SECTION PG

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

CONTENTS

PRECAUTIONS

PFP:00001

Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EKS008IN

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

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

Maintenance Information

EKS008IP

If any of following part is replaced, always replace with new* one.
If it's not (or fail to do so), the electrical system may not be operated properly.
*: New one means a virgin control unit that has never been energized on-board.

RHD MODELS

- BCM (Models without Intelligent Key system)
- Intelligent Key unit (Models with Intelligent Key system)
- ECM
- IPDM E/R
- Combination meter
- EPS control unit

LHD MODELS

- BCM (Models without Intelligent Key system)
- Intelligent Key unit (Models with Intelligent Key system)
- ECM

POWER SUPPLY ROUTING

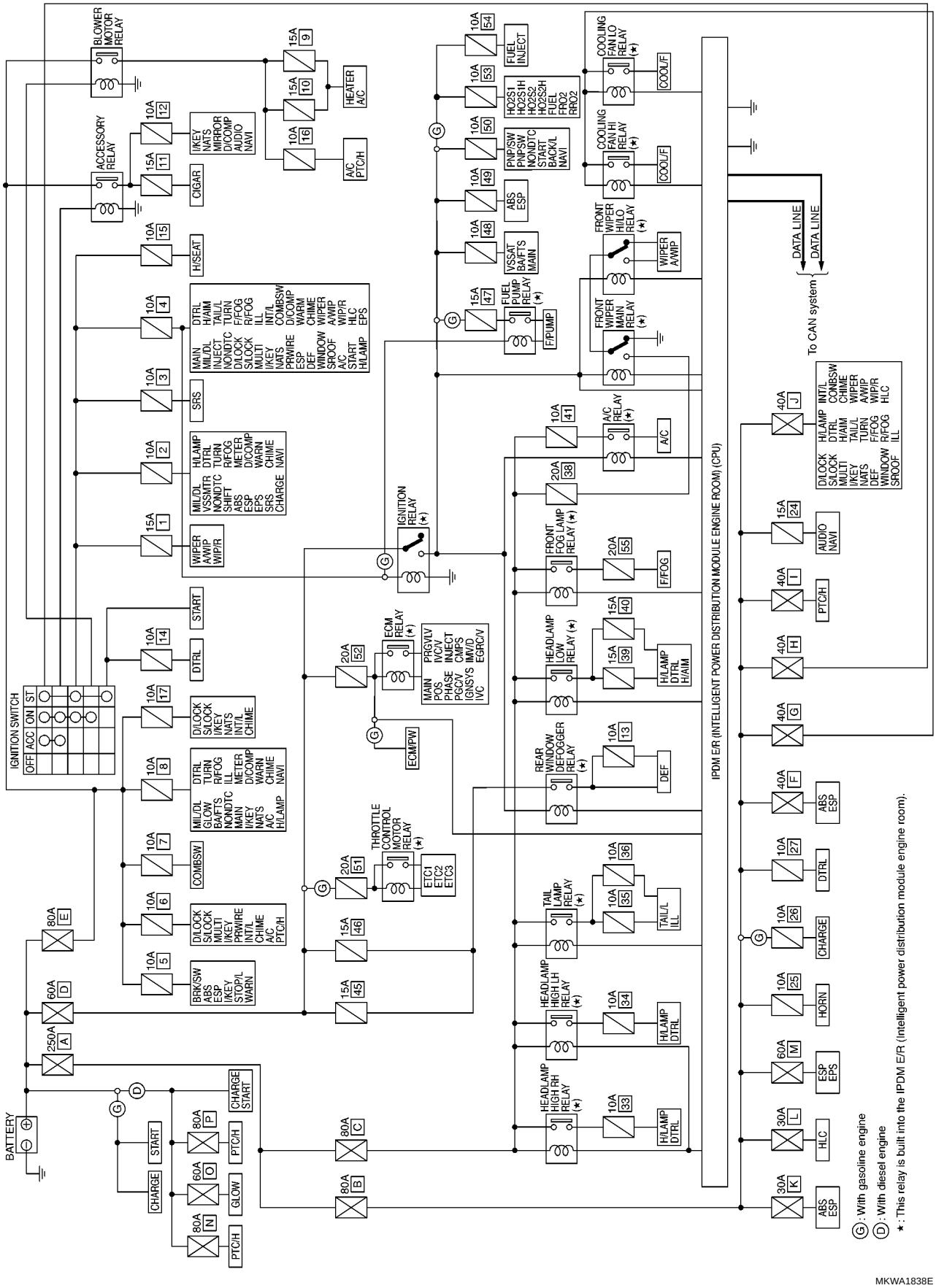
SMA for VIN >SJN**AK12U1288860

PFP:00011

Schematic

SMA for VIN >SJN**AK12U1309269

EKS00795

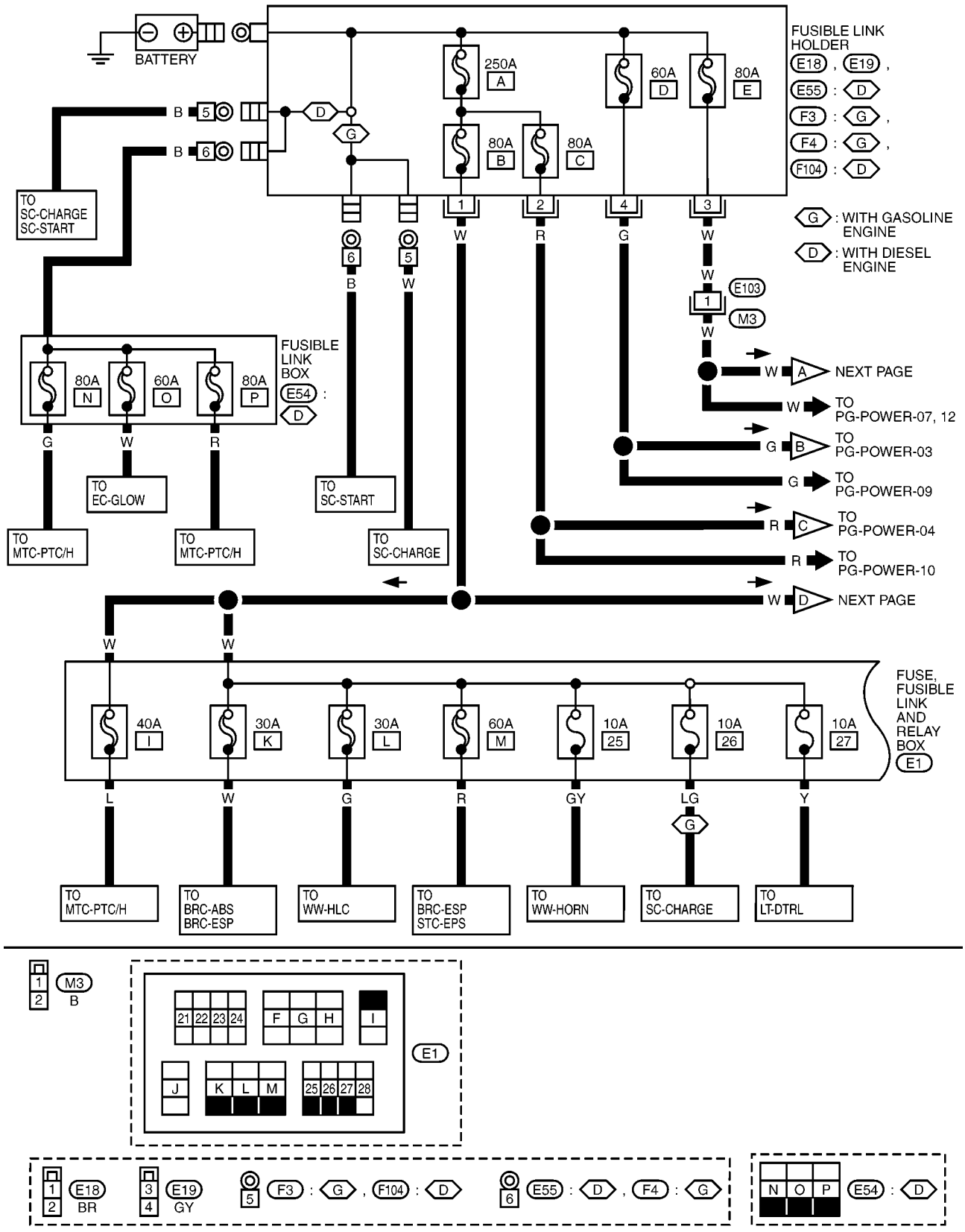


Wiring Diagram — POWER —

EKS00796

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

SMA for VIN >SJN**AK12U1288860 SMA for VIN >SJN**AK12U1309269 PG-POWER-01



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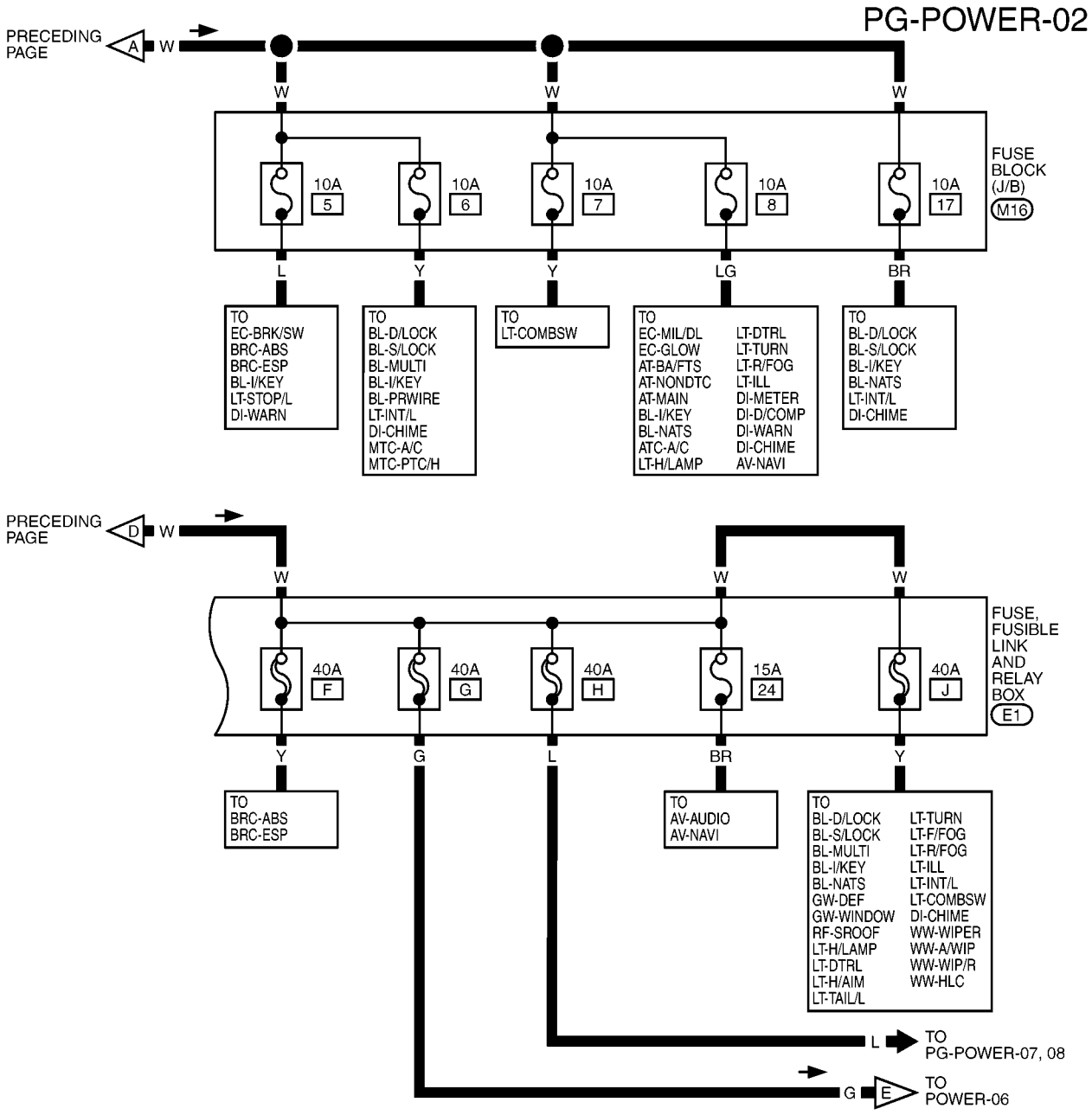
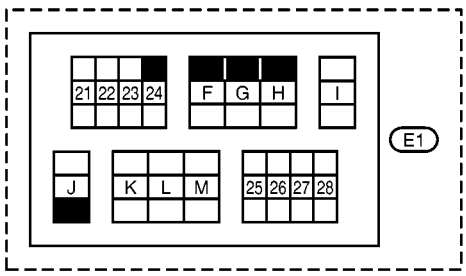




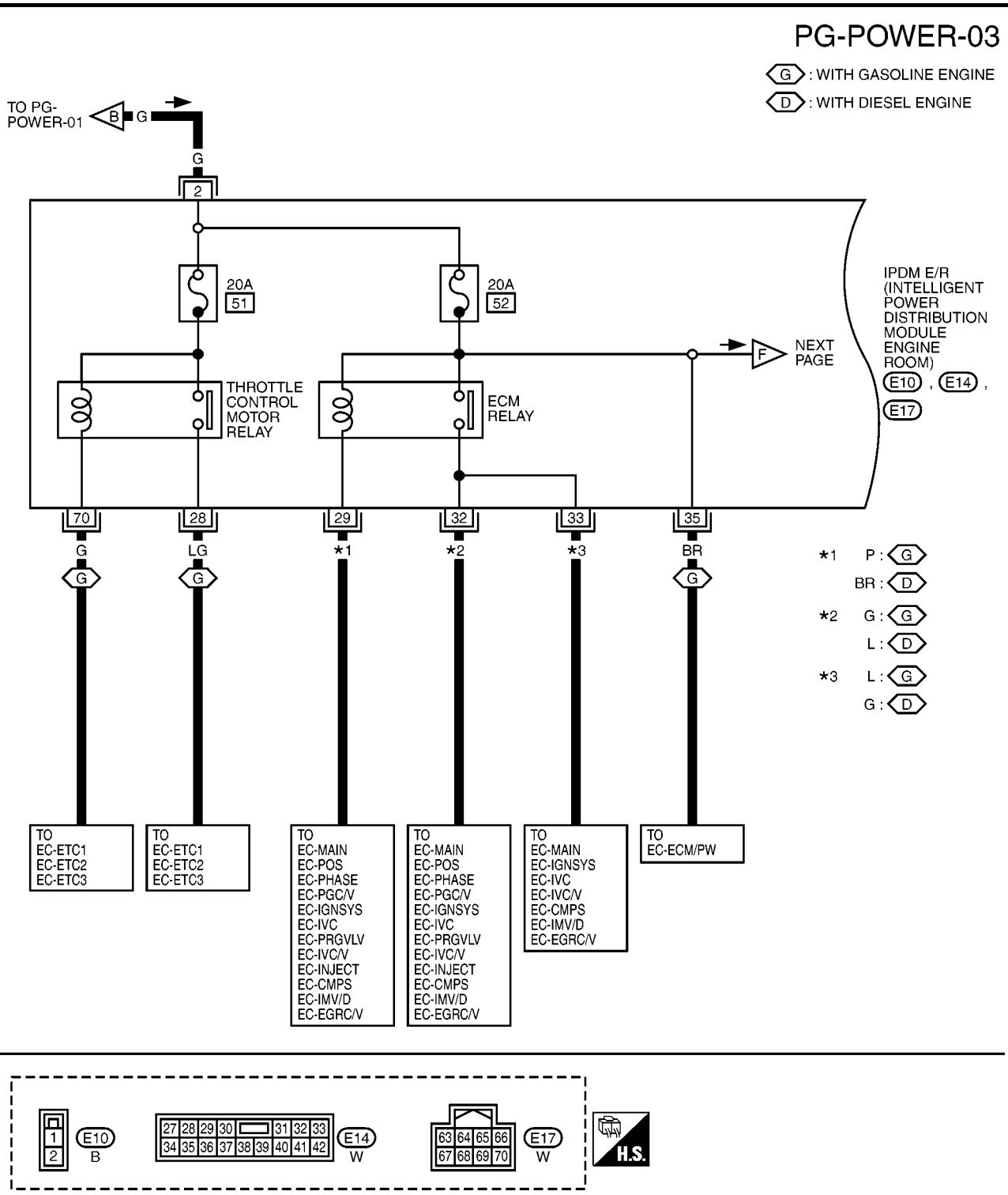
REFER TO THE FOLLOWING.

