P8	Power seat switch LH

CONNECTOR NUMBER	CONNECT TO
B17	Condenser-1 (Fuel pump)



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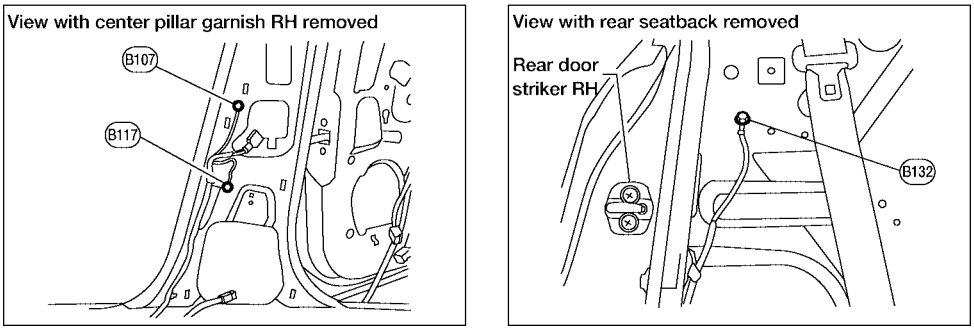
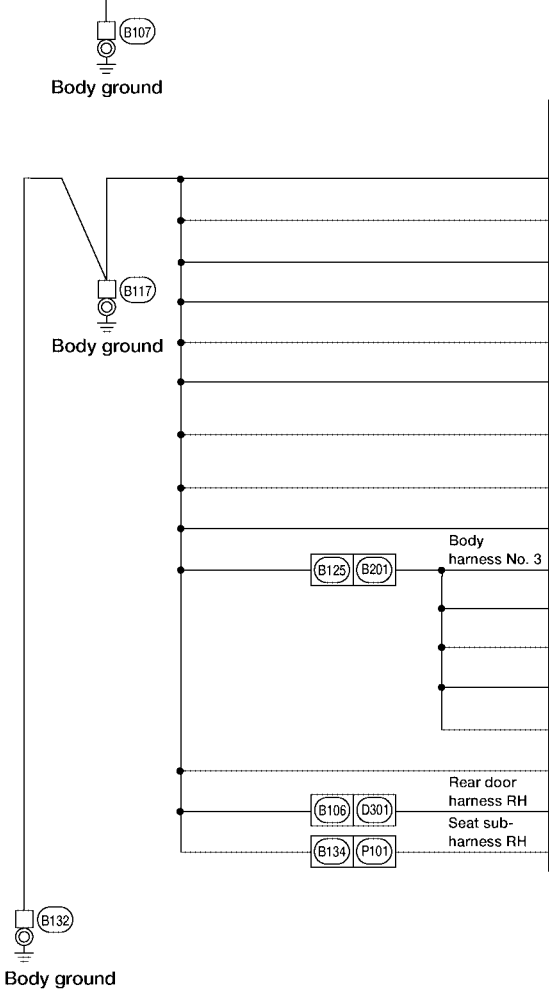
BODY NO. 2 HARNESS



CONNECTOR NUMBER	CONNECT TO
B113	Air bag diagnosis sensor unit (Shield wire) (Terminal No. 40) (With side air bags)

CONNECTOR NUMBER	CONNECT TO
B105	Rear power socket relay
B109	Heated seat relay
B110	Seat belt buckle switch RH
B111	Heated seat RH
B126	Subwoofer RH
B127	Bose speaker amplifier
B129	High mounted stop lamp (Without rear air spoiler, with Bose audio)
B130	Rear sunshade unit
B133	Subwoofer amp
B202	Rear power socket
B203	Rear heated seat switch LH
B204	Rear heated seat switch RH
B205	Rear heated seat LH
B206	Rear heated seat RH
B207	Rear sunshade rear switch
D303	Rear power window switch RH
P102	Power seat switch RH



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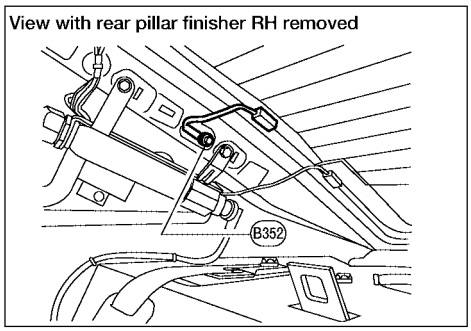


CONNECTOR NUMBER	CONNECT TO
B351	Rear window defogger (-)

WKIA0497E

HARNESS

PFP:24010

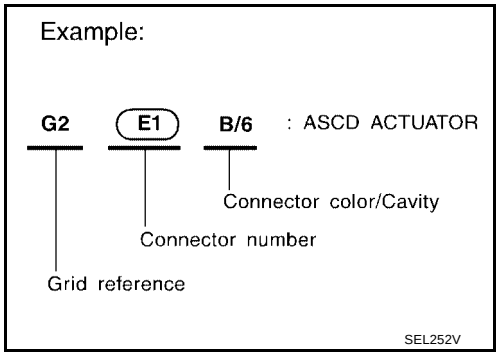
Harness Layout

EKS003XB

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 LH View (Engine Compartment)
- Engine Room Harness RH View (Engine Compartment)
- Engine Control Harness
- Body Harness and Tail Harness
- Body No. 2 Harness and Body No. 3 Harness



To use the grid reference

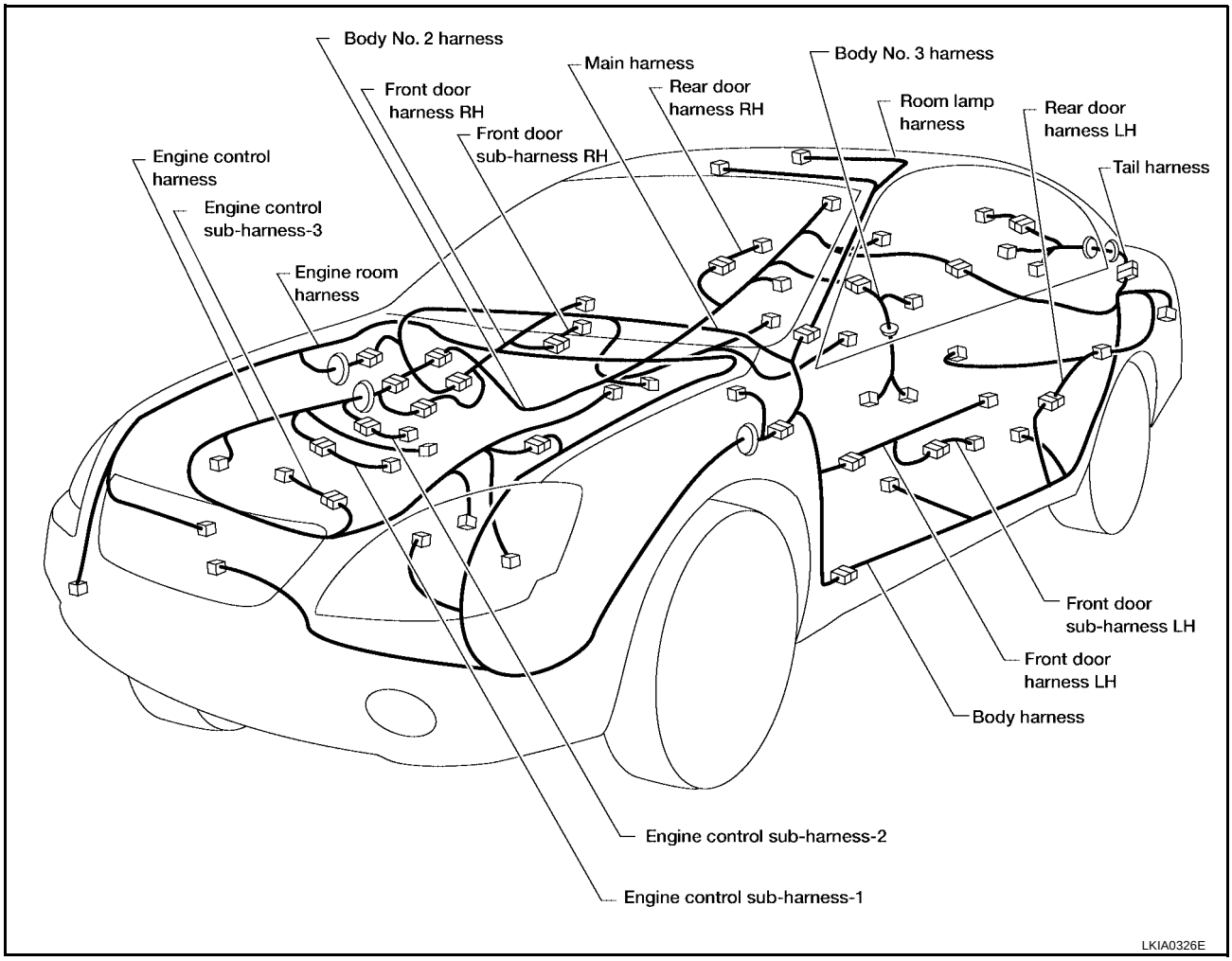
1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

CONNECTOR SYMBOL

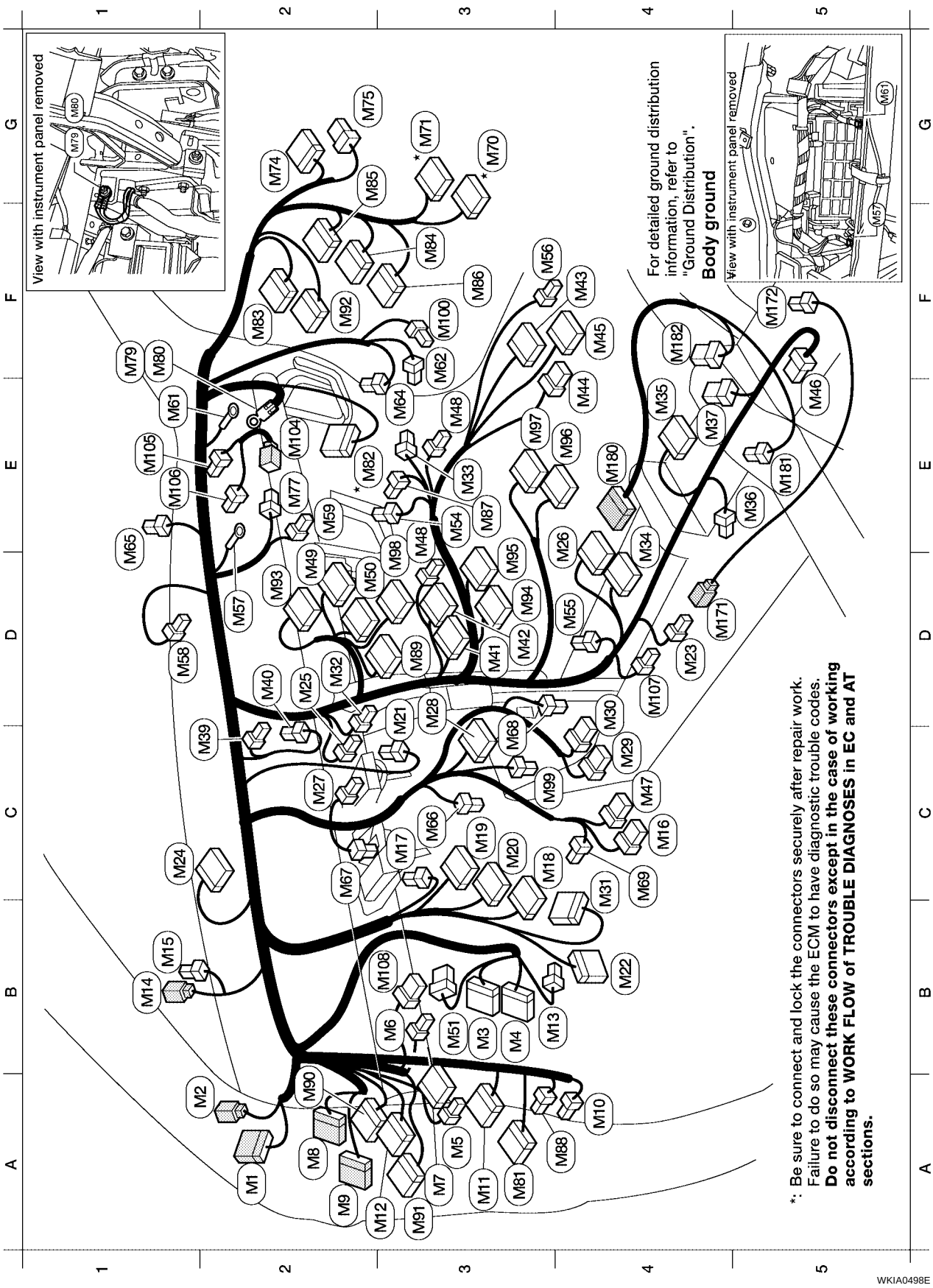
Main symbols of connector (in Harness Layout) are indicated below.