M16 -FUSE BLOCK-
JUNCTION BOX (J/B)

1	2	3	4	5	6	7	8	9	10	11	12

13	14	15	16	17

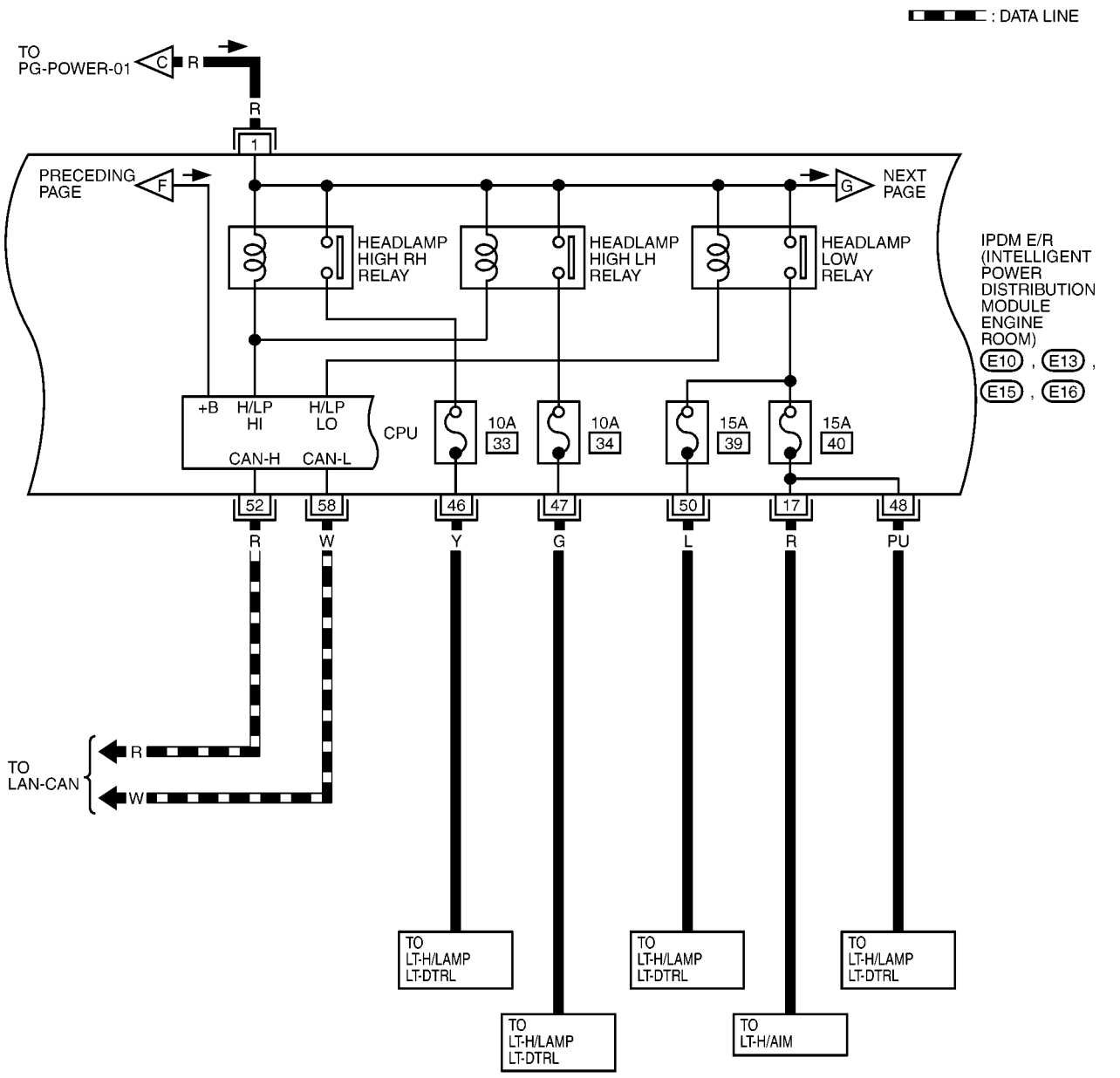
MKWA1840E

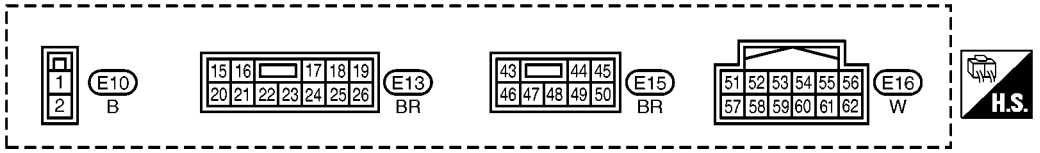

PG-POWER-03
G : WITH GASOLINE ENGINE
D : WITH DIESEL ENGINE
TO PG-POWER-01
B
G
G
2
20A
51
20A
52
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E10 , E14 , E17
NEXT PAGE
F
THROTTLE CONTROL MOTOR RELAY
ECM RELAY
70
28
29
32
33
35
G
LG
*1
*2
*3
BR
G
G
G
G
*1 P : G
BR : D
*2 G : G
L : D
*3 L : G
G : D
TO EC-ETC1 EC-ETC2 EC-ETC3
TO EC-ETC1 EC-ETC2 EC-ETC3
TO EC-MAIN EC-POS EC-PHASE EC-PGC/V EC-IGNSYS EC-IVC EC-PRGVLV EC-IVC/V EC-INJECT EC-CMPS EC-IMV/D EC-EGRC/V
TO EC-MAIN EC-POS EC-PHASE EC-PGC/V EC-IGNSYS EC-IVC EC-PRGVLV EC-IVC/V EC-INJECT EC-CMPS EC-IMV/D EC-EGRC/V
TO EC-MAIN EC-IGNSYS EC-IVC EC-IVC/V EC-CMPS EC-IMV/D EC-EGRC/V
TO EC-ECM/PW

1
2
E10
B
27 28 29 30 31 32 33
34 35 36 37 38 39 40 41 42
E14
W
63 64 65 66
67 68 69 70
E17
W
H.S.