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.	—			

OUTLINE


Body No. 2 harness
Main harness
Body No. 3 harness
Front door harness RH
Rear door harness RH
Room lamp harness
Rear door harness LH
Front door sub-harness RH
Tail harness
Engine control harness
Engine control sub-harness-3
Engine room harness
Front door sub-harness LH
Front door harness LH
Body harness
Engine control sub-harness-2
Engine control sub-harness-1
LKIA0326E

MAIN HARNESS



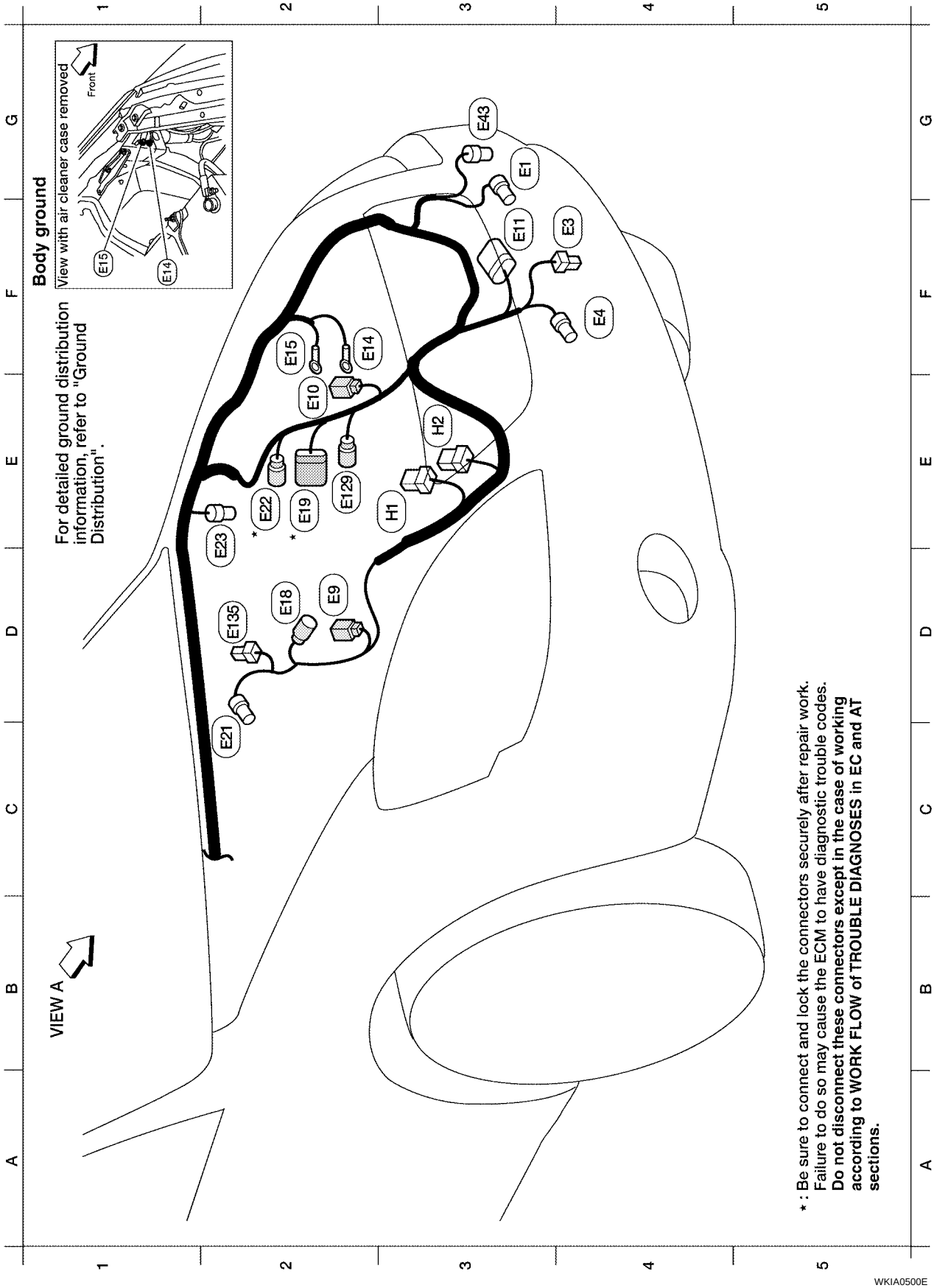
A2	M1	W/16	: To R1
A1	M2	W/3	: To R2
B3	M3	W/8	: Fuse block (J/B)
B3	M4	W/16	: Fuse block (J/B)
A3	M5	W/3	: Illumination control swtich
B3	M6	GR/6	: TCS on/off switch (with TCS) or VDC OFF switch (with VDC)
A3	M7	W/10	: Door mirror remote control switch
A2	M8	W/24	: To D2
A2	M9	W/12	: To D1
A4	M10	Y/4	: To E29
A3	M11	W/16	: To B1
A3	M12	W/12	: To B2
B3	M13	L/4	: Heated steering relay
B1	M14	BR/2	: Security indicator lamp
B1	M15	W/3	: Optical sensor
C4	M16	GR/6	: ADP steering switch
C3	M17	W/2	: Circuit breaker
C3	M18	W/40	: BCM (body control module)
C3	M19	B/15	: BCM (body control module)
C3	M20	W/15	: BCM (body control module)
D3	M21	W/4	: NATS antenna amplifier
B4	M22	W/16	: Data link connector
D4	M23	W/2	: To M171
C1	M24	W/24	: Combination meter
D2	M25	W/2	: Ignition keyhole illumination
E4	M26	BR/16	: To M180
C2	M27	W/4	: Key swtich and key lock solenoid
D3	M28	W/16	: Combination switch
C4	M29	Y/6	: Spiral cable
D4	M30	GR/8	: Combination switch (spiral cable)
C4	M31	GR/10	: Shift lock control unit (with A/T)
D2	M32	W/2	: In-vehicle sensor
E3	M33	W/2	: Intake sensor
D4	M34	W/16	: A/T device
E4	M35	Y/28	: Air bag diagnosis sensor unit
E5	M36	B/1	: Parking brake switch
E4	M37	W/6	: Rear sunshade front switch
C2	M39	W/3	: Air mix door motor (driver)
D2	M40	W/3	: Mode door motor
D3	M41	W/32	: Automatic drive pos control unit
D3	M42	W/16	: Automatic drive pos control unit
F4	M43	W/10	: Audio unit
F4	M44	W/6	: Audio unit
F4	M45	W/16	: Audio unit
E5	M46	B/6	: Yaw rate/side/decel G sensor
C4	M47	W/8	: Steering angle sensor
E3	M48	W/2	: Antenna amplifier
D2	M49	GR/20	: Unified meter and A/C amplifier
D2	M50	GR/16	: Unified meter and A/C amplifier
B3	M51	BR/6	: Relay
E3	M54	W/2	: Trunk lid opener cancel switch
D4	M55	W/4	: Hazard switch
F3	M56	B/2	: Cigarette lighter
D2	M57		: Body ground
D1	M58	W/3	: Intake door motor
E2	M59	BR/2	: Glove box lamp
E1	M61		: Body ground 1-2
F3	M62	W/2	: Blower motor
E3	M64	W/4	: Fan control amplifier
E1	M65	B/2	: Sunload sensor
C3	M66	W/2	: Telescopic motor
C2	M67	W/3	: Telescopic motor
D3	M68	W/2	: Tilt motor
C4	M69	W/3	: Tilt motor
G3	*M70	W/16	: To F58
G3	*M71	W/24	: To F59
G2	M74	W/16	: To D102
G2	M75	W/8	: To D101
E2	M77	Y/4	: To M104 (to front passenger air bag)
F1	M79		: Body ground 1-3
F1	M80		: Body ground
A3	M81	GR/20	: To B20
E2	*M82	B/40	: ECM
F2	M83	W/20	: To E134
F3	M84	W/18	: To B101
G2	M85	GR/24	: To B102
F3	M86	W/16	: To B103
E3	M87	W/3	: Air mix door motor (passenger)
A4	M88	B/2	: To E42
D3	M89	W/24	: Unified meter and A/C amplifier
A2	M90	W/16	: To E25
A3	M91	W/12	: To E26
F2	M92	W/10	: To E131
D2	M93	W/24	: Display unit
D3	M94	W/24	: Display control unit (with NAVI)
D3	M95	W/32	: Display control unit (with NAVI)
E4	M96	W/24	: NAVI control unit (with NAVI)
E3	M97	GR/24	: NAVI control unit (with NAVI)
D3	M98	W/16	: AV switch
C3	M99	W/2	: Foot lamp LH
F3	M100	W/2	: Foot lamp RH
E2	M104	Y/4	: To M77
E1	M105	B/2	: Passenger air bag module
E1	M106	O/2	: Passenger air bag module
D4	M107	BR/2	: A/T device (illumination) (with A/T)
B3	M108	W/6	: Heated steering wheel switch
D4	M171	W/2	: To M23
F5	M172	B/2	: Front power socket
E4	M180	BR/16	: To M26
E5	M181	BR/6	: Front heated seat switch LH
F4	M182	W/6	: Front heated seat switch RH

* : Refer to previous page

WKIA0499E

ENGINE ROOM HARNESS (LH VIEW)

Engine Compartment



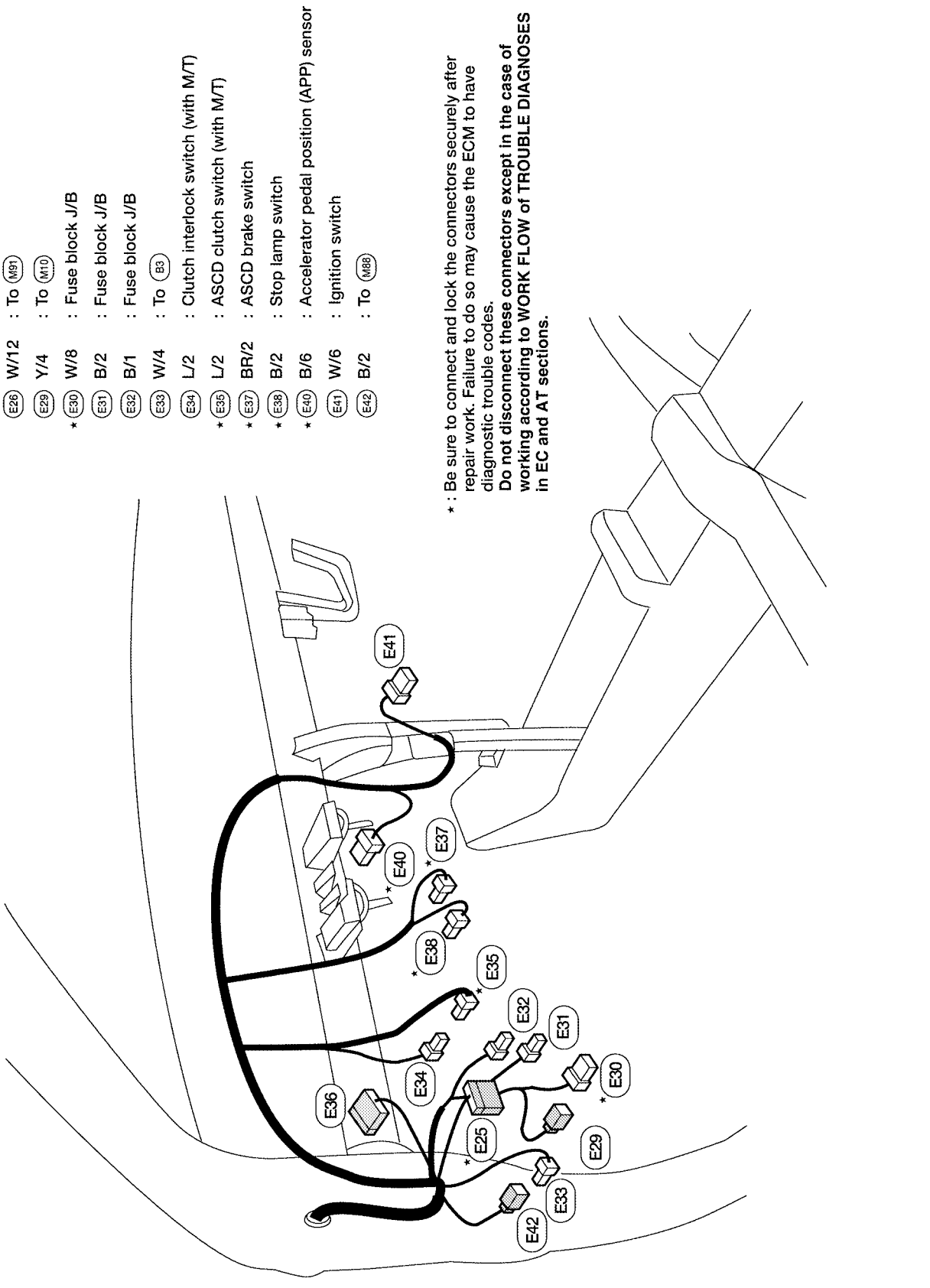
Refer to PG-43, "ENGINE ROOM HARNESS (RH VIEW)" for continuation of engine room harness.