MKWA1841E

PG-POWER-04

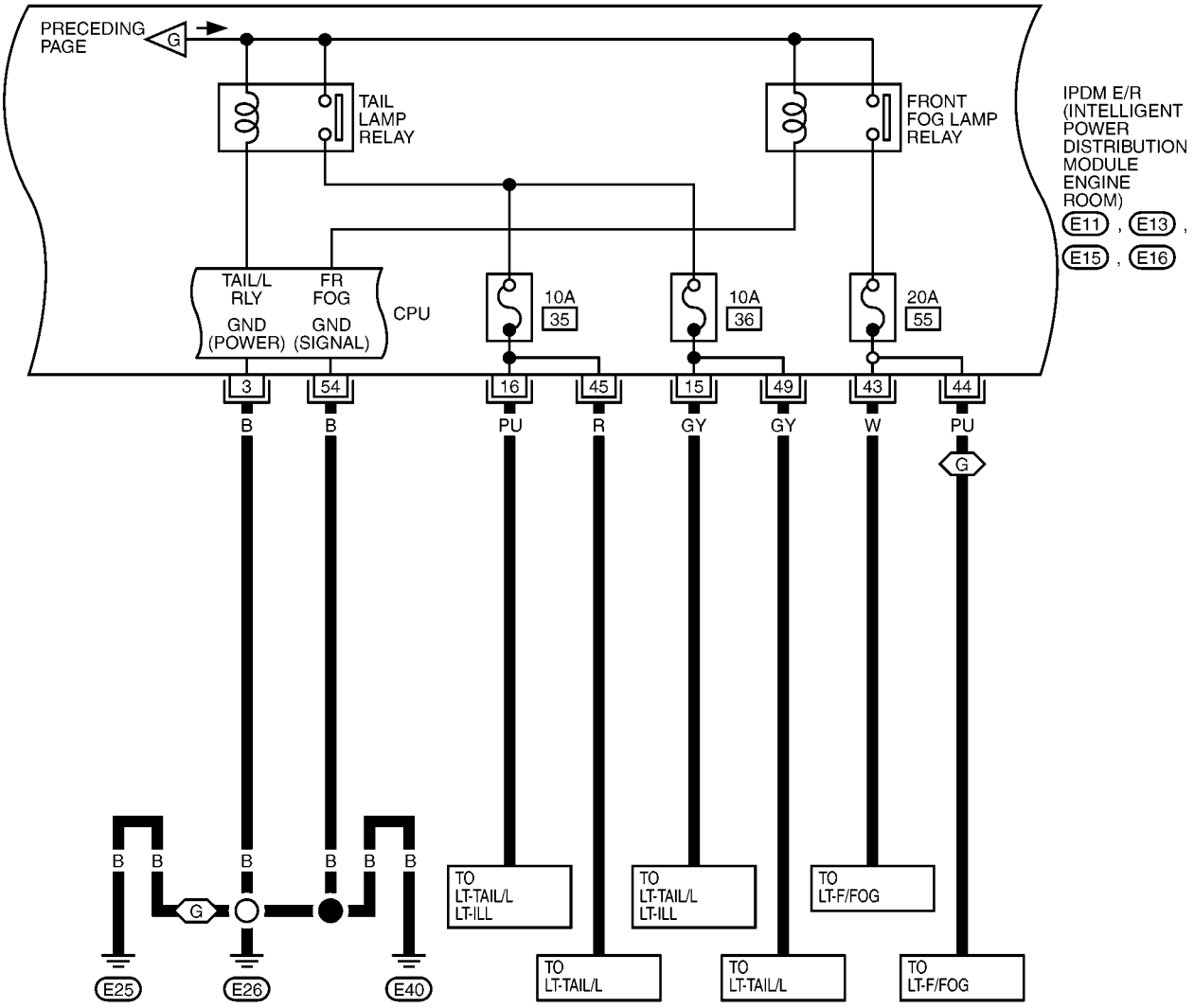


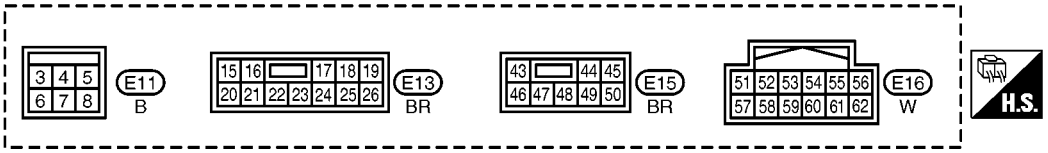


MKWA1506E

PG-POWER-05

G : WITH GASOLINE ENGINE





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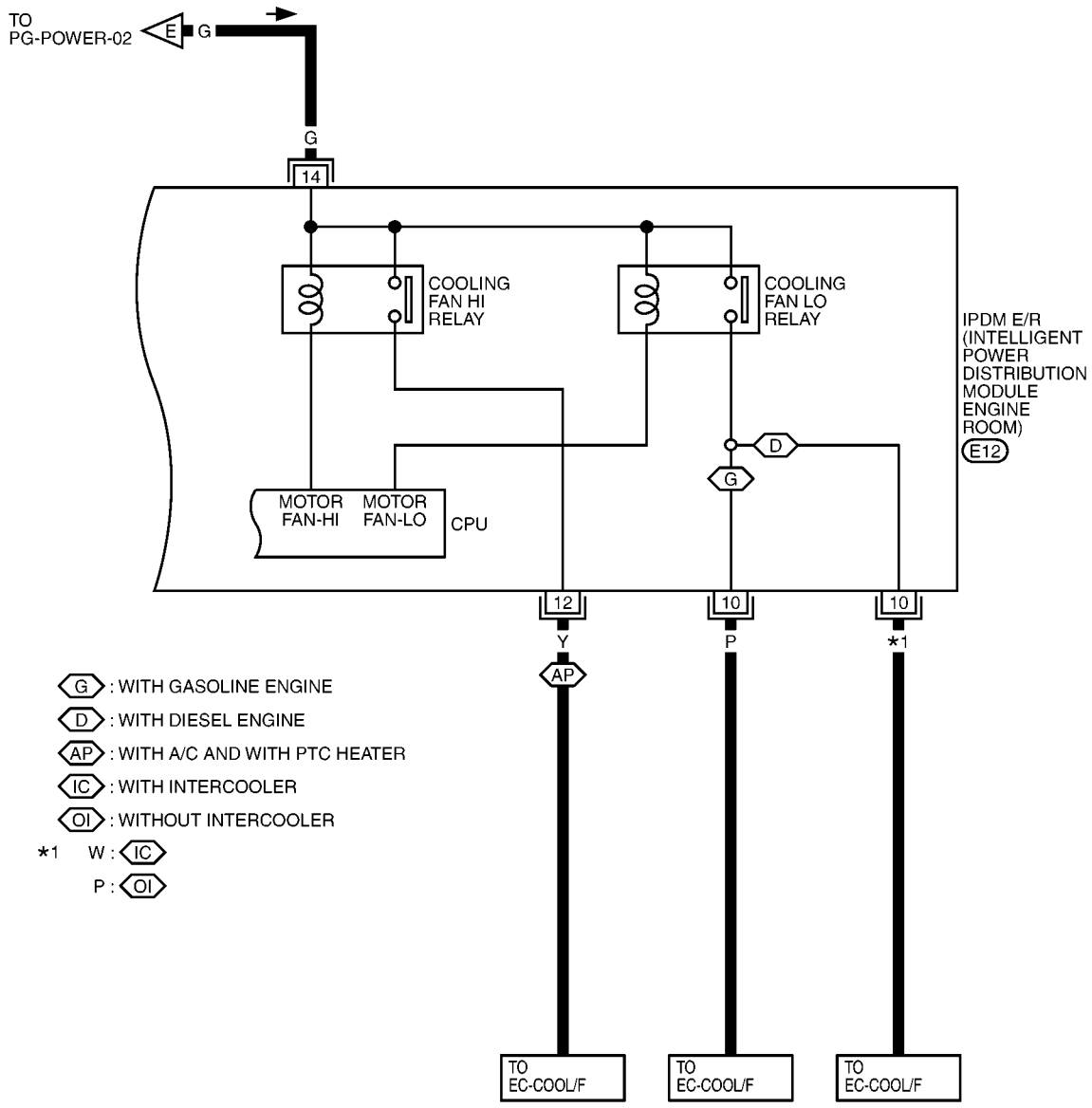
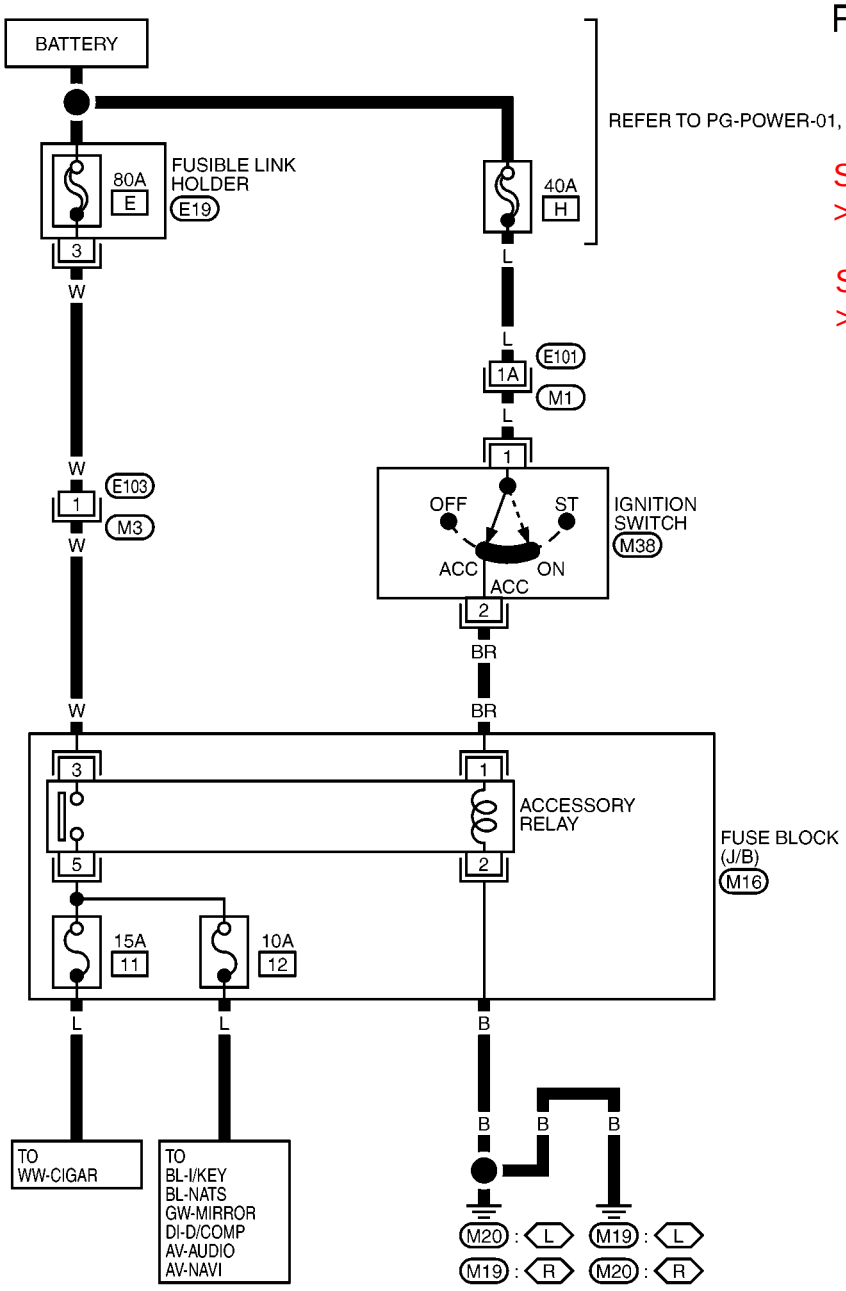

TO
PG-POWER-02
E
G
G
14
COOLING
FAN HI
RELAY
COOLING
FAN LO
RELAY
IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE
ROOM)
E12
D
G
MOTOR
FAN-HI
MOTOR
FAN-LO
CPU
12
10
10
Y
P
*1
AP
G : WITH GASOLINE ENGINE
D : WITH DIESEL ENGINE
AP : WITH A/C AND WITH PTC HEATER
IC : WITH INTERCOOLER
OI : WITHOUT INTERCOOLER
*1 W : IC
P : OI
TO
EC-COOL/F
TO
EC-COOL/F
TO
EC-COOL/F


9 10 11
12 13 14
E12
W
H.S.

MKWA3239E

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

PG-POWER-07

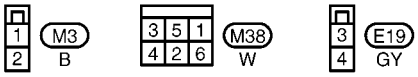


: LHD MODELS

: RHD MODELS

SMA for VIN >SJN**AK12U1288860

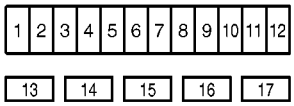
SMA for VIN >SJN**AK12U1309269



REFER TO THE FOLLOWING.

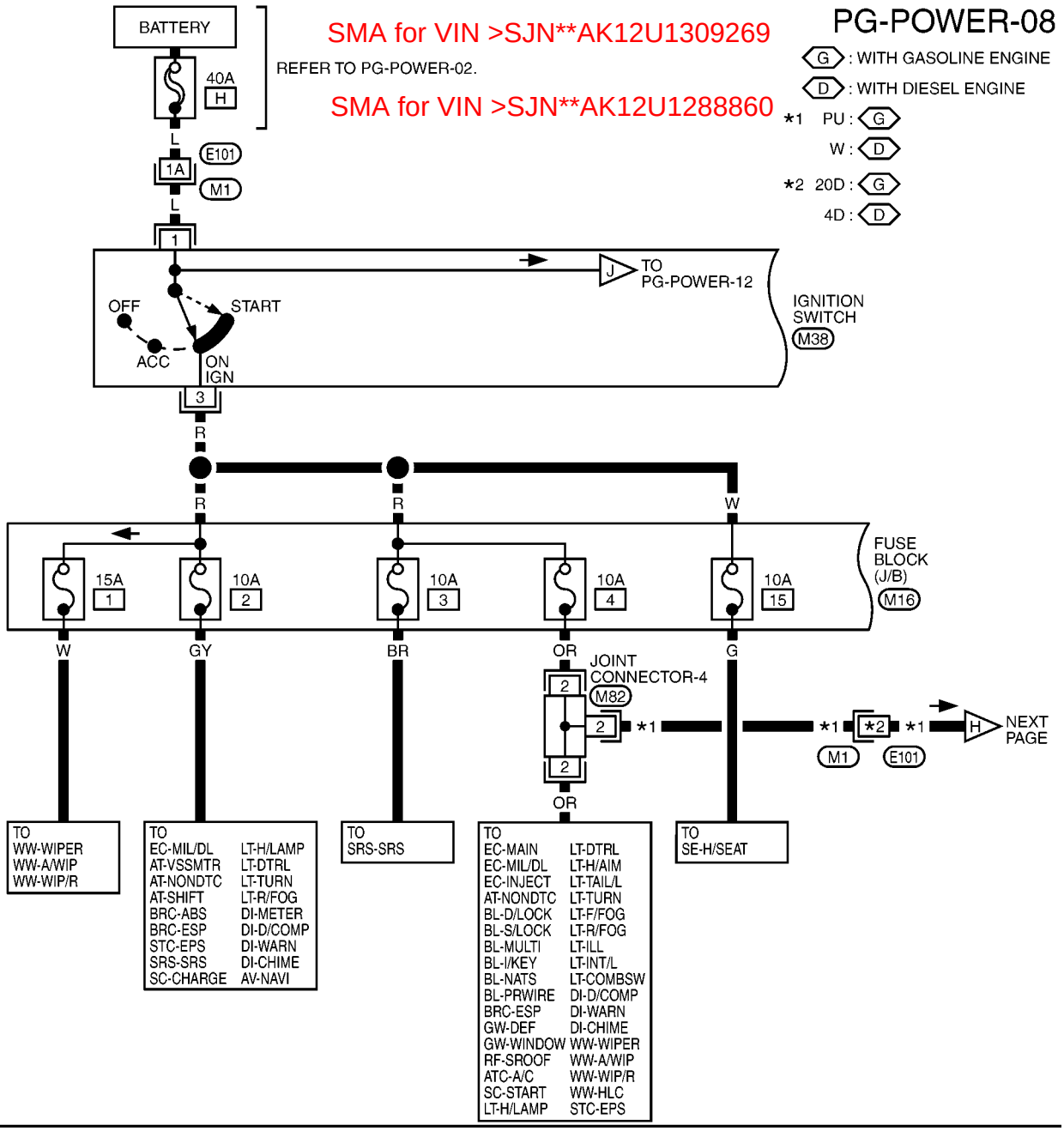
M1 -SUPER MULTIPLE JUNCTION (SMJ)

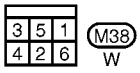
M16 -FUSE BLOCK- JUNCTION BOX (J/B)

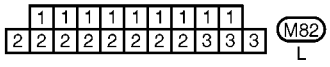


MKWA1508E

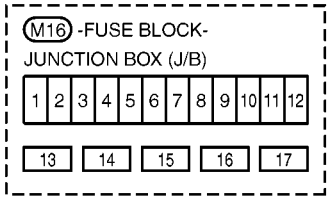
IGNITION POWER SUPPLY — IGNITION SW. IN “ON” AND/OR “START”