G3	(E1)	B/2	: Ambient sensor
F4	(E3)	B/1	: Horn (low)
F4	(E4)	Y/2	: Crash zone sensor
E3	(H-1)	W/3	: Horn relay (inside fuse and fusible link box)
E3	(H-2)	-	: Daytime light relay (inside fuse and fusible link box)
D2	(E9)	BR/2	: Fusible link box (battery)
E2	(E10)	GR/2	: Fusible link box (battery)
F3	(E11)	GR/12	: Front combination lamp LH
F2	(E14)	-	: Body ground
F2	(E15)	-	: Body ground
D2	(E18)	B/2	: Front wheel sensor LH
E2	*(E19)	GR/9	: To (F33)
C2	(E21)	GR/2	: Brake fluid level switch
E2	*(E22)	B/2	: To (F35)
E2	(E23)	GR/6	: Front wiper motor
G3	(E43)	GR/2	: Cornering lamp LH
E2	(E129)	B/2	: To (F45)
D2	(E135)	GR/2	: Dropping resistor (with 4-speed A/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.**

WKIA0501E

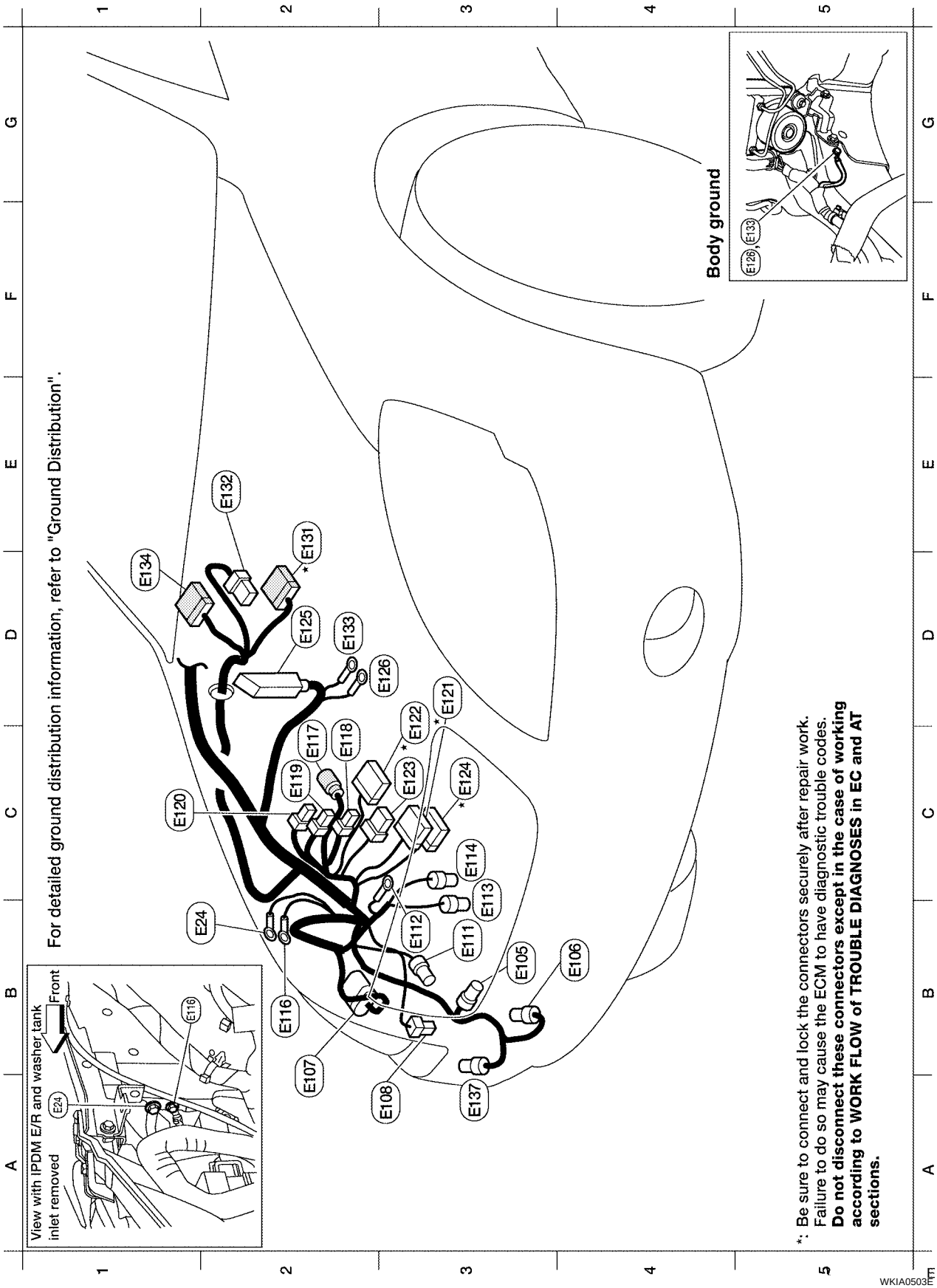
Passenger Compartment



WKIA0502E

ENGINE ROOM HARNESS (RH VIEW)

Engine Compartment

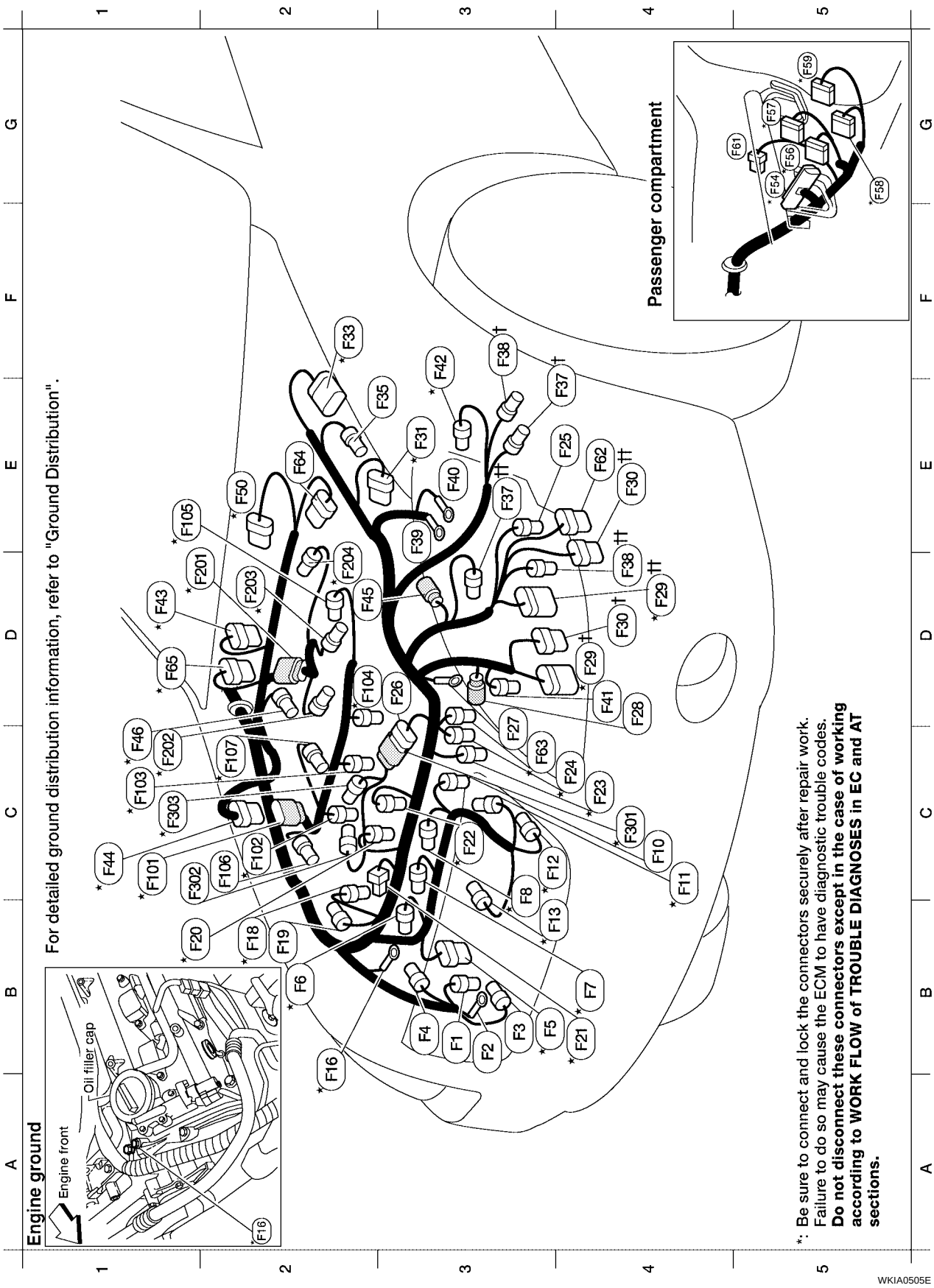


Refer to PG-40, "ENGINE ROOM HARNESS (LH VIEW)" for continuation of engine room harness.

B2	E24	-	: Body ground
B3	E105	GR/2	: Front washer motor
B4	E106	BR/2	: Washer fluid level switch
B2	E107	GR/12	: Front combination lamp RH
B3	E108	B/1	: Horn (high)
B3	E111	B/3	: Refrigerant pressure sensor
B3	E112	-	: Generator (ground)
B3	E113	GR/4	: Cooling fan motor-1
C3	E114	GR/4	: Cooling fan motor-2
B2	E116	-	: Body ground
C2	E117	GR/2	: Front wheel sensor RH
C2	E118	B/4	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
C2	E119	W/4	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
C1	E120	B/2	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
D3	* E121	W/12	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
D3	* E122	GY/16	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
C3	E123	W/6	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
C3	* E124	W/12	: IPDM E/R (Intelligent Power Distribution Module Engine Room)
D2	E125	GR/30	: ABS actuator and electric unit (control unit) (except with VDC)
D2	E125	B/46	: ABS actuator and electric unit (control unit) (with VDC)
D3	E126	-	: Body ground
E2	* E131	W/10	: To M92
E2	E132	W/8	: To B104
D2	E133	:	Body ground (with VDC)
D1	E134	W/20	: To M83
A3	E137	GR/2	: Cornering lamp RH

*: 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.**

ENGINE CONTROL HARNESS



B3 (F1) GR/2 : Generator
B3 (F2) - : Generator
B3 (F3) B/1 : A/C compressor
B3 *(F4) G/2 : Intake valve timing control solenoid valve (Bank 2)
B3 *(F5) B/6 : Air /fuel ratio (A/F) sensor (Bank 2)
B2 *(F6) GR/3 : Ignition coil No. 2 (with power transistor)
B4 *(F7) GR/3 : Ignition coil No. 4 (with power transistor)
C3 *(F8) GR/3 : Ignition coil No. 6 (with power transistor)
C4 (F10) BR/3 : Front electronic controlled engine mount
C4 *(F11) B/3 : Crankshaft position sensor
C3 *(F12) L/4 : Heated oxygen sensor 2 (Rear) (Bank 2)
B3 *(F13) G/4 : Heated oxygen sensor 2 (Rear) (Bank 1)
B2 *(F16) - : Engine ground
B2 *(F18) GR/2 : Injector No. 2
B2 (F19) B/2 : VIAS control solenoid valve
B1 *(F20) GR/2 : Injector No. 4
B4 *(F21) GR/2 : Condenser 2
C3 *(F22) GR/2 : Injector No. 6
C4 *(F23) B/3 : Camshaft position sensor (PHASE) (Bank 2)
C4 *(F24) GR/2 : Engine coolant temperature sensor
E4 (F25) BR/3 : Rear electronic controlled engine mount (with A/T)
D3 (F26) GR/6 : To (F301)
C3 (F27) - : Starter motor
D4 (F28) GR/1 : Starter motor
D4 *(F29)†† GR/10 : Park/neutral position (PNP) switch (with 5-speed A/T)
D4 *(F29)† B/10 : Park/neutral position (PNP) switch (with 4-speed A/T)
E4 (F30)†† BR/8 : Terminal cord assembly (with 5-speed A/T)
D4 (F30)† B/8 : Terminal cord assembly (with 4-speed A/T)
E3 *(F31) B/6 : Mass air flow sensor
F2 *(F33) GR/9 : To (E19)
E3 (F35) GR/2 : To (E22)
E3 (F37)†† L/2 : Turbine revolution sensor (with 5-speed A/T)
E4 (F37)† B/3 : Turbine revolution sensor (with 4-speed A/T)
D4 (F38)†† L/2 : Revolution sensor (with 5-speed A/T)
F3 (F38)† B/3 : Revolution sensor (with 4-speed A/T)
E3 (F39) - : Battery (positive)
E3 (F40) - : Fusible link box (battery)
D4 (F41) B/2 : Back-up lamp switch (with M/T)
F3 * (F42) B/2 : Park/neutral position (PNP) switch (with M/T)
D1 *(F43) G/6 : To (F201)
C1 *(F44) G/8 : To (F101)
D2 (F45) B/2 : To (E129) (with 4-speed A/T)
C1 *(F46) B/3 : Power steering oil pressure sensor
E2 *(F50) G/6 : Electric throttle control actuator
G5 *(F54) B/81 : ECM
G5 *(F56) GR/20 : TCM (transmission control module) (with 5-speed A/T)
G5 *(F56) W/24 : TCM (transmission control module) (with 4-speed A/T)
G5 *(F57) GR/28 : TCM (transmission control module) (with 5-speed A/T)
G5 *(F57) GR/24 : TCM (transmission control module) (with 4-speed A/T)
G5 *(F58) W/16 : To (M70)
G5 *(F59) W/24 : To (M71)
G5 (F61) L/4 : A/T PV IGN Relay (with 5-speed A/T)
E4 (F62) GR/6 : Terminal cord assembly (with 5-speed A/T)
C3 *(F63) GR/2 : EGR temperature sensor
E2 (F64) GR/6 : EGR volume control valve
D1 *(F65) B/6 : Air/Fuel ratio (A/F) sensor (Bank 1)

Engine control sub-harness-1

C1 *(F101) G/8 : To (F44)
C2 *(F102) GR/2 : Injector No. 1
C1 *(F103) GR/2 : Injector No. 3
D2 *(F104) GR/2 : Injector No. 5
E1 *(F105) L/2 : EVAP canister purge volume control solenoid valve
C2 (F106) B/1 : Oil pressure switch
C2 *(F107) G/2 : Intake valve timing control solenoid valve (Bank 1)

Engine control sub-harness-2

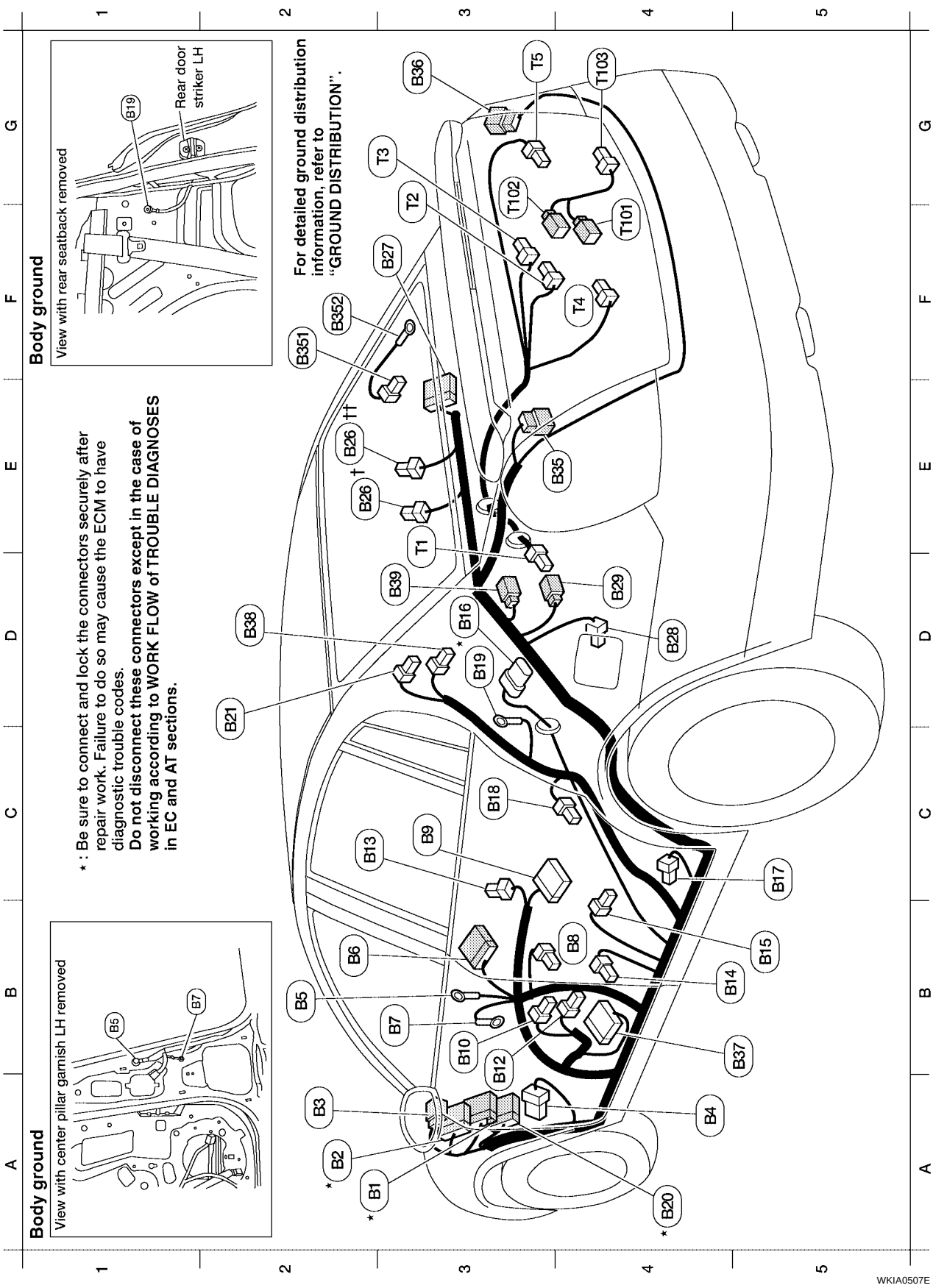
D1 *(F201) G/6 : To (F43)
C1 *(F202) GR/3 : Ignition coil No. 1 (with power transistor)
D2 *(F203) GR/3 : Ignition coil No. 3 (with power transistor)
D2 *(F204) GR/3 : Ignition coil No. 5 (with power transistor)

Engine control sub-harness-3

C4 *(F301) B/2 : To (F26)
C1 (F302) GY/2 : Knock sensor
C1 *(F303) G/3 : Camshaft position sensor (PHASE) (Bank 1)

*: 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.**

BODY HARNESS AND TAIL HARNESS



Body harness

A2	⋆ B1	W/16	: To M11
A2	⋆ B2	W/12	: To M12
A2	B3	W/4	: To E33
A4	B4	BR/6	: Rear window defogger relay
A3	B5	-	: Body ground
B3	B6	W/12	: To D201
B3	B7	-	: Body ground
B4	B8	W/3	: Front door switch LH
C3	B9	Y/12	: Air bag diagnosis sensor unit
B3	B10	Y/2	: Front LH side air bag module
B5	B12	W/3	: Seat belt buckle switch LH
C3	B13	W/3	: Front seat heater LH
B5	B14	Y/2	: Front LH seat belt pre-tensioner
B5	B15	Y/2	: LH side air bag (satellite) sensor
D4	⋆ B16	GR/5	: Fuel level sensor unit and fuel pump
B5	B17	W/2	: Condenser-1
C3	B18	W/1	: Rear door switch LH
D3	B19	-	: Body ground
A4	⋆ B20	GR/20	: To M81
C2	B21	W/1	: Rear window defogger condenser
E2	B26 †	W/2	: Subwoofer LH (without BOSE audio system)
E2	B26 ††	W/6	: Subwoofer LH (with BOSE audio system)
F2	B27	W/12	: To B131
F3	B28	W/4	: Fuel lid opener actuator
F5	B29	W/4	: To T1
E4	B35	W/6	: Rear combination lamp LH
G3	B36	W/6	: Rear combination lamp RH
E2	B37	W/18	: To P1
D2	B38	Y/2	: LH side curtain air bag module
E4	B39	W/2	: Diode - 5

Tail harness

D3	T1	W/4	: To B29
F3	T2	B/2	: To T101
G2	T3	W/2	: To T102
F4	T4	B/2	: License lamp LH
G3	T5	B/2	: License lamp RH
F4	T101	B/2	: To T2
F3	T102	W/2	: To T3
G4	T103	W/4	: Trunk lamp switch and trunk release solenoid

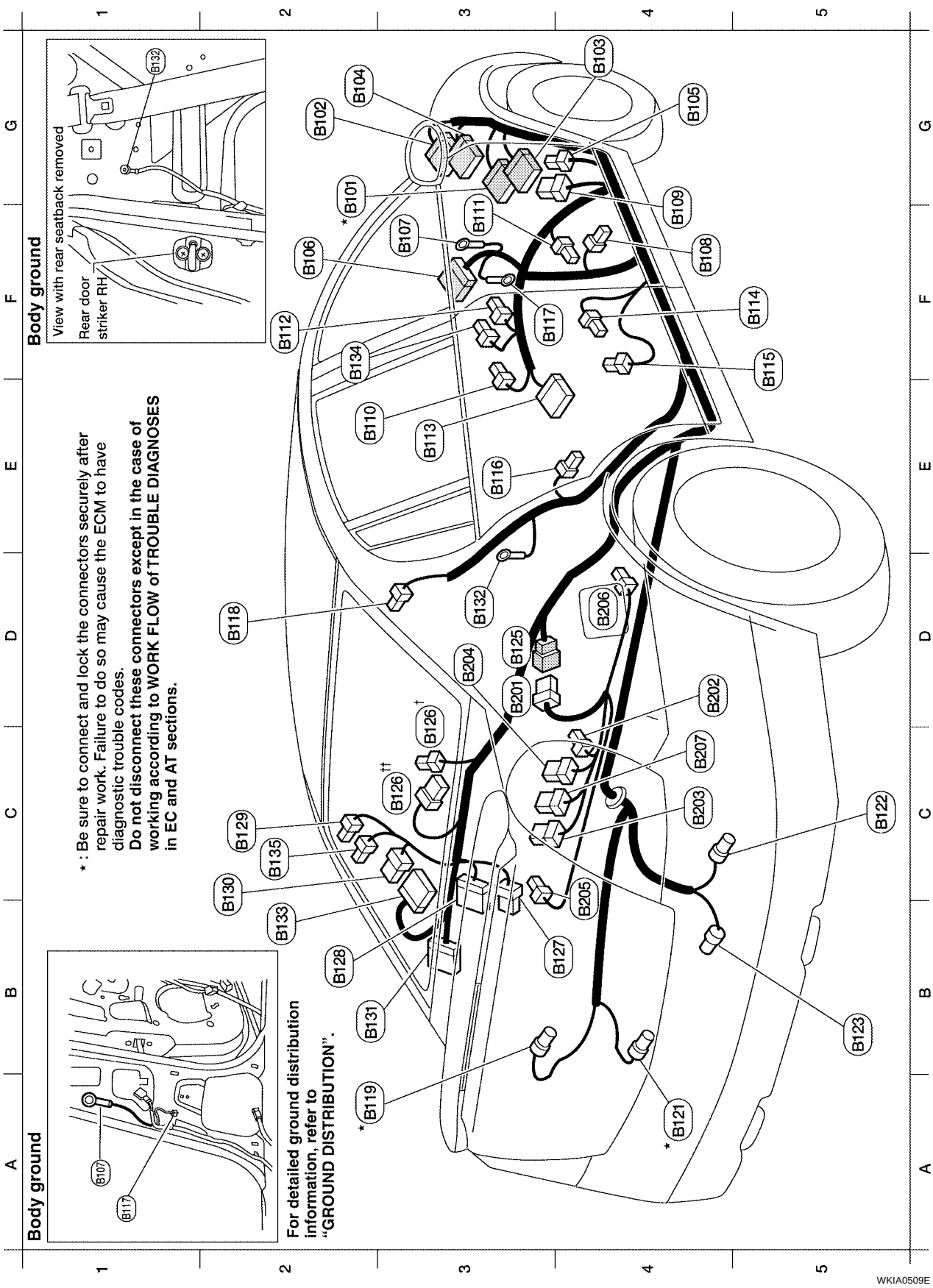
Rear defogger ground harness

F2	B351	B/1	: Rear window defogger
F2	B352	-	: 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.

WKIA0508E

BODY NO. 2 HARNESS AND BODY NO. 3 HARNESS



Body harness No. 2

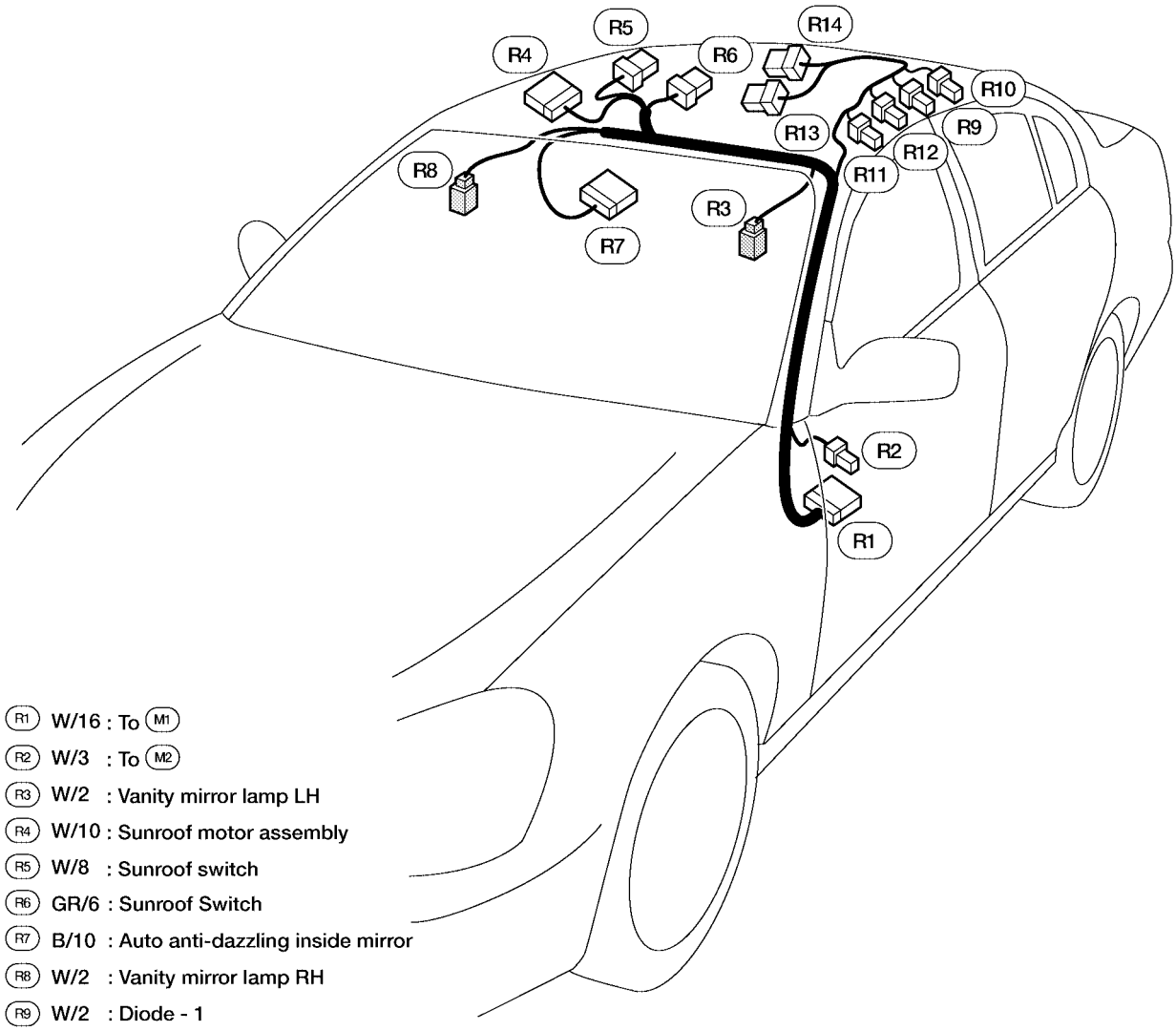
G2	*B101	W/18	: To M84
G2	B102	GR/24	: To M85
G4	B103	W/16	: To M86
G2	B104	W/8	: To E132
G4	B105	L/4	: To Rear power socket relay
F2	B106	W/12	: To D301
F3	B107	-	: Body ground
F4	B108	W/3	: Front door switch RH
F4	B109	BR/6	: Heated seat relay
E2	B110	W/3	: Seat belt buckle switch RH
F3	B111	W/3	: Front seat heater RH
F2	B112	Y/2	: Front RH side air bag module
E3	B113	Y/12	: Air bag diagnosis sensor unit
F5	B114	Y/2	: RH side air bag (satellite) sensor
F5	B115	Y/2	: Front RH seat belt pre-tensioner
E3	B116	W/1	: Rear door switch RH
F3	B117	-	: Body ground
D2	B118	Y/2	: RH side curtain air bag module
A2	*B119	GR/3	: EVAP control system pressure sensor
A4	*B121	B/2	: EVAP canister vent control valve
C5	B122	GR/2	: Rear wheel sensor RH
B5	B123	BL/2	: Rear wheel sensor LH
D3	B125	W/8	: To B201
C3	B126†	W/2	: Subwoofer RH (without BOSE audio system)
C3	B126††	BR/6	: Subwoofer RH (with BOSE audio system)
B3	B127	GR/8	: BOSE speaker amp.
B2	B128	B/24	: BOSE speaker amp.
C2	B129	W/2	: High mounted stop lamp
C2	B130	W/6	: Rear sunshade unit
B2	B131	W/12	: To B27
D3	B132	-	: Body ground
B2	B133	W/10	: Subwoofer amp. (without BOSE audio system)
F2	B134	W/2	: To P101
C2	B135	W/2	: Trunk room lamp

Body harness No. 3

D3	B201	W/8	: To B125
D4	B202	B/2	: Rear power socket
C4	B203	W/6	: Rear heated seat switch LH
D3	B204	BR/6	: Rear heated seat switch RH
C4	B205	W/3	: Rear seat heater LH
D4	B206	W/3	: Rear seat heater RH
C4	B207	W/6	: Rear sunshade rear switch

★ : 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.