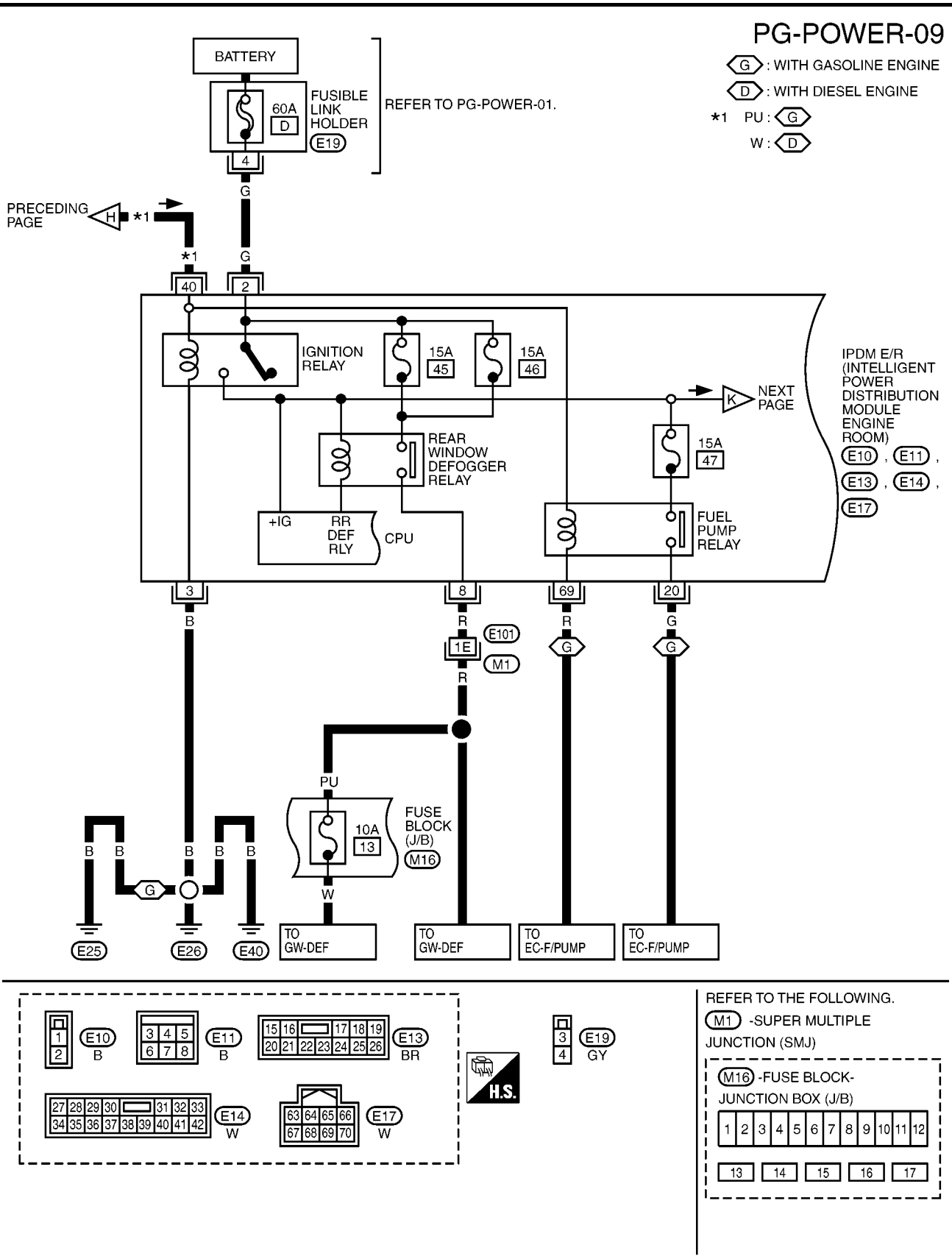




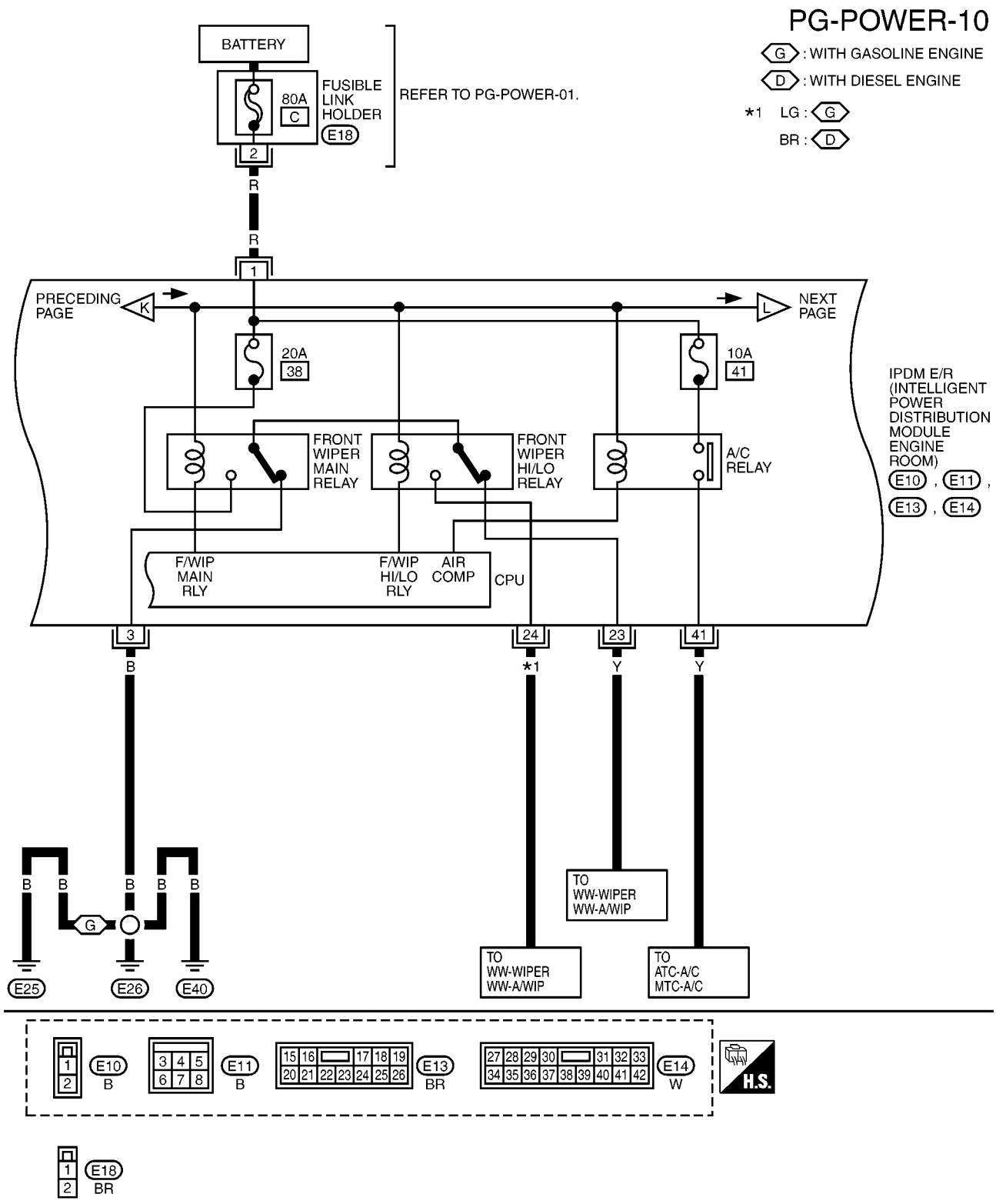
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)



MKWA1843E


PG-POWER-09
G : WITH GASOLINE ENGINE
D : WITH DIESEL ENGINE
*1 PU : G
W : D
BATTERY
60A
D
FUSIBLE LINK HOLDER
E19
REFER TO PG-POWER-01.
4
G
PRECEDING PAGE
H
*1
*1
G
40
2
IGNITION RELAY
15A
45
15A
46
K
NEXT PAGE
REAR WINDOW DEFOGGER RELAY
15A
47
+IG
RR DEF RLY
CPU
FUEL PUMP RELAY
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E10 , E11 , E13 , E14 , E17
3
8
69
20
B
R
R
G
G
E101
1E
M1
R
PU
10A
13
FUSE BLOCK (J/B)
M16
W
B B B B B
G
E25
E26
E40
TO GW-DEF
TO GW-DEF
TO EC-F/PUMP
TO EC-F/PUMP
E10
B
E11
B
E13
BR
E14
W
E17
W
H.S.
E19
GY
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK- JUNCTION BOX (J/B)

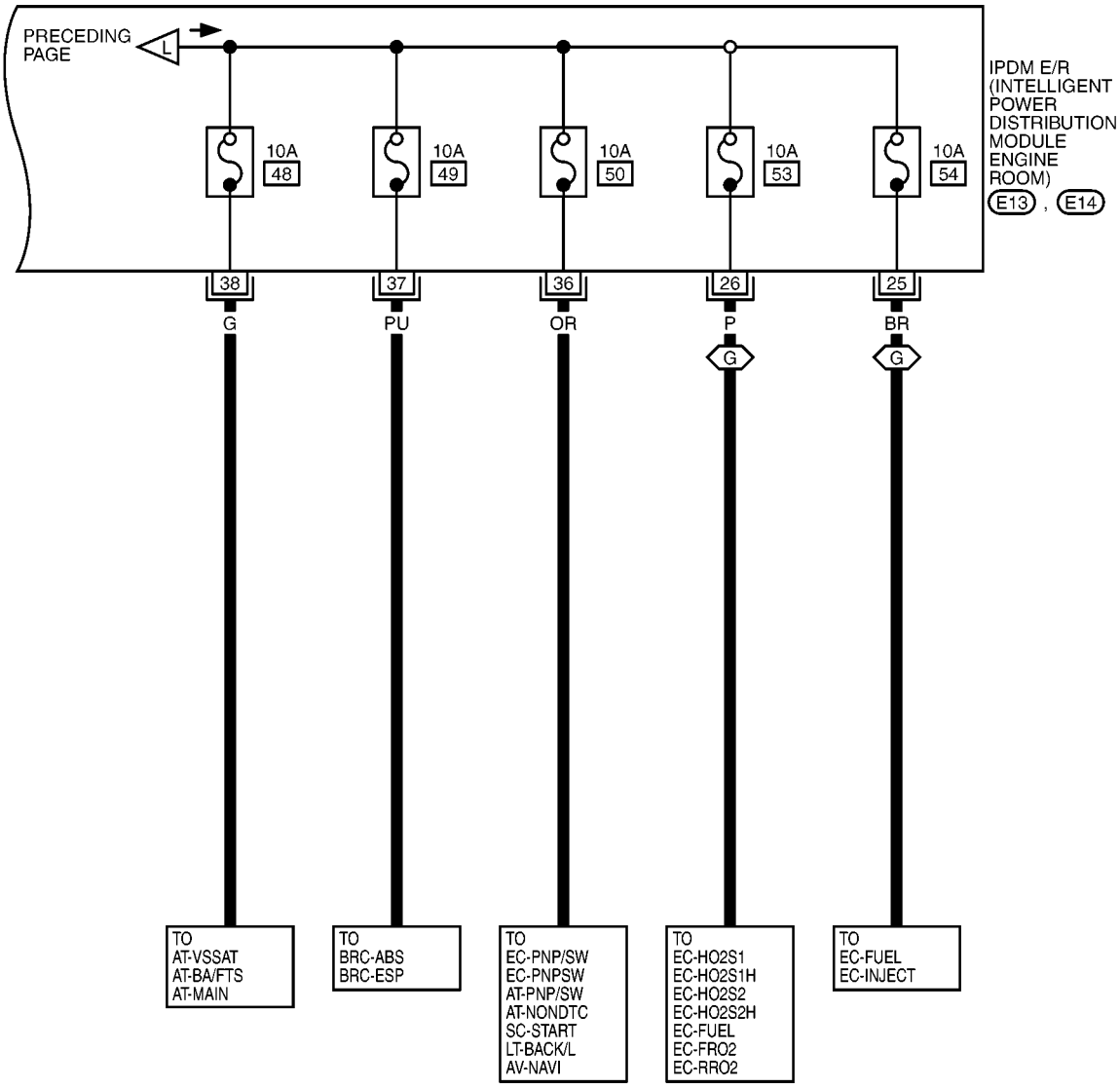
MKWA1510E

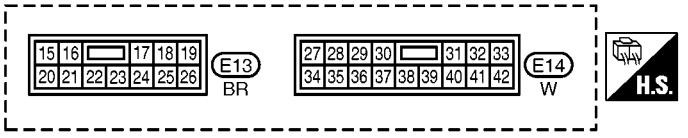

PG-POWER-10
G : WITH GASOLINE ENGINE
D : WITH DIESEL ENGINE
*1 LG : G
BR : D
BATTERY
80A
C
FUSIBLE LINK HOLDER
E18
REFER TO PG-POWER-01.
2
R
R
1
PRECEDING PAGE
K
NEXT PAGE
L
20A
38
10A
41
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E10 , E11 , E13 , E14
FRONT WIPER MAIN RELAY
FRONT WIPER HI/LO RELAY
A/C RELAY
F/WIP MAIN RLY
F/WIP HI/LO RLY
AIR COMP
CPU
3
24
23
41
B
*1
Y
Y
B B B B B
G
E25
E26
E40
TO WW-WIPER WW-A/WIP
TO WW-WIPER WW-A/WIP
TO ATC-A/C MTC-A/C
E10 B
E11 B
E13 BR
E14 W
H.S.
E18 BR

MKWA1511E

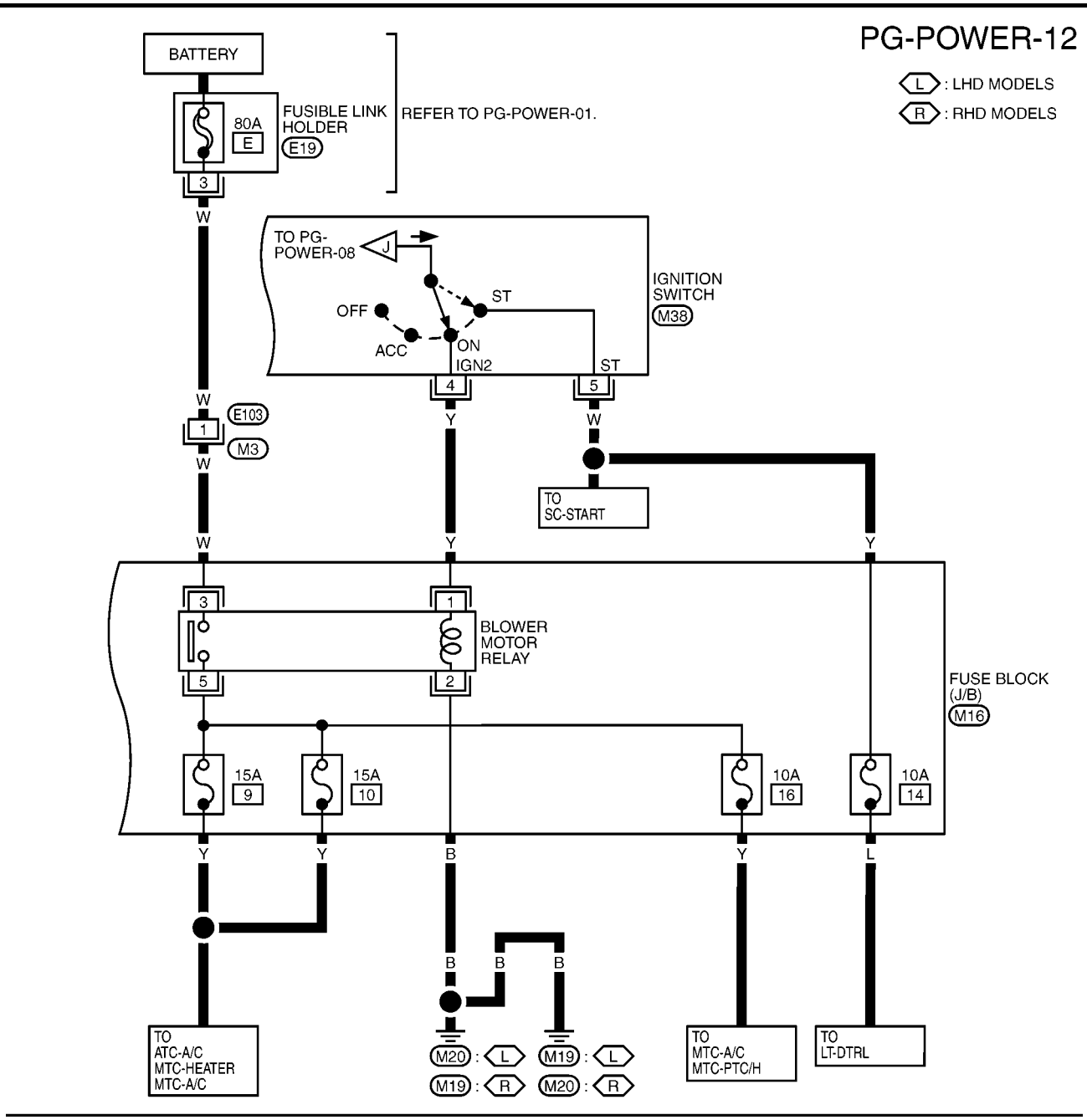
PG-POWER-11

G : WITH GASOLINE ENGINE





MKWA1844E

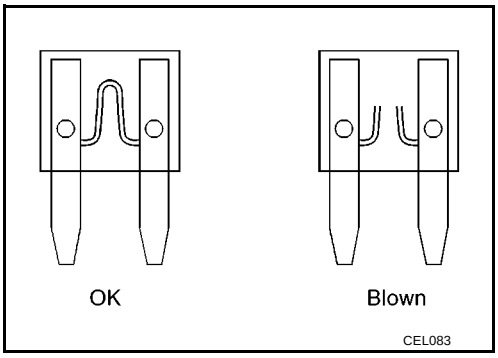

PG-POWER-12
L : LHD MODELS
R : RHD MODELS
BATTERY
80A
E
FUSIBLE LINK HOLDER
E19
REFER TO PG-POWER-01.
3
W
TO PG-POWER-08
J
IGNITION SWITCH
M38
OFF
ACC
ON
IGN2
ST
ST
4
5
W
Y
W
E103
1
M3
W
TO SC-START
W
Y
Y
3
1
5
2
BLOWER MOTOR RELAY
FUSE BLOCK (J/B)
M16
15A
9
15A
10
10A
16
10A
14
Y
Y
B
Y
L
B
B
B
TO ATC-A/C MTC-HEATER MTC-A/C
M20 : L
M19 : R
M19 : L
M20 : R
TO MTC-A/C MTC-PTC/H
TO LT-DTRL
1
2
M3
B
3 5 1
4 2 6
M38
W
3
4
E19
GY
REFER TO THE FOLLOWING.
M16 -FUSE BLOCK-
JUNCTION BOX (J/B)
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17

MKWA1513E

Fuse

EKS00797

- 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.