ROOM LAMP HARNESS



R1 W/16 : To M1
R2 W/3 : To M2
R3 W/2 : Vanity mirror lamp LH
R4 W/10 : Sunroof motor assembly
R5 W/8 : Sunroof switch
R6 GR/6 : Sunroof Switch
R7 B/10 : Auto anti-dazzling inside mirror
R8 W/2 : Vanity mirror lamp RH
R9 W/2 : Diode - 1
R10 W/2 : Diode - 2
R11 W/2 : Diode - 3
R12 W/2 : Diode - 4
R13 W/6 : Personal lamp (with sunroof)
R14 W/8 : Interior room lamp (without sunroof)

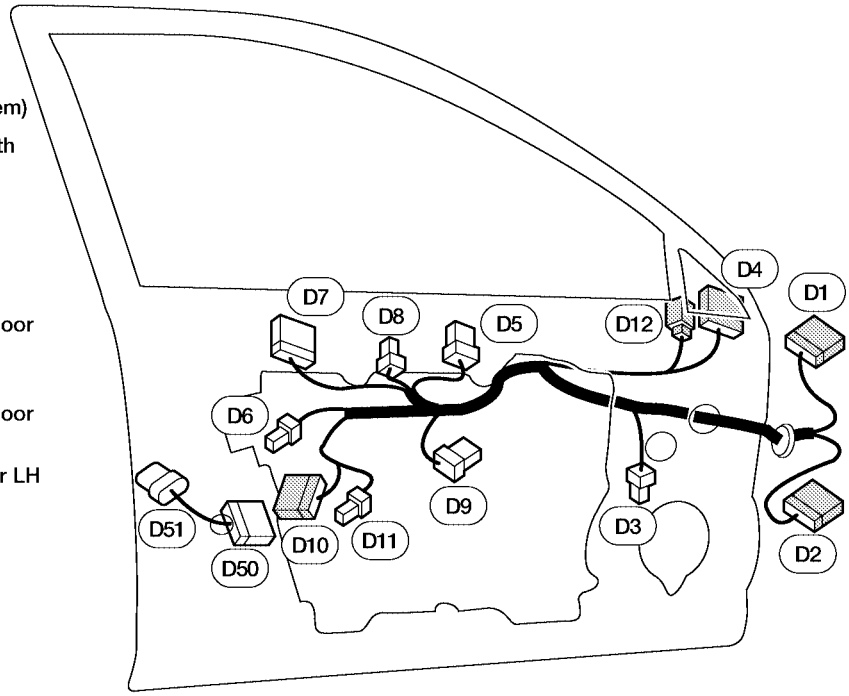
WKIA0511E

FRONT DOOR LH HARNESS

(D1) W/12 : To (M9)
(D2) W/24 : To (M8)
(D3) W/2 : Front door speaker LH (without BOSE audio system)
(D3) BR/2 : Front door speaker LH (with BOSE audio system
(D4) W/12 : Door mirror LH
(D5) W/8 : Seat memory switch
(D6) W/4 : Trunk lid opener switch
(D7) W/16 : Main power window and door lock/unlock switch
(D8) W/3 : Main power window and door lock/unlock switch
(D9) W/6 : Front power window motor LH
(D10) W/10 : To (D50)
(D11) W/2 : Front step lamp LH
(D12) BR/2 : Tweeter LH

Front door LH sub-harness

(D50) W/10 : To (D10)
(D51) B/6 : Front door lock actuator LH (Front door key cylinder switch LH)



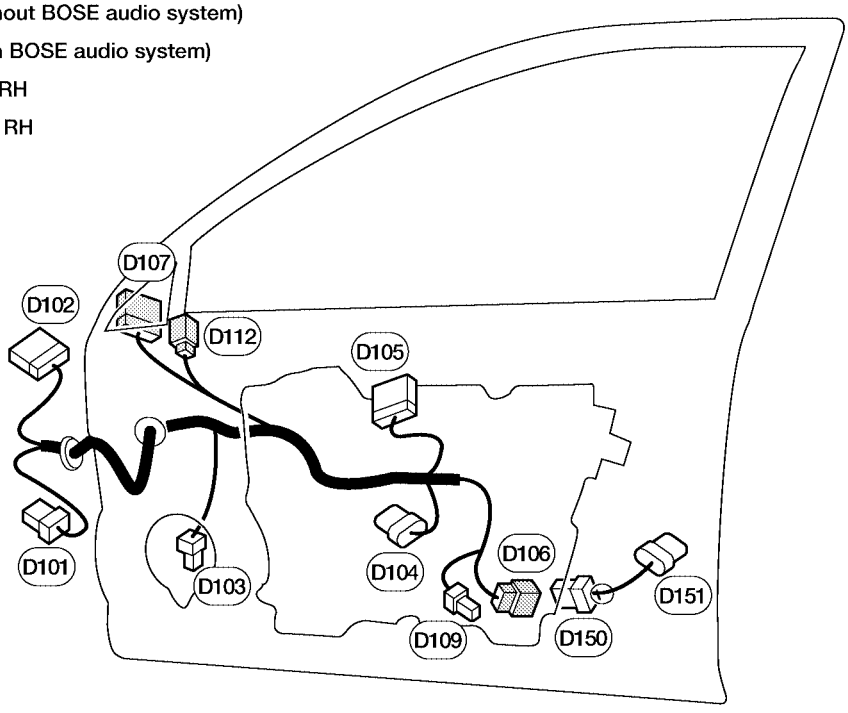
WKIA0512E

FRONT DOOR RH HARNESS

(D101) W/8 : To (M75)
(D102) W/16 : To (M74)
(D103) W/2 : Front door speaker RH (without BOSE audio system)
(D103) BR/2 : Front door speaker RH (with BOSE audio system)
(D104) W/6 : Front power window motor RH
(D105) W/16 : Front power window switch RH
(D106) W/8 : To (D150)
(D107) W/12 : Door mirror RH
(D109) W/2 : Front step lamp RH
(D112) BR/2 :Tweeter RH

Front door RH sub-harness

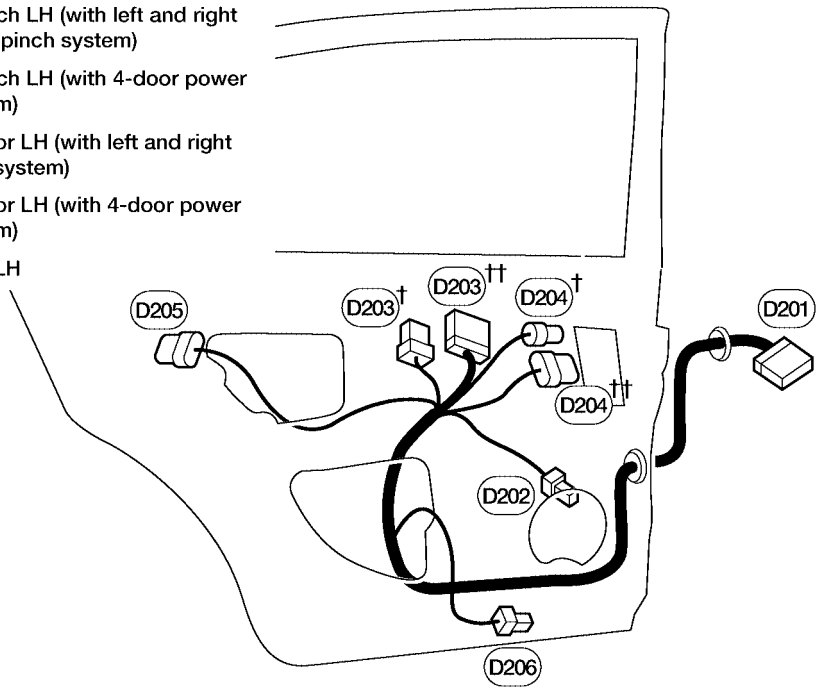
(D150) W/8 :To (D106)
(D151) W/8 :Front door lock actuator RH



WKIA0513E

REAR DOOR LH HARNESS

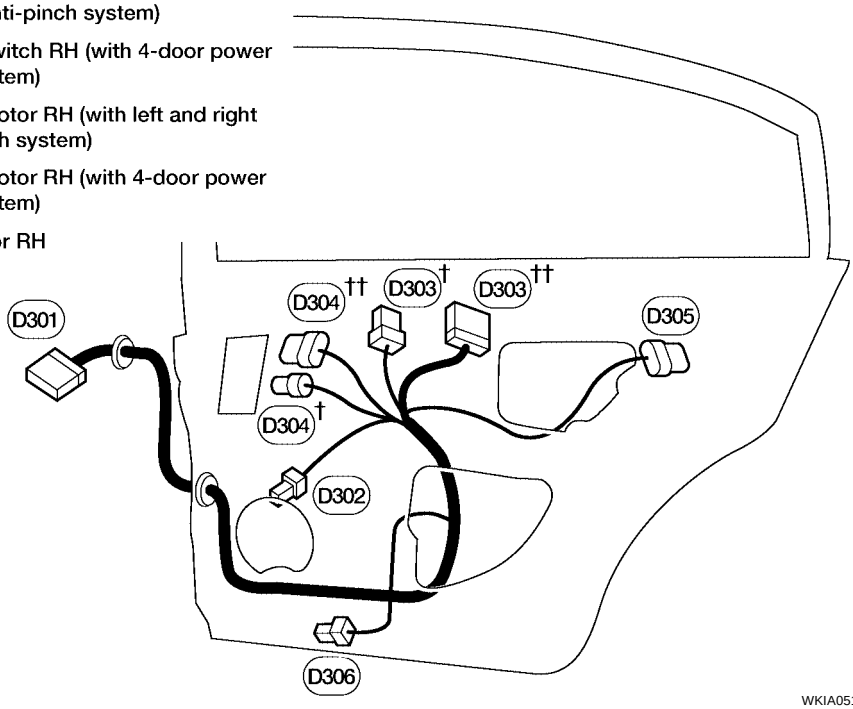
(D201) W/12 : To (B6)
(D202) BR/2 : Rear door speaker LH (with BOSE audio system)
(D202) W/2 : Rear door speaker LH (without BOSE audio system)
(D203)† W/8 : Rear power window switch LH (with left and right front power window anti-pinch system)
(D203)†† W/16 : Rear power window switch LH (with 4-door power window anti-pinch system)
(D204)† GR/2 : Rear power window motor LH (with left and right front window anti-pinch system)
(D204)†† GR/6 : Rear power window motor LH (with 4-door power window anti-pinch system)
(D205) B/4 : Rear door lock actuator LH
(D206) W/2 : Rear step lamp LH



WKIA0514E

REAR DOOR RH HARNESS

(D301) W/12 : To (B106)
(D302) W/2 : Rear door speaker RH (without BOSE audio system)
(D302) BR/2 : Rear door speaker RH (with BOSE audio system)
(D303)† W/8 : Rear power window switch RH (with left and right front power window anti-pinch system)
(D303)†† W/16 : Rear power window switch RH (with 4-door power window anti-pinch system)
(D304)† GR/2 : Rear power window motor RH (with left and right front window anti-pinch system)
(D304)†† GR/6 : Rear power window motor RH (with 4-door power window anti-pinch system)
(D305) B/6 : Rear door lock actuator RH
(D306) W/2 : Rear step lamp RH



WKIA0515E

Wiring Diagram Codes (Cell Codes)

EKS003XC

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
1STSIG	AT	A/T 1st Signal
2NDSIG	AT	A/T 2nd Signal
3RDSIG	AT	A/T 3rd Signal
4THSIG	AT	A/T 4th Signal
5THSIG	AT	A/T 5th Signal
A/C,A	ATC	Auto 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
AUTO/L	LT	Auto Light Control
ABS	BRC	Anti-Lock Brake System
APPS1	EC	Accelerator Pedal Position Sensor
APPS2	EC	Accelerator Pedal Position Sensor
APPS3	EC	Accelerator Pedal Position Sensor
ASCBOF	EC	ASCD Brake Switch
ASC/BS	EC	ASCD Brake Switch
ASCIND	EC	ASCD Indicator
ASC/SW	EC	ASCD Steering Switch
AT/IND	DI	A/T Indicator Lamp
AUDIO	AV	Audio
AUTO/DP	SE	Automatic Drive Positioner
BAF/TS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
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
COOL/F	EC	Cooling Fan Control
COMBSW	LT	Combination Switch
COMM	AV	Audio Visual Communication System
COMPAS	DI	Compass
CORNER	LT	Cornering Lamps
D/LOCK	BL	Power Door Lock
DEF	GW	Rear Window Defogger
DTRL	LT	Headlamp - With Daytime Light System
ECM/PW	EC	ECM Power Supply for Back-Up
ECTS	EC	Engine Coolant Temperature Sensor
EGRC1	EC	EGR Function
EGR/TS	EC	EGR Temperature Sensor
EGVC/V	EC	EGR Volume Control Valve
ENGSS	AT	Engine Speed Signal
EMNT	EC	Engine Mount
ETC1	EC	Electric Throttle Control Function