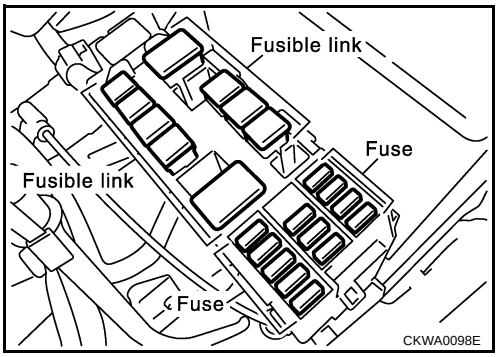
Fusible Link

EKS00798

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:

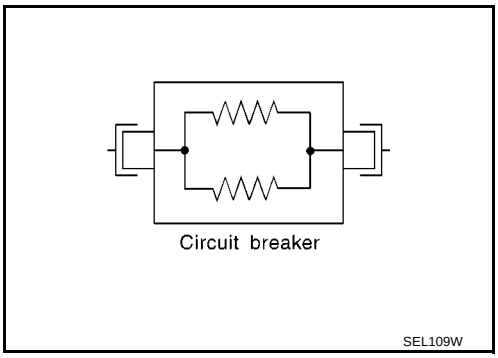
- **If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of incident.**
- **Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other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



Circuit Breaker

EKS00799

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



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

PFP:284B7

System Description

EKS0080P

- IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) integrates the relay box and the fuse box which has been conventionally placed in the engine room. It controls the built-in relay with the control circuit in IPDM E/R.
- IPDM E/R integrated control circuit performs ON-OFF control of the relay and transmission of various signals (oil pressure switch, park/neutral position switch, reverse switch) through CAN communication with BCM and ECM.

NOTE:
All IPDM E/R integrated relays can never be removed.

SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control
   Using the CAN communication line, it receives signals from BCM and controls following lamps:
   - Headlamps (Hi, Lo)
   - Parking lamps, tail lamps and license plate lamp
   - Front fog lamps
2. Front wiper control
   Using the CAN communication line, it receives signals from BCM and controls front wiper.
3. Headlamp washer control
   Using the CAN communication line, it receives signals from BCM and controls headlamp washer.
4. Rear window defogger control
   Using the CAN communication line, it receives signals from BCM and controls rear window defogger.
5. A/C compressor control
   Using the CAN communication line, it receives signals from ECM and controls A/C compressor.
6. Cooling fan control
   Using the CAN communication line, it receives signals from ECM and controls cooling fan.

FAIL-SAFE FUNCTION

- 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 parts	Fail-safe mode
Headlamp	With the ignition switch ON, the headlamp (low) is ON. With the ignition switch OFF, the headlamp (low) is OFF.
Parking lamp/ license plate lamp/ tail lamp	With the ignition switch ON, the tail lamp is ON. With the ignition switch OFF, the tail lamp is 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 is OFF
Front fog lamp	Front fog lamp is OFF
Headlamp washer	Headlamp washer is OFF
A/C compressor	A/C compressor is OFF

IPDM E/R STATUS CONTROL

In order to save power, the 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 the IPDM E/R is normally performed.
   - When the IPDM E/R is not controlling any load, a sleep request signal is received from the BCM and the 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
   - The IPDM E/R operates in low current consumption mode.
   - CAN communication is not active.
   - When a change in the CAN communication line or ignition switch ON is detected, the mode switches to CAN communication status.

FUNCTION OF IPDM E/R

- Park/neutral position switch signal output function
  The signal (ON/OFF) input from the Park/neutral position is output to ECM.
- Oil pressure switch output function
  The signal (ON/OFF) input from the oil pressure switch is output to the combination meter using the CAN communication line.
- Reverse switch signal output function
  The signal (ON/OFF) input from the reverse switch is output to BCM using the CAN communication line.

CAN Communication

EKS00KKK

SYSTEM DESCRIPTION

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. Many electronic control units are equipped onto a vehicle, 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

EKS00KKL

Go to CAN system, when selecting your car model from the following table.

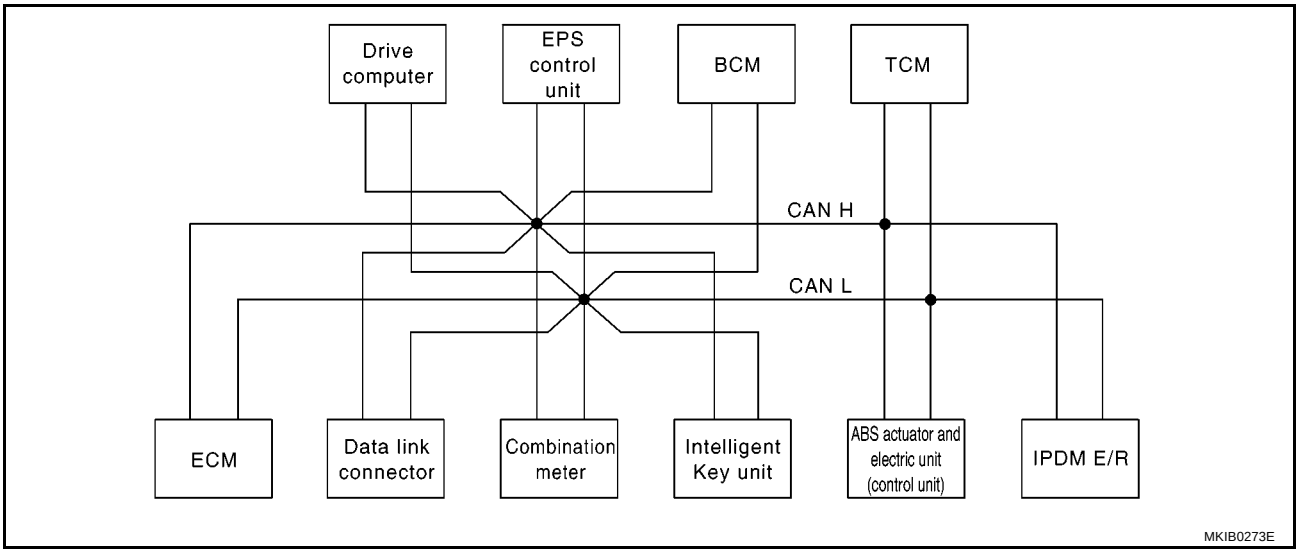
Body type	3door/5door																			
Axle	2WD																			
Engine	CR10DE/CR12DE/CR14DE								CR12DE/CR14DE								K9K			
Handle	LHD/RHD																			
Brake control	ABS system								ESP system								ABS			
Transmission	A/T				M/T				A/T				M/T				M/T			
Intelligent Key system	Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable	
CAN communication unit																				
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Intelligent Key unit	×	×			×	×			×	×			×	×			×	×		
Drive computer	×		×		×		×		×		×		×		×		×		×	
EPS control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×					×	×	×	×								
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	PG-21, "TYPE 1/ TYPE 2"				PG-24, "TYPE 3/ TYPE 4"				PG-26, "TYPE 5/ TYPE 6"				PG-29, "TYPE 7/ TYPE 8"				PG-31, "TYPE 9/ TYPE 10"			

×: Applicable

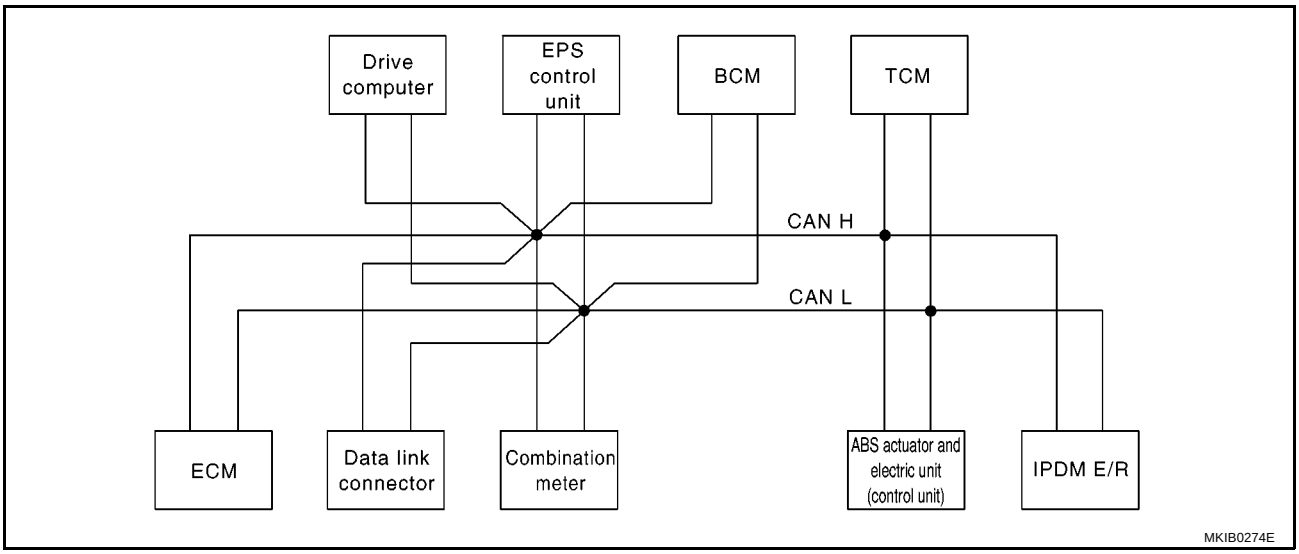
TYPE 1/TYPE 2

System diagram

- Type 1



- Type 2



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R				
Engine coolant temperature signal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T							R	
Closed throttle position signal	T							R	
Wide open throttle position signal	T							R	

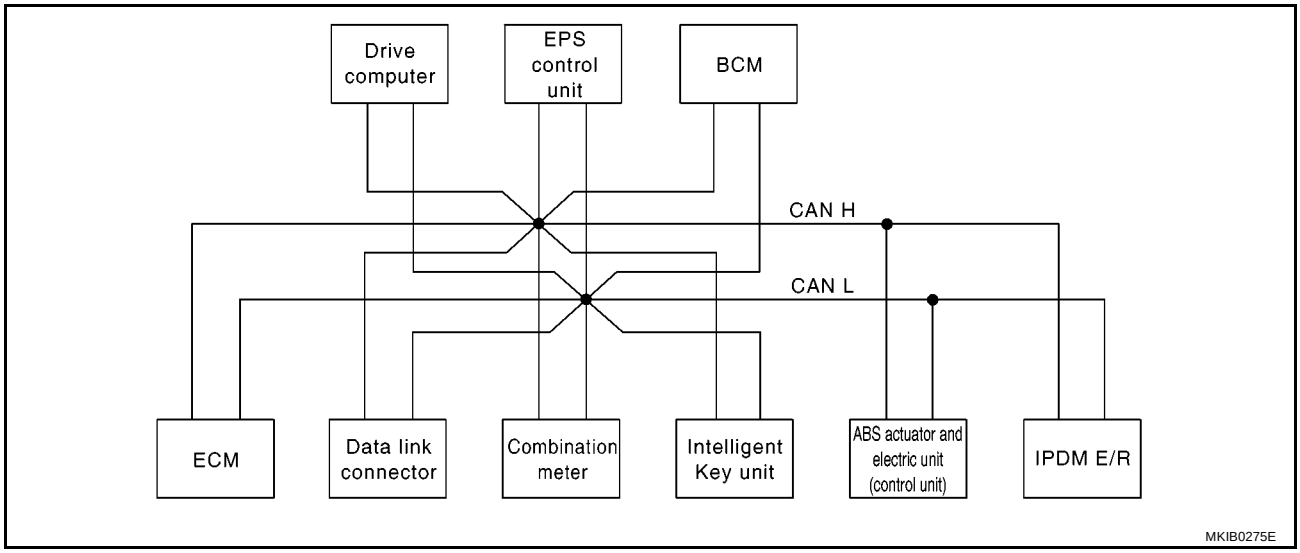
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
A/T shift position signal		R						T	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ABS operation signal	R						T		
Brake warning lamp signal		R		R			T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

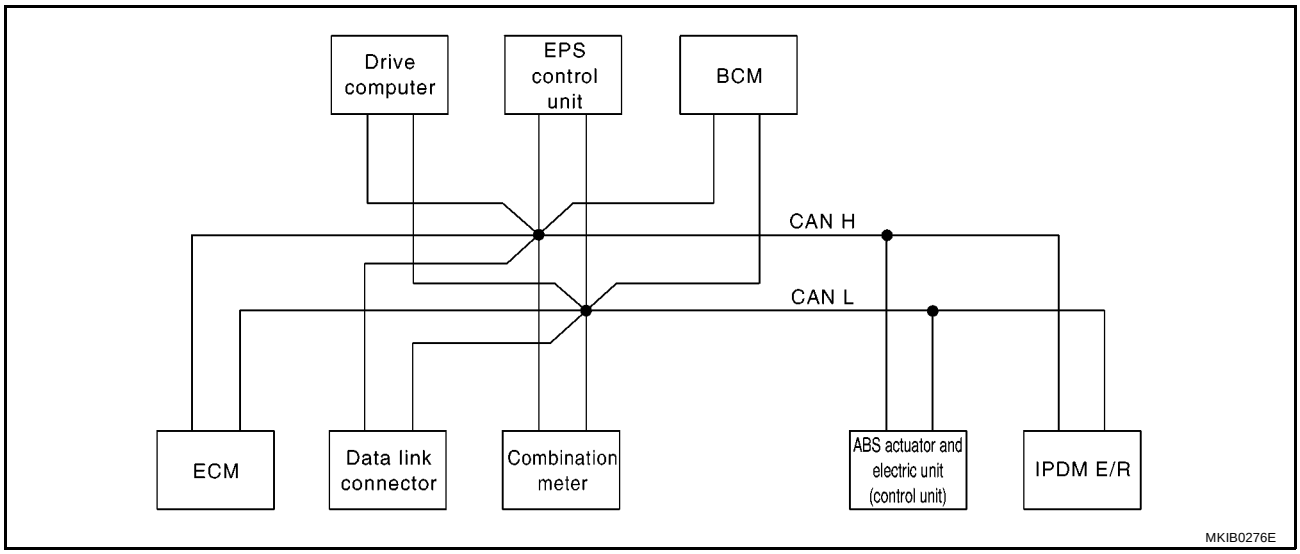
TYPE 3/TYPE 4

System diagram

- Type 3



- Type 4



Input/output signal chart

T: Transmit R: Receive

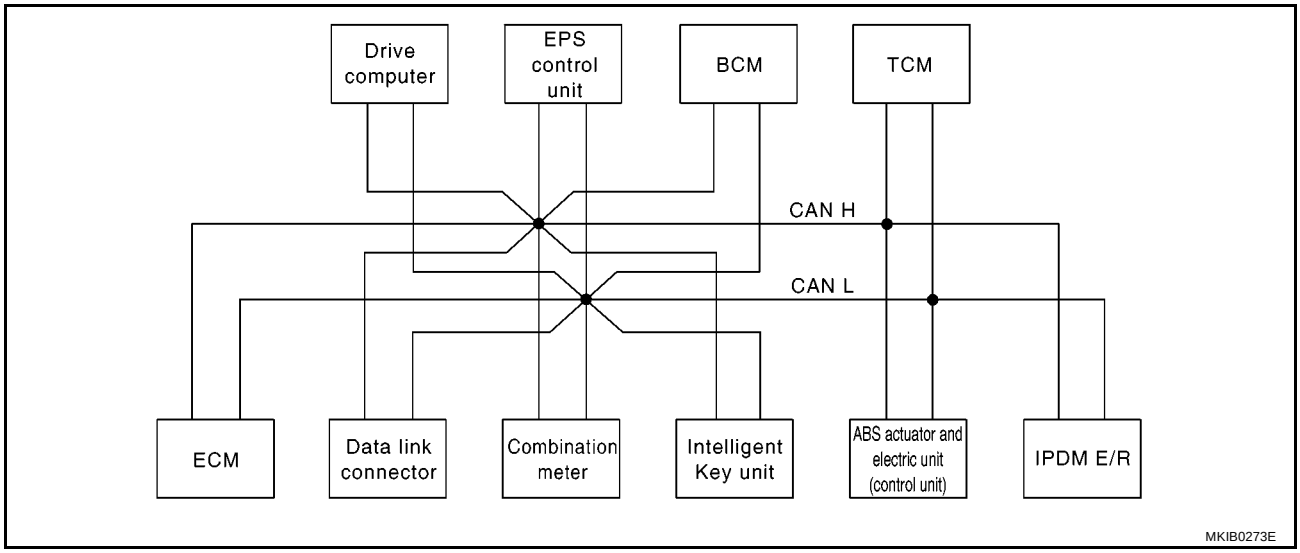
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal	R			R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

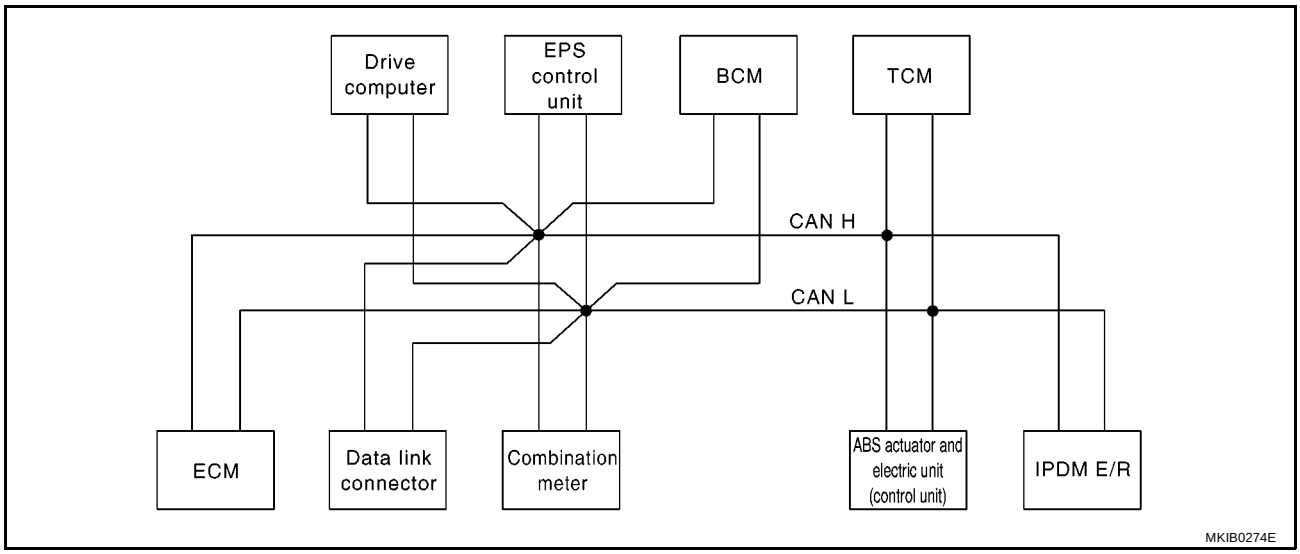
TYPE 5/TYPE 6

System diagram

- Type 5



- Type 6



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R		R		
Engine coolant temperature sig-nal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T						R	R	
Closed throttle position signal	T							R	
Wide open throttle position sig-nal	T						R	R	

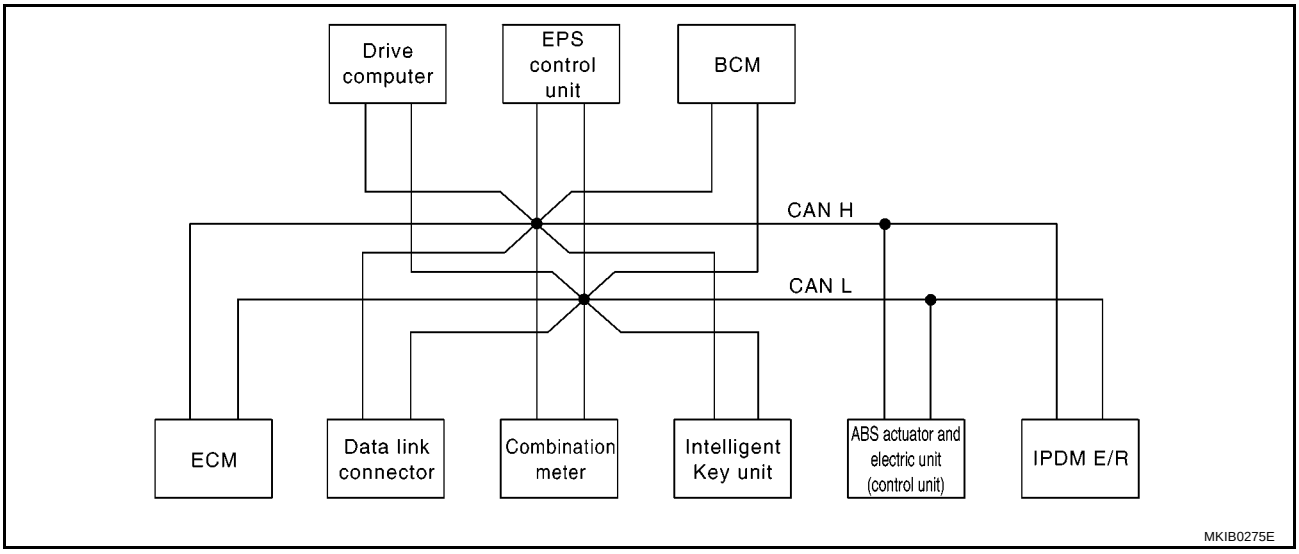
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
A/T shift position signal		R						T	
A/T shift schedule change demand signal							T	R	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
A/C switch signal	R								T
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ESP warning lamp signal		R		R			T		
ESP OFF indicator signal		R					T		
SLIP indicator lamp signal		R					T		

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
ESP operation signal	R						T		
TCS operation signal	R						T		
ABS operation signal	R						T		
Steering angle signal					T		R		
Brake warning lamp signal		R					T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

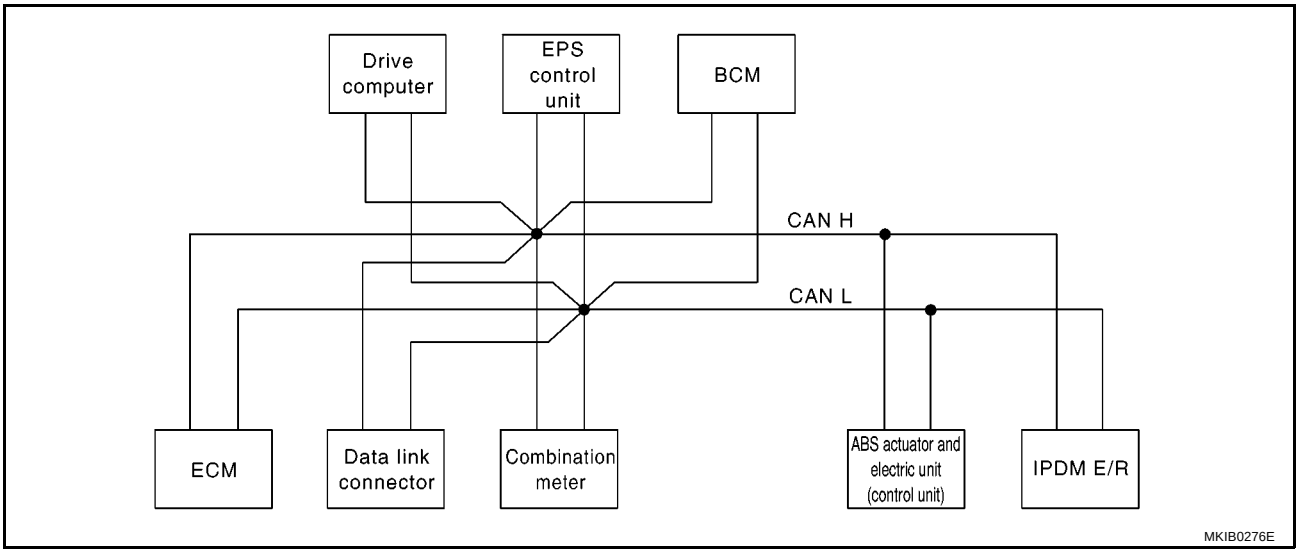
TYPE 7/TYPE 8

System diagram

- Type 7



- Type 8



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R		R	
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Accelerator pedal position signal	T						R	
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
A/C switch signal	R							T
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R

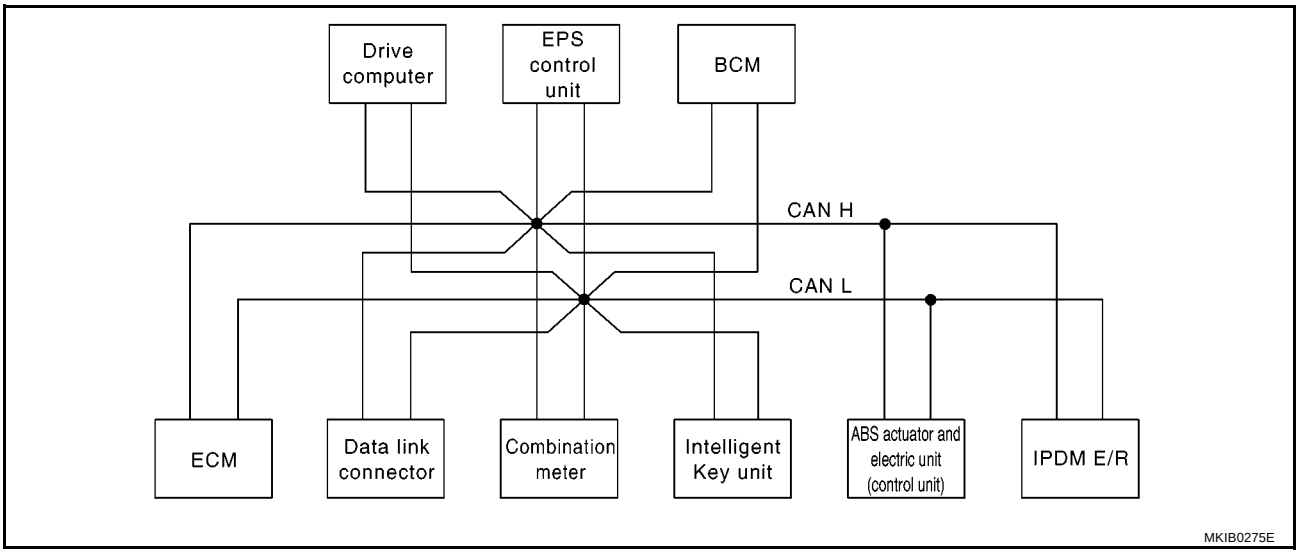
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ESP warning lamp signal		R		R			T	
ESP OFF indicator signal		R					T	
SLIP indicator lamp signal		R					T	
ESP operation signal	R						T	
TCS operation signal	R						T	
ABS operation signal	R						T	
Steering angle signal					T		R	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

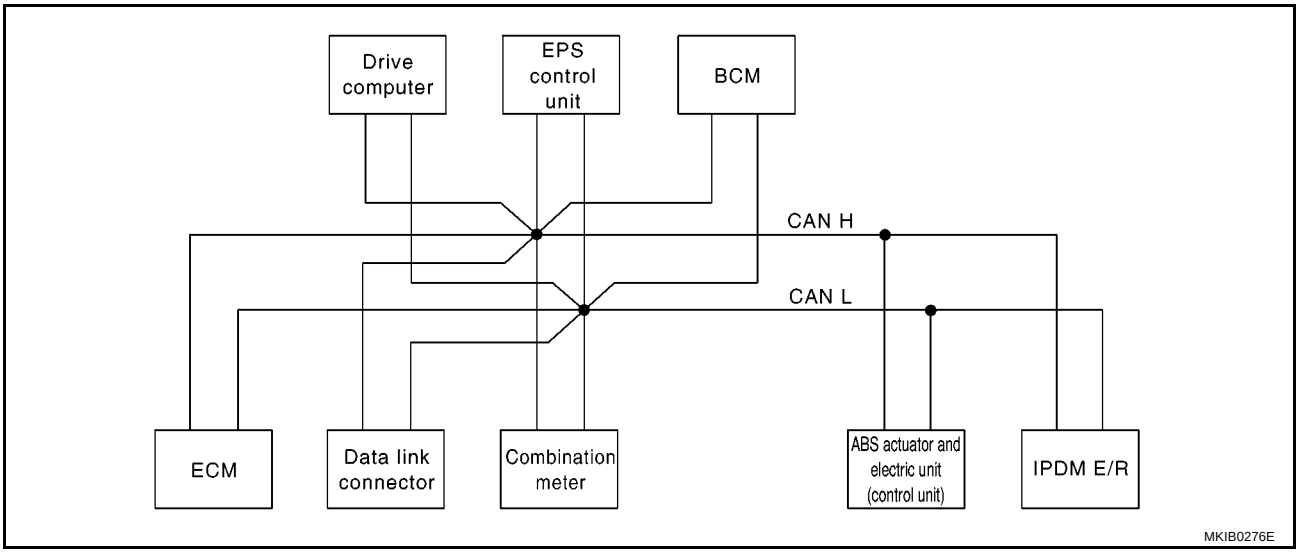
TYPE 9/TYPE 10

System diagram

- Type 9



- Type 10



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R				R		
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Position lights request signal		R		R		T		R
Low beam request signal						T		R
High beam request signal		R				T		R
Day time light request signal						T		R
Vehicle speed signal	R	R			R	R	T	
	R	T	R	R	R			
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal				R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			T			R		
Door lock/unlock status signal			R			T		

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

Function of Detecting Ignition Relay Malfunction

EKS0080R

- When a contact point of the integrated ignition relay is stuck and cannot be turned OFF, the IPDM E/R turns ON tail lamp relay for 10 minutes to indicate IPDM E/R malfunction.