ETC2	EC	Throttle Control Motor Relay
ETC3	EC	Throttle Control Motor
F/FOG	LT	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FTS	AT	A/T Fluid Temperature Sensor
FTSP	AT	A/T Fluid Temperature Sensor Failure
FTTS	EC	Fuel Tank Temperature Sensor
FUELB1	EC	Fuel Injection System Bank 1
FUELB2	EC	Fuel Injection System Bank 2
H/LAMP	LT	Headlamp
HORN	WW	Horn
HSEAT	SE	Heated Seat
H/STRG	PS	Heated Steering Wheel
I/MIRR	GW	Inside Mirror (Auto Anti-Dazzling Mirror)
IATS	EC	Intake Air Temperature Sensor
IGNSYS	EC	Ignition System
ILL	LT	Illumination
INJECT	EC	Injector
IVC	EC	Intake Valve Timing Control Solenoid Valve
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., Oil and Fuel Gauges
MIL/DL	EC	Malfunction Indicator Lamp
MIRROR	GW	Door Mirror
MMSW	AT	Manual Mode Switch
NATS	BL	Nissan Anti-Theft System
NAVI	AV	Navigation System
NONDTC	AT	Non-detectable Items
O2H2B1	EC	Rear Heated Oxygen Sensor 2 (Rear) Heater Bank 1
O2H2B2	EC	Rear Heated Oxygen Sensor 2 (Rear) Heater Bank 2
O2S2B1	EC	Heated Oxygen Sensor 2 (Rear) Bank 1
O2S2B2	EC	Heated Oxygen Sensor 2 (Rear) Bank 2
PC/A	AT	Line Pressure Solenoid Valve
PC/B	AT	Shift Pressure Solenoid Valve
PC/C	AT	Pressure Control Solenoid Valve
PC/CS	AT	Pressure Control Solenoid Valve Failure
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 Oil Pressure Sensor
PST/SW	EC	Power Steering Oil Pressure Switch

PWR/IN	AT	TCM Ignition Power
ROOM/L	LT	Interior Room Lamp
RP/SEN	EC	Refrigerant Pressure Sensor
S/SIG	EC	Start Signal
SEAT	SE	Power Seat
SEN/PW	EC	Sensor Power Supply
SFTFNC	AT	Unusual Shifting
SHADE	EI	Rear Sunshade
SHIFT	AT	A/T Shift Lock System
SROOF	RF	Sunroof
SRS	SRS	Supplemental Restraint System
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
SSV/C	AT	Shift Solenoid Valve C
SSV/CS	AT	Shift Solenoid Valve C Failure
SSV/D	AT	Shift Solenoid Valve D
SSV/E	AT	Shift Solenoid Valve E
START	SC	Starting System
STOP/L	LT	Stop Lamp
TLID	BL	Trunk Lid Opener
TAIL/L	LT	Parking, License and Tail Lamps
TCCSIG	AT	A/T TCC Signal (Lock Up)
TCS	BRC	Traction Control System
TPS	AT	Throttle Position Sensor
TPS1	EC	Throttle Position Sensor
TPS2	EC	Throttle Position Sensor
TPS3	EC	Throttle Position Sensor
TRNSCV	BL	HOMELINK® Universal Transceiver
TRSA/T	AT	Turbine Revolution Sensor
TRSC	AT	Turbine Revolution Sensor
TURN	LT	Turn Signal and Hazard Warning Lamps
VDC	BRC	Vehicle Dynamic Control System
VEHSEC	BL	Vehicle Security System
VENT/V	EC	EVAP Canister Vent Control Valve
VIAS	EC	Variable Air Induction Control System
VIAS/V	EC	Variable Air Induction Control System Valve
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSATC	AT	Revolution Sensor
VSSMTR	AT	Vehicle Speed Sensor Meter
W/ANT	AV	Audio Antenna
WARN	DI	Warning Lamps
WINDOW	GW	Power Window
WIPER	WW	Front Wiper and Washer

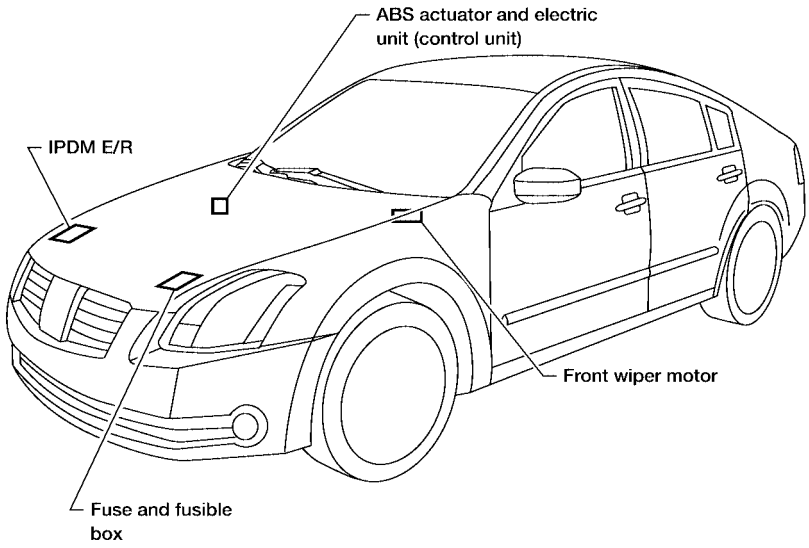
ELECTRICAL UNITS LOCATION

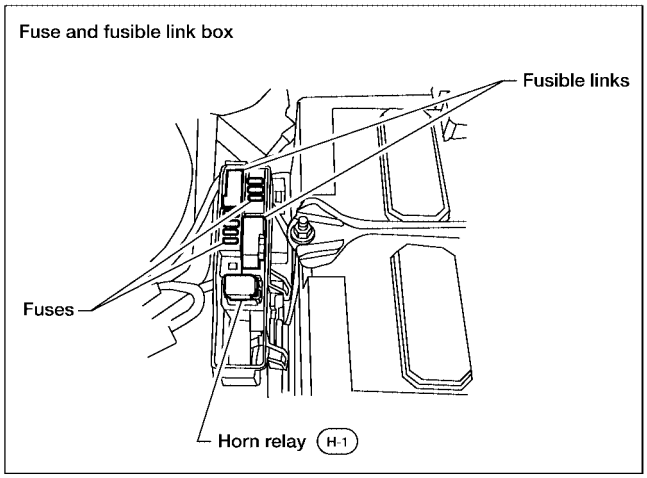
PFP:25230

Electrical Units Location

EKS003XD

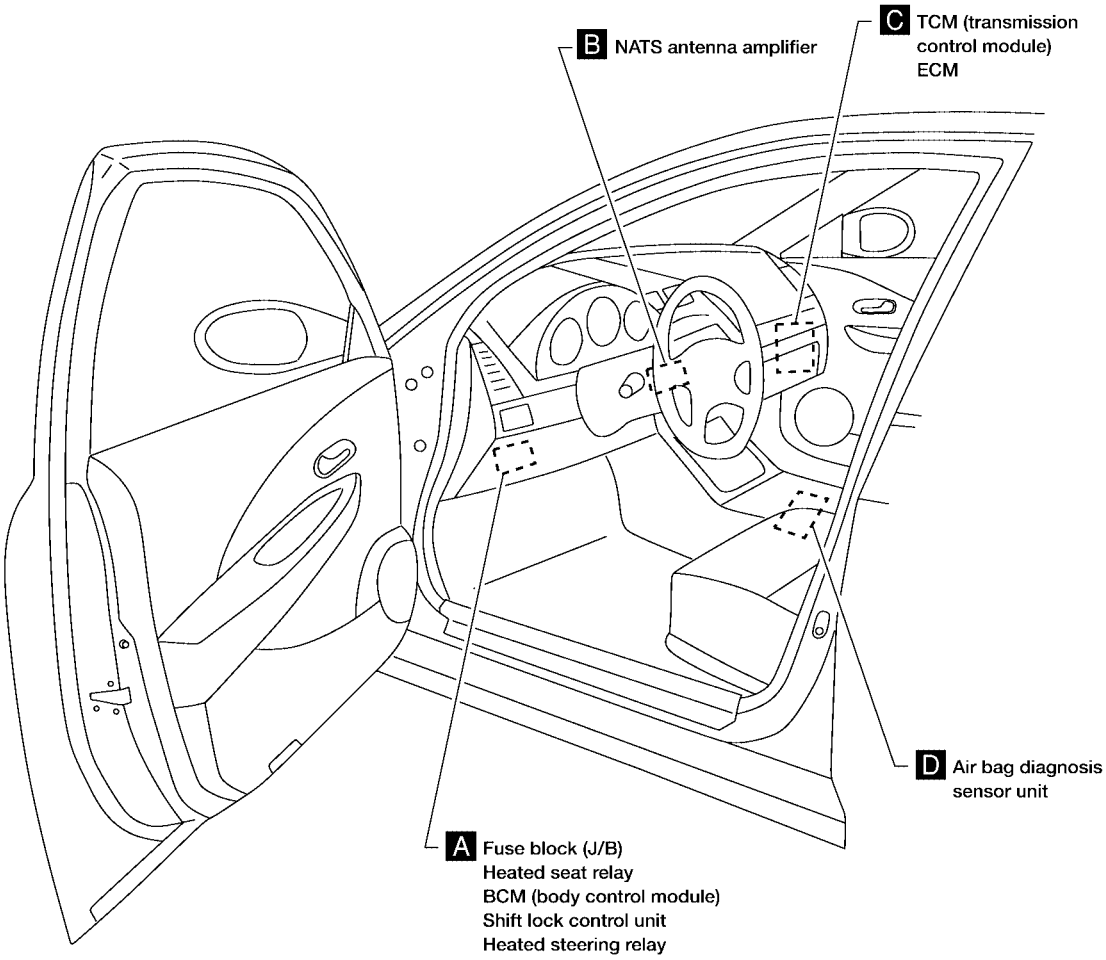
ENGINE COMPARTMENT



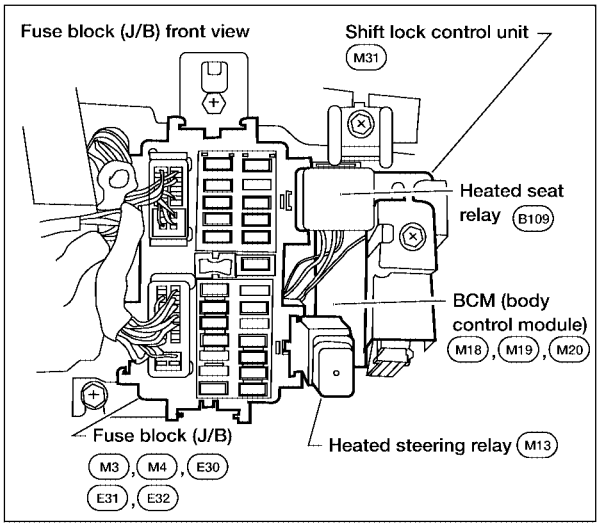


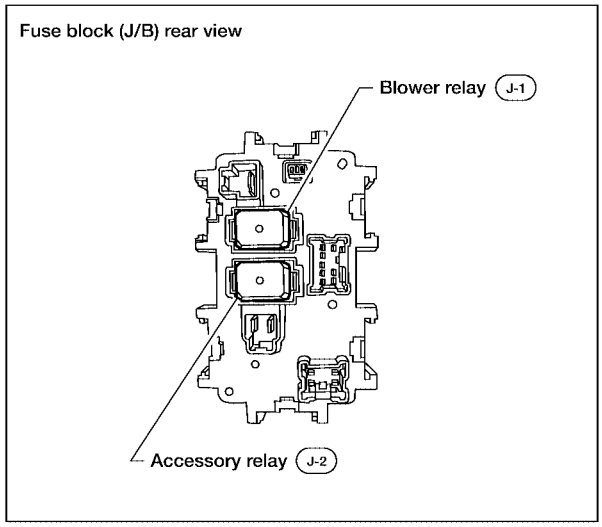
WKIA0474E

PASSENGER COMPARTMENT



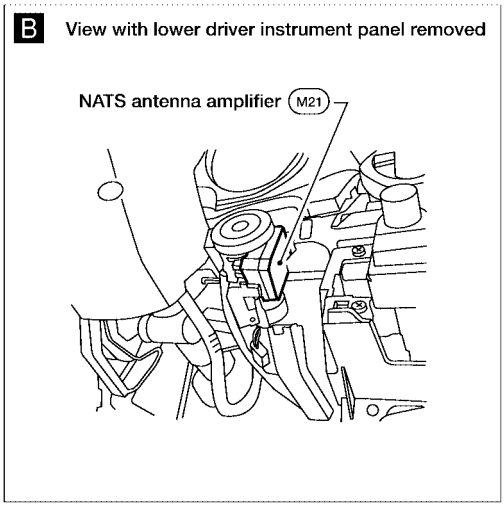
A Dash side LH



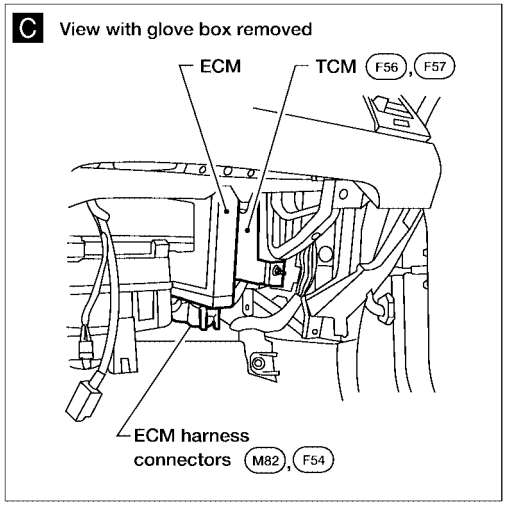


WKIA0475E

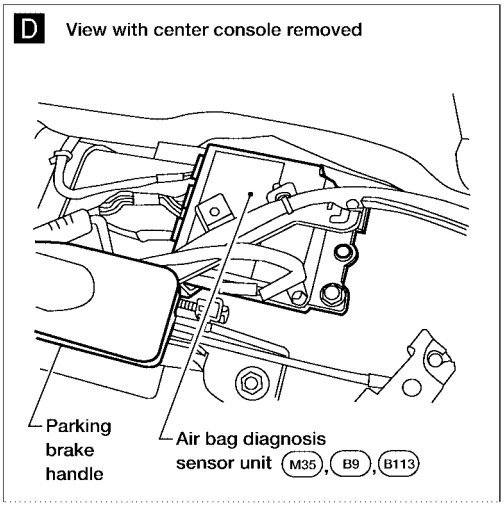
B View with lower driver instrument panel removed