NOTE:
When the ignition switch is turned ON, the tail lamp is off.

CONSULT-II Function (IPDM E/R)

EKS0080S

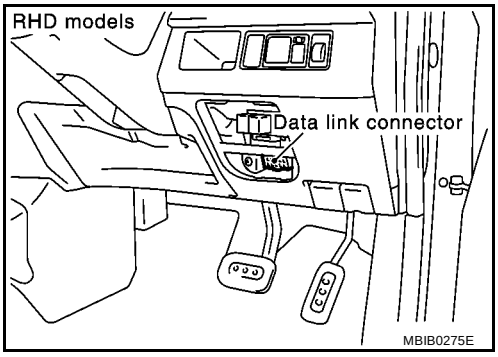
CONSULT-II can display each diagnostic item using the diagnostic modes shown following. Data is recieved and transmitted via the control module communication line.

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 results 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.

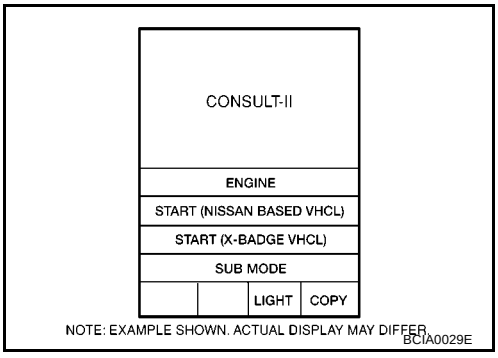
CONSULT-II BASIC OPERATION

1. Turn ignition switch OFF.
2. Connect CONSULT-II CONVERTER and CONSULT-II to data link connector.

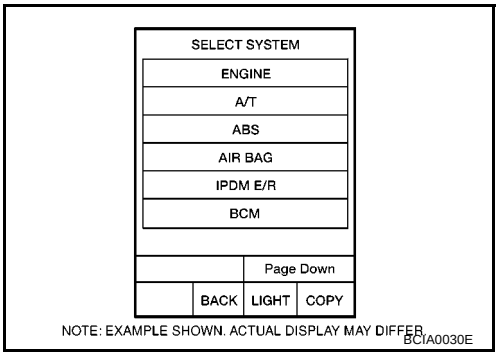
   CAUTION:
   If CONSULT-II is used without connecting CONSULT-II CONVERTER, malfunction may be detected in some control unit performing CAN communication by self-diagnosis.
3. Turn ignition switch ON.



4. Touch “START (NISSAN BASED VHCL)”.

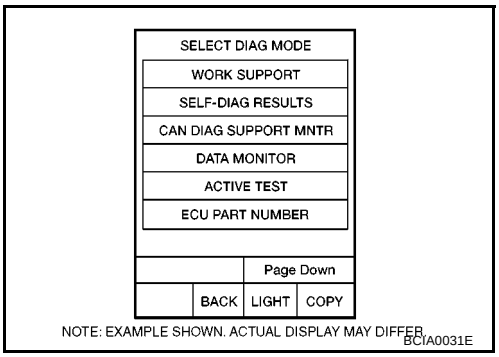


5. Touch “IPDM E/R” on “SELECT SYSTEM” screen.
   - If “IPDM E/R” is not displayed, print “SELECT SYSTEM” screen, then refer to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER
BCIA0030E

6. Select part to be diagnosed on “SELECT DIAG MODE” screen.



NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER
BCIA0031E

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	Malfunction Return Condition	TIME		Possible causes
		CRNT	PAST	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	—	—	—	—
CAN COMM CIRCUIT	● If CAN communication reception/transmission data has an malfunction, or if any of the control units malfunction, data reception/transmission cannot be confirmed. ● When the data in CAN communication is not received before the specified time	×	×	Any of or several items below have malfunctions. ● CAN CIRC 1 ● CAN CIRC 2 ● CAN CIRC 3 ● CAN1 STAT ● CAN2 STAT ● CAN3 STAT
IGN RELAY ON	When the ignition switch is not ON position, the ignition relay in the IPDM E/R is ON.	×	×	Ignition relay (integrated in IPDM E/R)
IGN RELAY OFF	When the ignition switch is ON position, the ignition relay in the IPDM E/R is OFF.	×	×	Ignition relay (integrated in IPDM E/R)
EEPROM	Malfunction is detected with the integrated EEPROM memory diagnosis.	×	×	IPDM E/R

×:Applicable

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

- CRNT: Malfunction currently detected with IPDM E/R.
- PAST: Malfunction detected in the past and memorized with IPDM E/R.

DATA MONITOR

Operation Procedure

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

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

3. Touch “START”.
4. Touch the required monitoring item on “SELECT ITEM 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 Items, Main Items, Select Item Menu

Item name	Display or unit	Monitor item selection			Description
		ALL SIGNALS	MAIN SIGNALS	SELECT FROM MENU	
MOTOR FAN REQ	1/2/3/4	×	×	×	Signal status input from ECM
A/C COMP REQ	ON/OFF	×	×	×	Signal status input from ECM
TAIL & CLR REQ	ON/OFF	×	×	×	Signal status input from BCM
HL LO REQ	ON/OFF	×	×	×	Signal status input from BCM
HL HI REQ	ON/OFF	×	×	×	Signal status input from BCM
FR FOG REQ	ON/OFF	×	×	×	Signal status input from BCM
HL WASHER REQ	ON/OFF	×		×	This item cannot be monitored. (No change of display)
FR WIP REQ	OFF/1LO/LO/HI	×	×	×	Signal status input from BCM
WIP AUTO STOP	ON/OFF	×	×	×	Output status of IPDM E/R
WIP PROTECTION	OFF/LS/HS/Block	×		×	Control status of IPDM E/R
ST RLY REQ	ON/OFF	×		×	Status of input signal CAUTION
IGN RLY STATUS	ON/OFF	×	×	×	Ignition relay status monitored with IPDM E/R
RR DEF REQ	ON/OFF	×	×	×	Signal status input from BCM
RR DEF STOP REQ	ON/OFF	×		×	Input signal status
ALT LOAD	%	×		×	This item cannot be monitored. (No change of display)
ALT CRNT	A	×		×	
ALT NO	##	×		×	
BAT VOLT	V	×		×	Value measured with IPDM E/R
ENG COOL TEMP	°C	×		×	Signal status input from ECM
OIL P SW	OPEN/CLOSE	×		×	Signal status input in IPDM E/R
REV SW	OPEN/CLOSE	×		×	Signal status input in IPDM E/R

×:applicable

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.
- The vehicle without the intelligent key system displays only ON without change.

ACTIVE TEST

Operation Procedure

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

Test item	CONSULT-II screen display	Description
Headlamp (HI, LO) output	HEADLAMP	With a certain operation (OFF, HI ON, LO ON), the headlamp relay (Lo, Hi) can be operated.
Front fog lamp output	FRONT FOG LAMP	With a certain ON-OFF operation, the fog lamp relay can be operated.
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 (OFF, Status 1, Status 2, Status 3), the cooling fan can be operated.
Headlamp washer output	HEADLAMP WASHER	With a certain ON-OFF operation, the headlamp washer can be operated.

Configuration

EKS00EJ9

DESCRIPTION

There are two CONFIGURATION functions, as follows.
READ CONFIGURATION is a function for confirming the vehicle configuration written on IPDM E/R.
WRITE CONFIGURATION is a function for writing a vehicle configuration to IPDM E/R.

CAUTION:

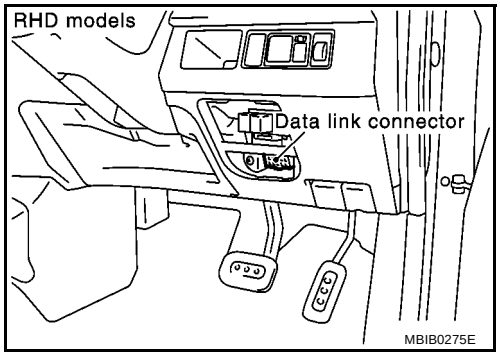
- **When replacing IPDM E/R, completely perform WRITE CONFIGURATION with CONSULT-II.**
- **Orderly complete the procedure of WRITE CONFIGURATION.**
- **If you set incorrect WRITE CONFIGURATION, vehicle operation will not be correct.**
- **Configuration is different by each vehicle model, confirm configuration in each case.**

READ CONFIGURATION PROCEDURE

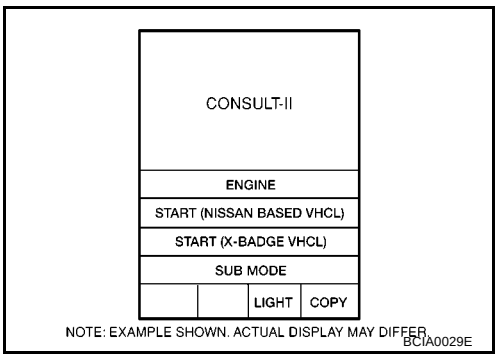
CAUTION:

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

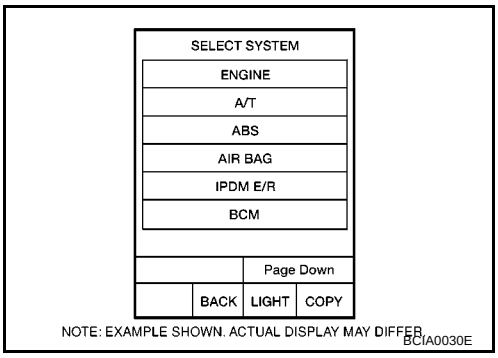
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



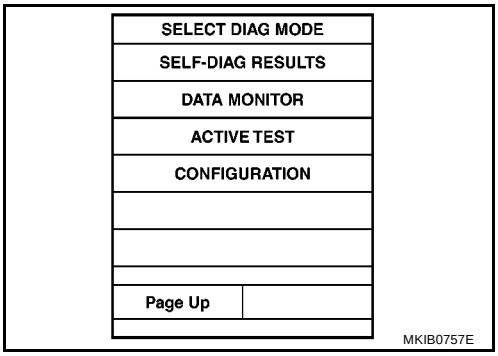
2. Touch “START(NISSAN BASED VHCL)”.



3. Touch “IPDM E/R” on “SELECT SYSTEM” screen.
If “IPDM E/R” is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .

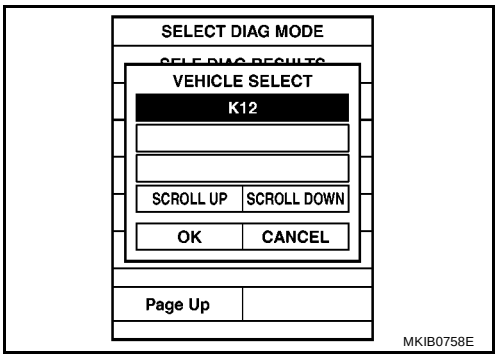


4. Touch “CONFIGURATION” on “SELECT DIAG MODE” screen.

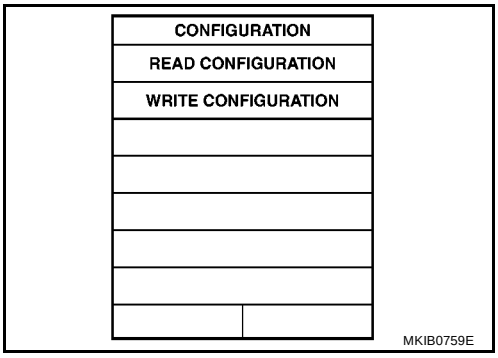


5. Touch “K12”, and “OK” on “VEHICLE SELECT” screen.
For canceling, touch “CANCEL” on “VEHICLE SELECT” screen.

NOTE:
Confirm vehicle model on IDENTICATION PLATE, refer to GI section.



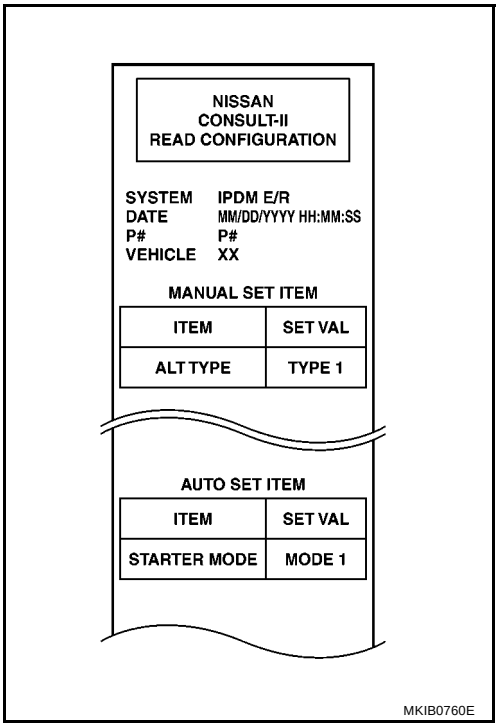
6. Touch “READ CONFIGURATION” on “CONFIGURATION” screen.



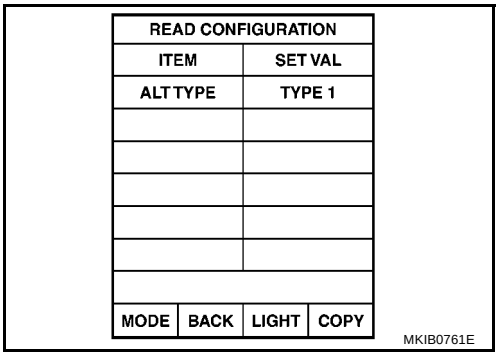
7. Configuration of current IPDM E/R are printed out automatically. Configuration of brand-new IPDM E/R before executing “WRITE CONFIGURATION” is as follows.