C View with glove box removed



D View with center console removed

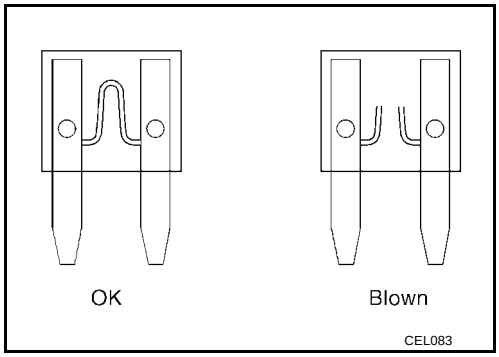


WKIA0476E

Fuse

EKS003XE

- 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

EKS003XF

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:

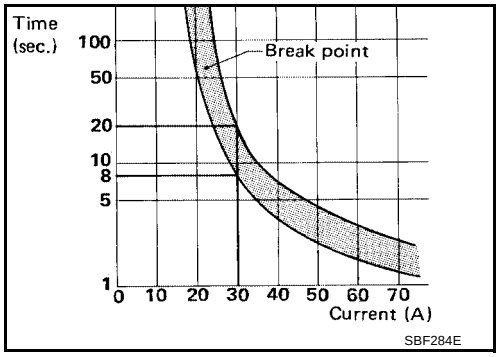
- **If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of incident.**
- **Never wrap outside of fusible link with vinyl tape.**
- **Never let fusible link touch any other wiring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

Circuit Breaker (Built Into BCM)

EKS003XG

For example, when current is 30A, the circuit is broken within 8 to 20 seconds.
A circuit breaker is used for the following systems:

- Power seat
- Power windows
- Power door locks
- Remote keyless entry system



HARNESS CONNECTOR

PFP:B4341

Description

EKS003XH

HARNESS CONNECTOR (TAB-LOCKING TYPE)

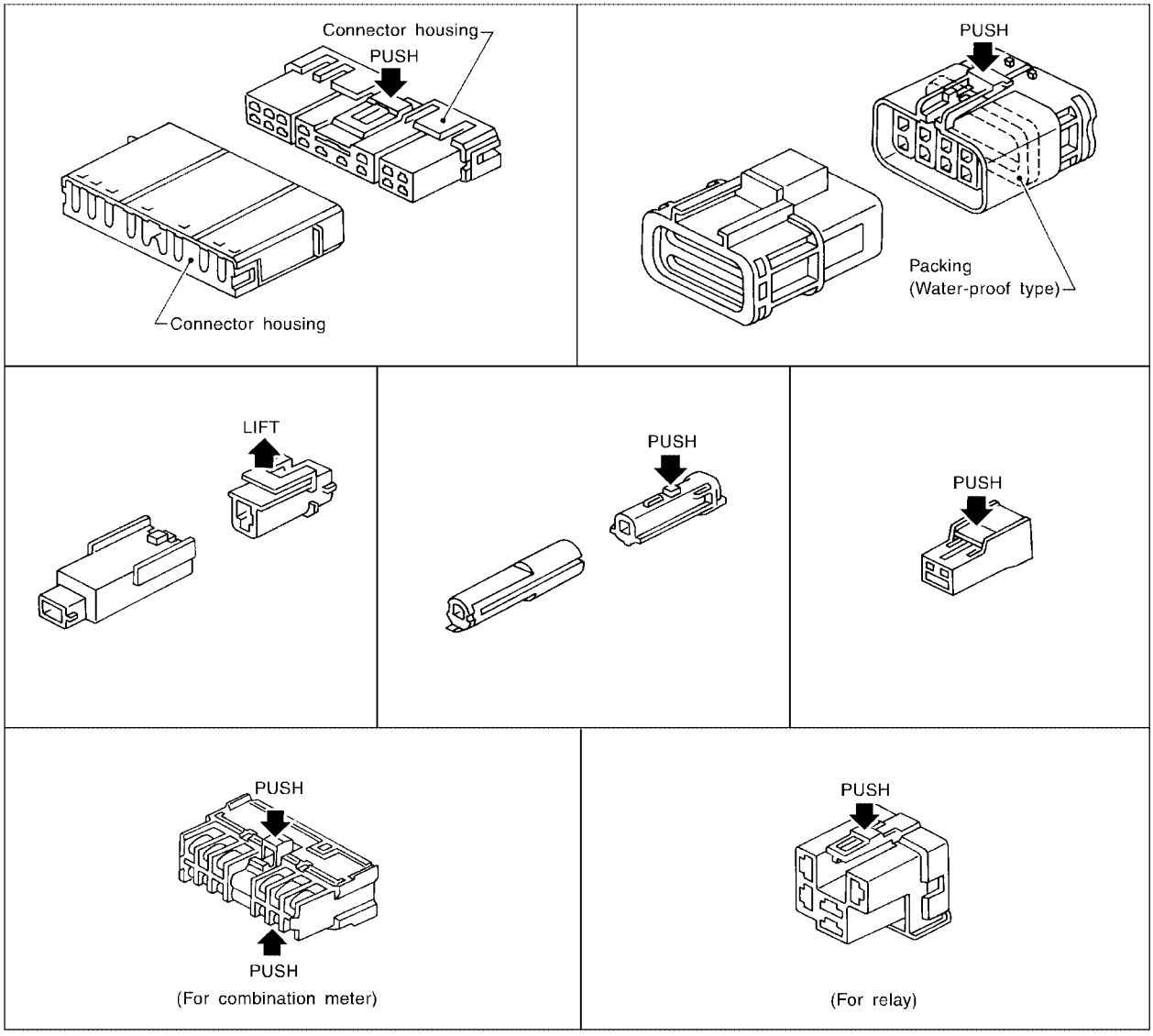
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

Refer to the next page for description of the slide-locking type connector.

CAUTION:

Do not pull the harness or wires when disconnecting the connector.

[Example]



SEL769DA

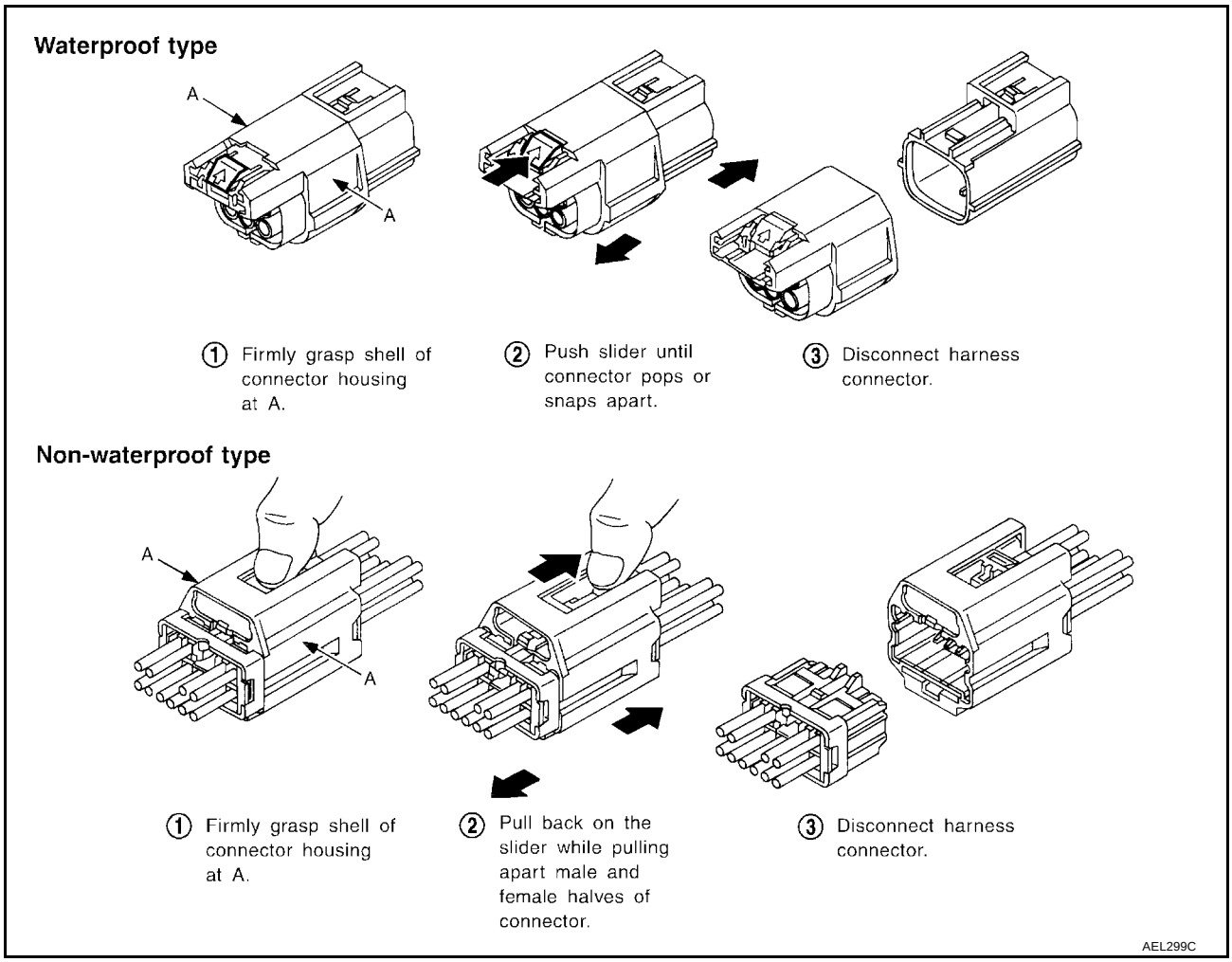
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

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

CAUTION:

- **Do not pull the harness or wires when disconnecting the connector.**
- **Be careful not to damage the connector support bracket when disconnecting the connector.**

[Example]

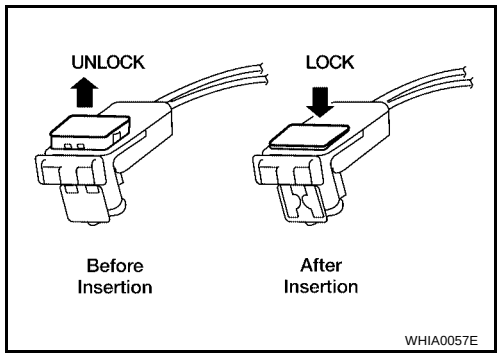


HARNESS CONNECTOR (DIRECT-CONNECT SRS COMPONENT TYPE)

- SRS direct-connect type harness connectors are used on certain SRS components such as air bag modules and seat belt pre-tensioners.
- Always pull up to release black locking tab prior to removing connector from SRS component.
- Always push down to lock black locking tab after installing connector to SRS component. When locked, the black locking tab is level with the connector housing.

CAUTION:

- **Do not pull the harness or wires when removing connectors from SRS components.**



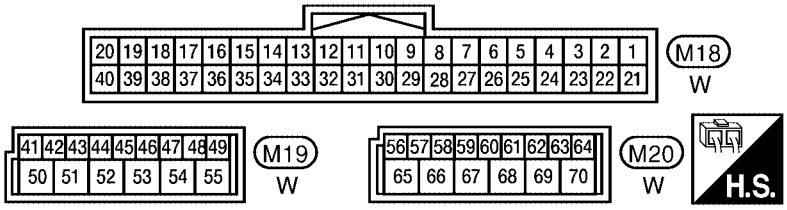
ELECTRICAL UNITS

PFP:23710

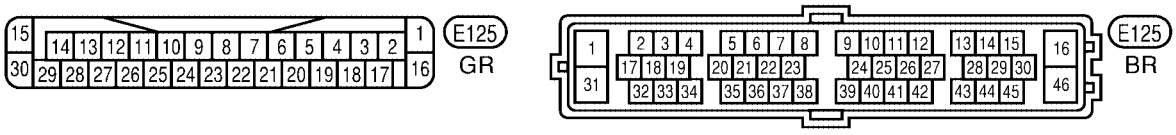
Terminal Arrangement

EKS003XJ

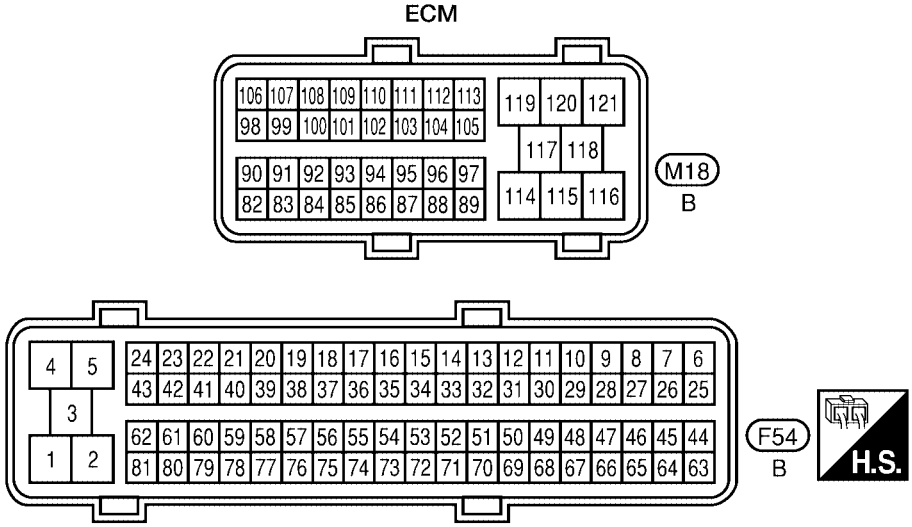
BCM (BODY CONTROL MODULE)



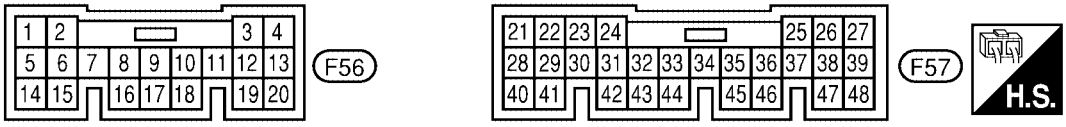
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)



ECM



TCM (TRANSMISSION CONTROL MODULE)



WKIA0477E

STANDARDIZED RELAY

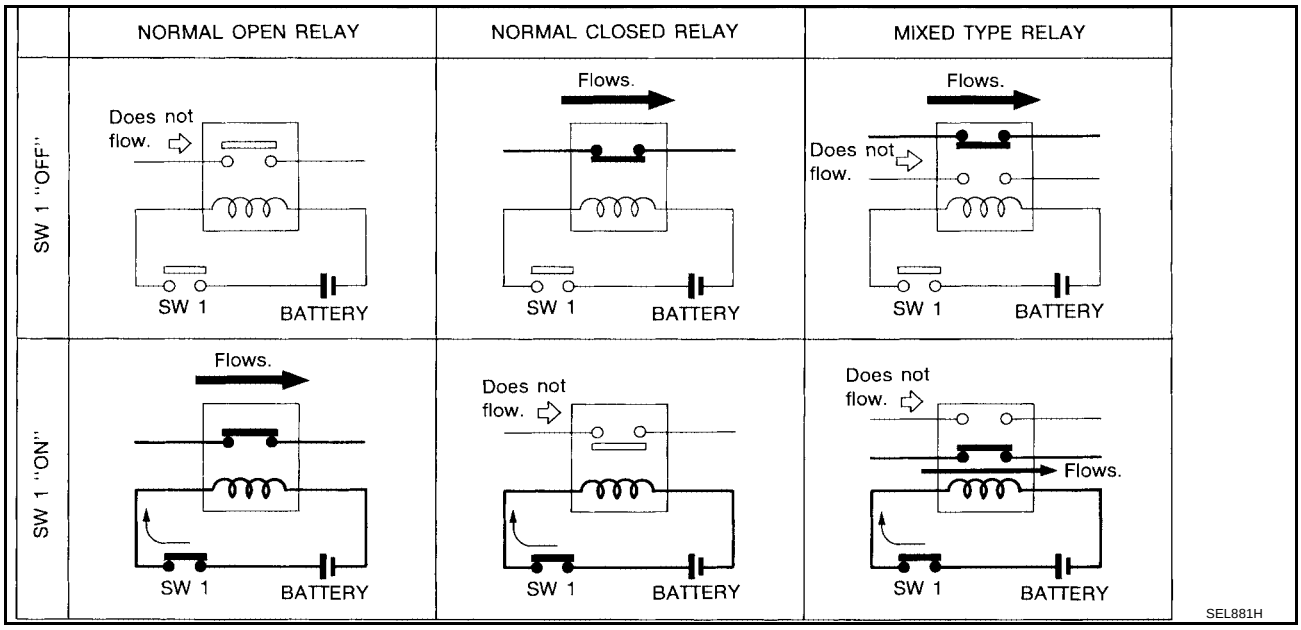
PFP:25230

Description

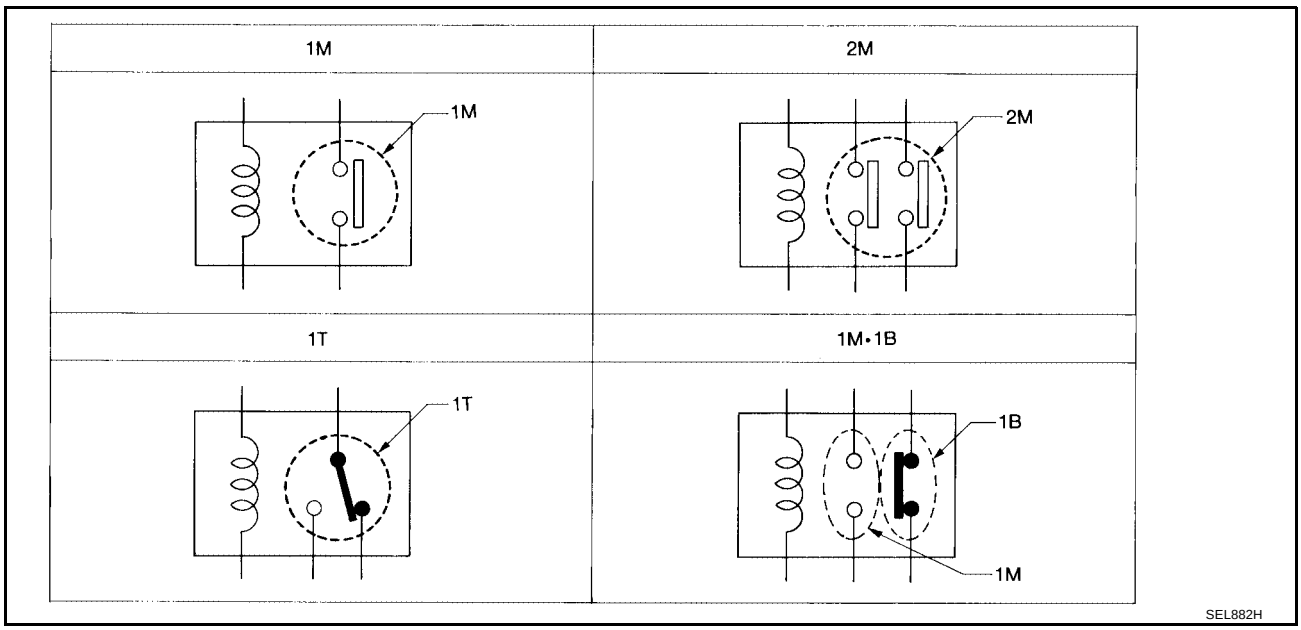
EKS003XK

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

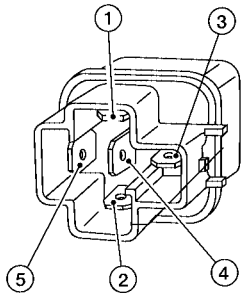
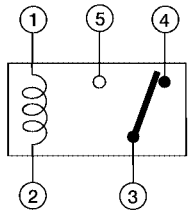
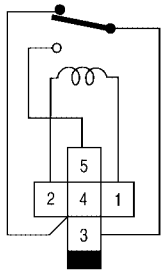
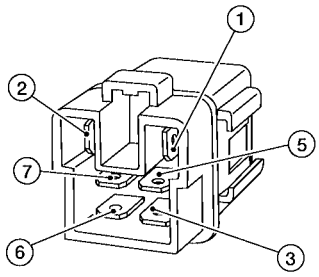
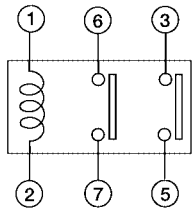
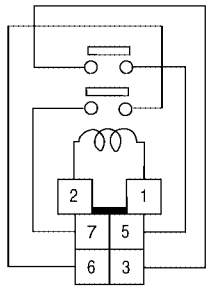
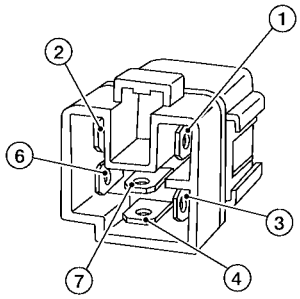
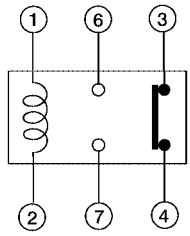
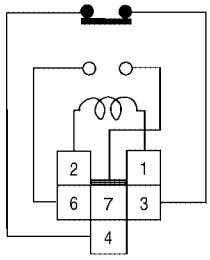
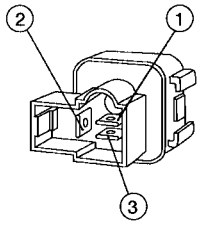
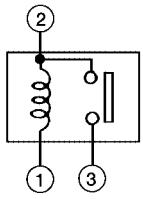
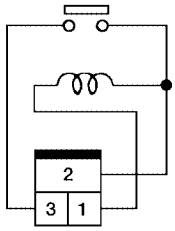
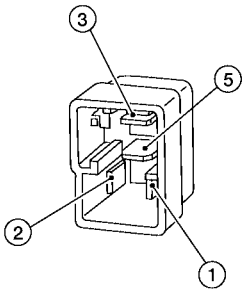
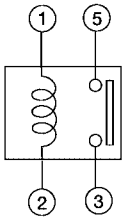
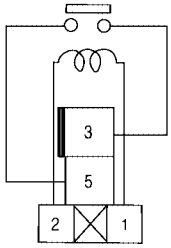
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



TYPE OF STANDARDIZED RELAYS



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

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

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

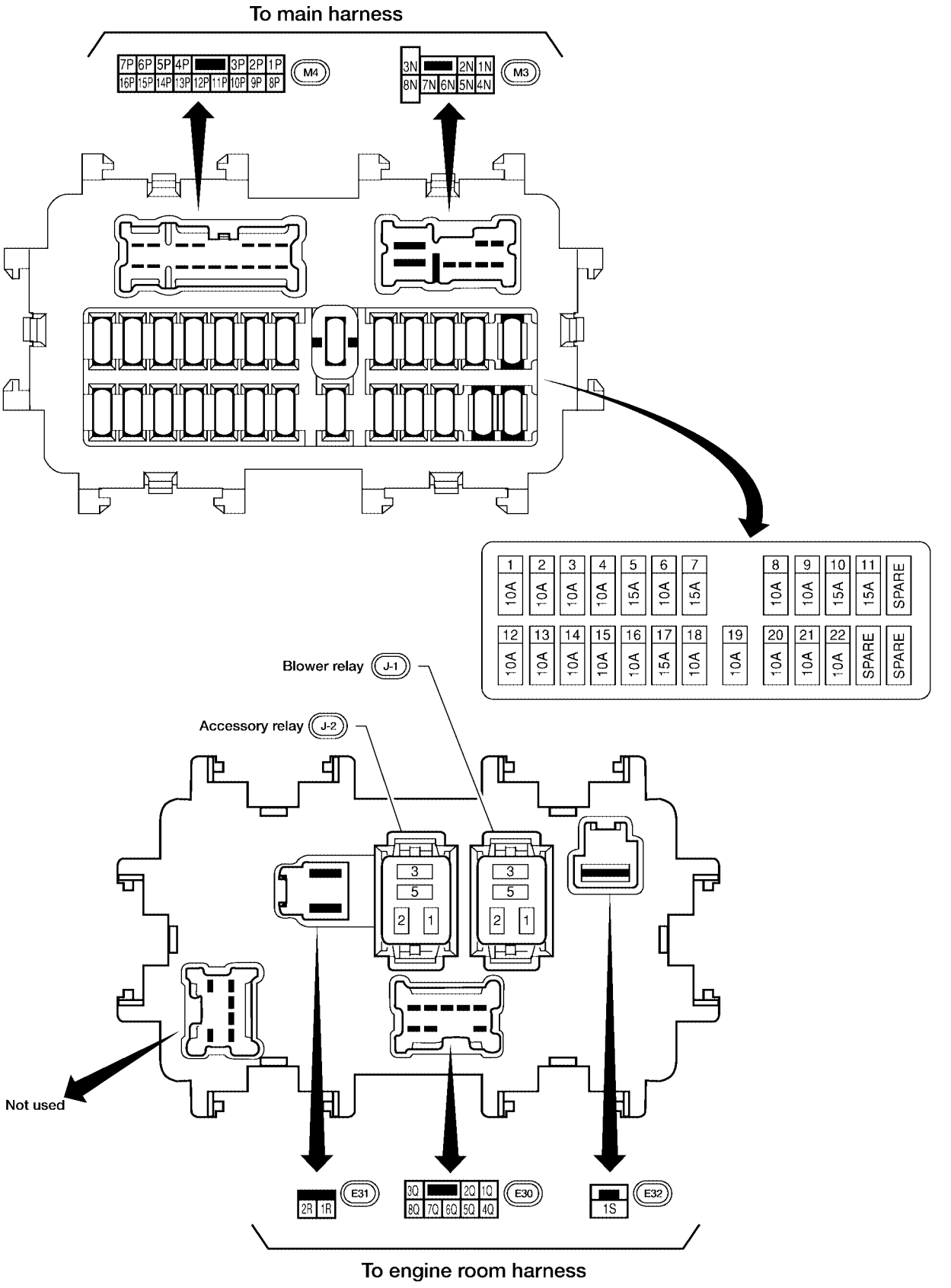
WKIA0253E

FUSE BLOCK-JUNCTION BOX(J/B)

PFP:24350

Terminal Arrangement

EKS003XL



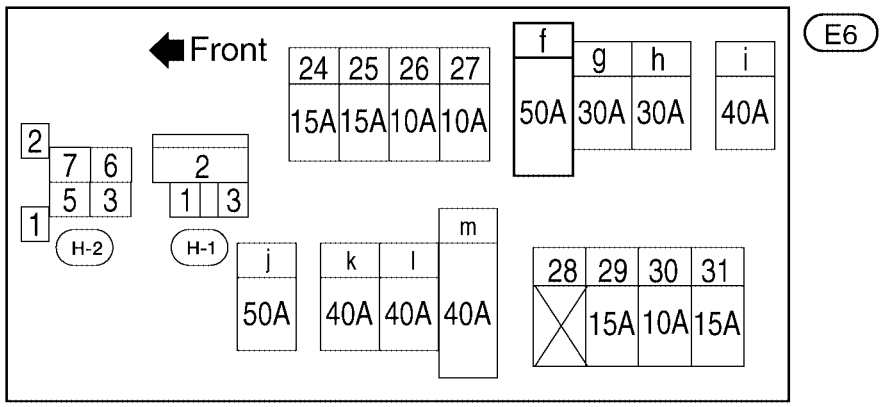
WKIA0479E

FUSE AND FUSIBLE LINK BOX

PFP:24381

Terminal Arrangement

EKS003XM



24 - 31: FUSE f - m: FUSIBLE LINK

WKIA0480E