MANUAL SET ITEM	
ITEM	SET VAL
ALT TYPE	TYPE 1

AUTO SET ITEM	
STARTER MODE	MODE 1



8. Touch “BACK” on “ READ CONFIGURATION“screen.

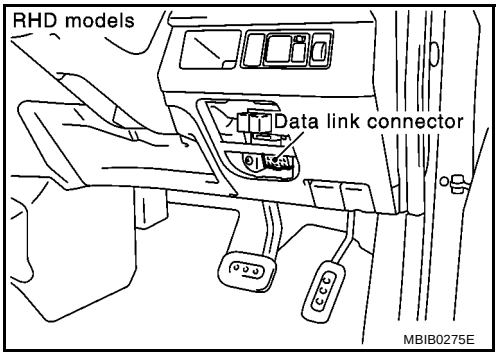


WRITE CONFIGURATION PROCEDURE

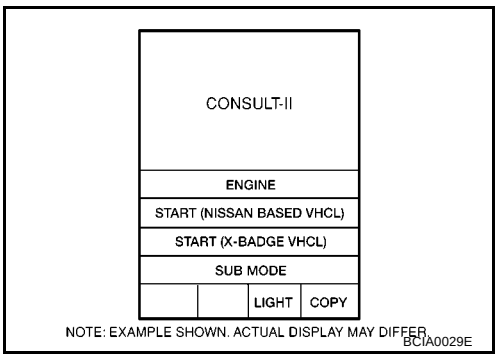
CAUTION:

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

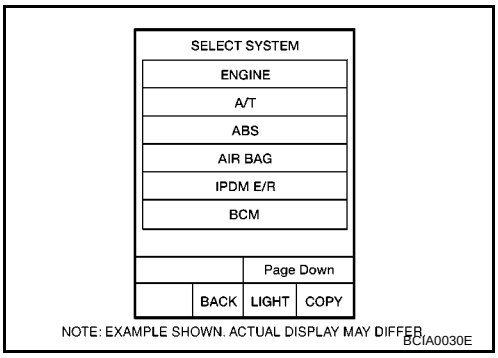
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



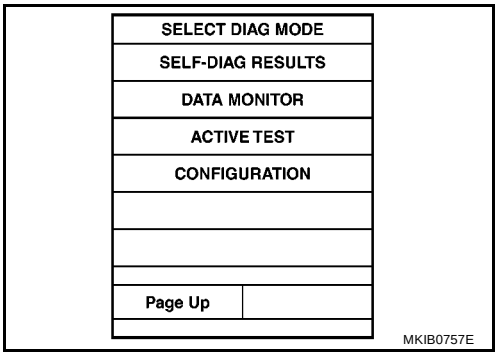
2. Touch “START(NISSAN BASED VHCL)”.



3. Touch “IPDM E/R” on “SELECT SYSTEM” screen.
If “IPDM E/R” is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .

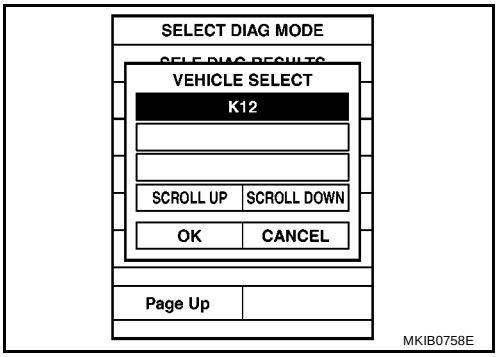


4. Touch “CONFIGURATION” on “SELECT DIAG MODE” screen.

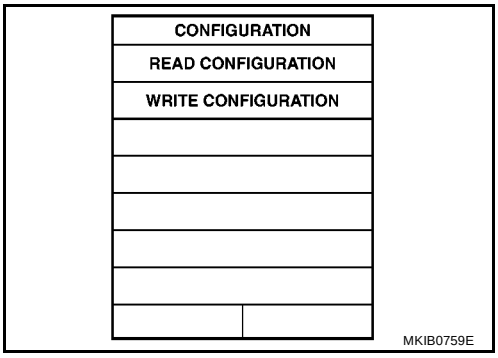


5. Touch “K12”, and “OK” on “VEHICLE SELECT” screen.
For canceling, touch “CANCEL” on “VEHICLE SELECT” screen.

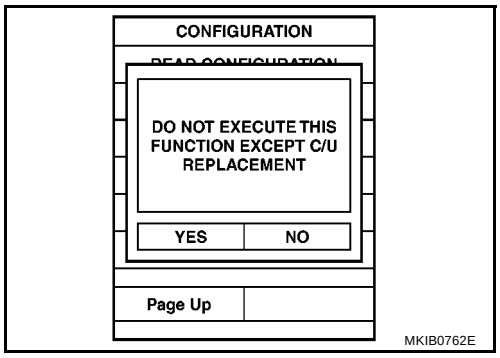
NOTE:
Confirm vehicle model on IDENTICATION PLATE, refer to GI section.



6. Touch “WRITE CONFIGURATION” on “CONFIGURATION“screen.

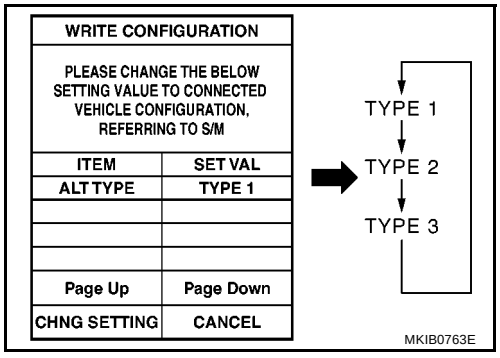


7. Touch “YES”.
   For canceling, touch “NO”.



8. Touch “TYPE 1”, “TYPE 2” or “TYPE 3” on “WRITE CONFIGURATION”screen based on the following ITEM LIST.
   < ITEM LIST>

ITEM	SET VAL	NOTE
Alternator type	TYPE 1	Gasoline engine models
	TYPE 2	PTC heater is not equipped, if 14 digits of the applied model code is marked without “H” or “J”. i.e.:EDHARAFK12EEA “E” …
	TYPR 3	PTC heater is equipped, if 14 digits of the applied model code is marked with “H” or “J”. i.e.:EDHARAFK12EEA “H” …

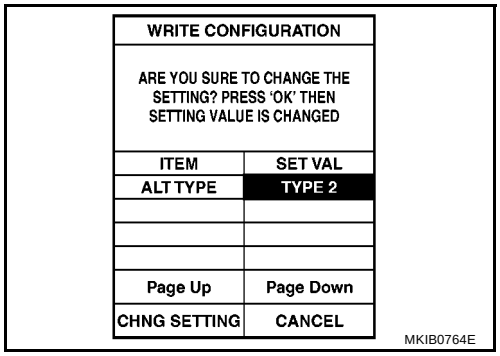


   For canceling, touch “CANCEL”.

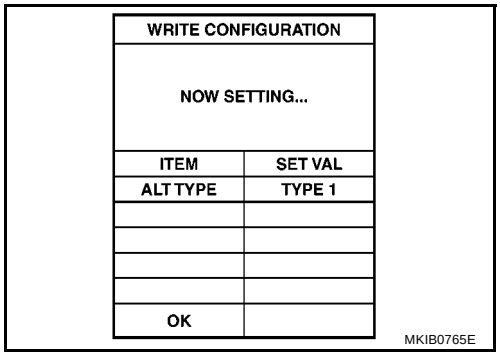
9. Touch “CHNG SETTING” on “WRITE CONFIGURATION“screen.

CAUTION:
Make sure to touch “CHNG SETTING even if the indicated configuration of brand new IPDM E/R is same as the desirable configuration.
If not, configuration which is set automatically by selecting vehicle model can not be memorized.

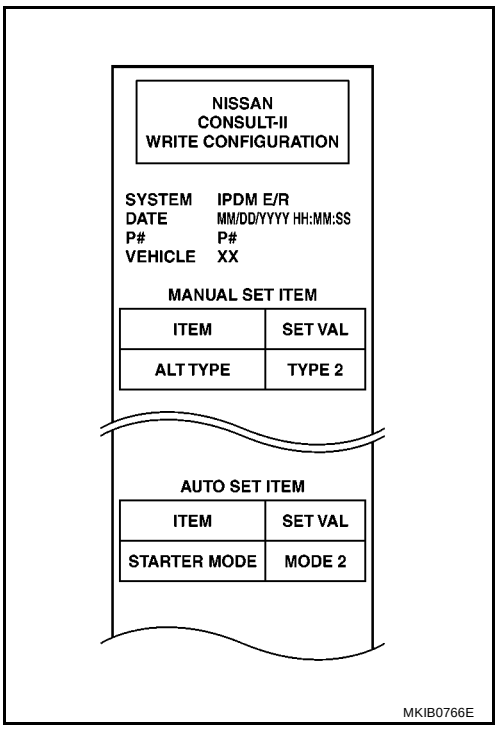
10. Touch “OK” on “WRITE CONFIGURATION”screen.
    When touched “CANCEL”, go to previous screen.



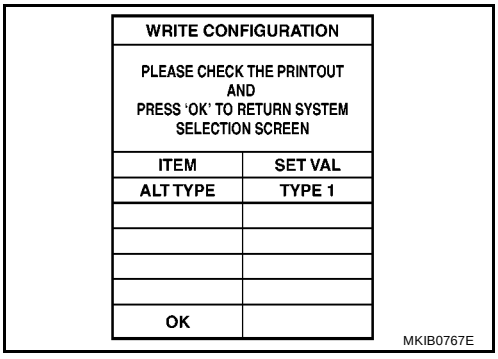
11. Wait until the next screen during setting.



12. WRITE CONFIGURATION results are printed out automatically. Check “WRITE CONFIGURATION” is correctly executed by comparing sheet automatically printed out with desirable configuration.



13. Touch “OK” on “WRITE CONFIGURATION“screen. WRITE CONFIGURATION is completed.



Auto Active Test

EKS0080T

DESCRIPTION

- In the auto active test, the IPDM E/R sends a drive signal to the following systems to check operation.
  - Rear window defogger
  - Front wiper (Low, High)
  - Parking lamps, license lamps, tail lamps
  - Front fog lamp
  - Headlamp (Low, High)
  - Headlamp washer
  - A/C compressor (magnetic clutch)
  - Cooling fan

OPERATION PROCEDURE

1. Close hood, and keep wiper arms off the 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 the driver side door switch 10 times. Then turn ignition switch OFF.

   CAUTION:
   Keep passenger side door closed.
4. Turn ignition switch ON within 10 seconds.
5. When auto active test mode is actuated, oil pressure warning lamp starts blinking.
6. After a series of operations is repeated 3 times, auto active test is completed.

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

CAUTION:
When the auto active test cannot be started, check the oil pressure switch system **DI-77, "Oil Pressure Warning Lamp Stays Off (Ignition Switch ON)"** **and the** **BL-58, "Check Door Switch"** **.**

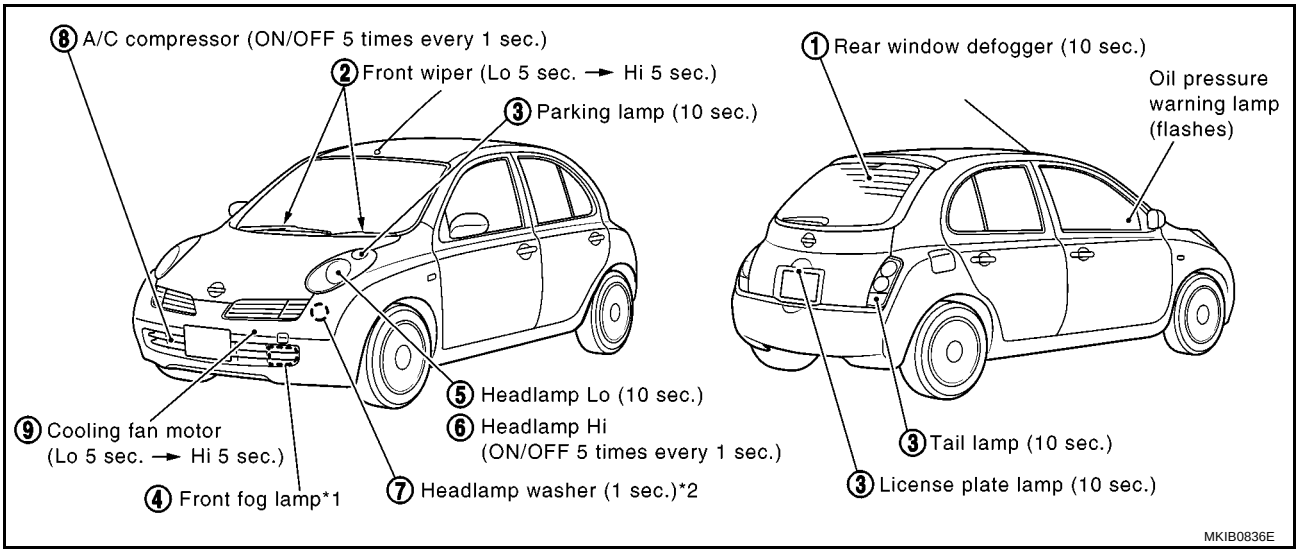
INSPECTION IN AUTO ACTIVE TEST MODE

When the auto active test is started, repeat steps 1 to 9 as below three times.

- Step 1: Rear window defogger is operated for 10 seconds.
- Step 2: Front wiper is operated with low speed for 5 seconds and high speed for 5 seconds.
- Step 3: Parking, license plate, tail lamp are turned on for 10 seconds.
- Step 4: Front fog lamp is turned on for 10 seconds.

  NOTE:
  If the fog lamp is not equipped, this step will be skipped. (In this case, next step will be start after 10 seconds.)
- Step 5: Headlamp (low) is turned on for 10 seconds.
- Step 6: Headlamp (high) is blinked ON and OFF for 5 times.
- Step 7: Headlamp washer is operated for 1 second and it is stopped for 9 seconds.

  NOTE:
  If the headlamp washer is not equipped, this step will be skipped. (In this case, next step will be start after 10 seconds.)
- Step 8: A/C compressor ON and OFF operation is repeated for 5 times.
- Step 9: Cooling fan motor is operated with low speed for 5 seconds and high speed for 5 seconds.



*1: Step 4 will be skipped, if the front fog lamp is not equipped. (In the case, next step will be start after 10 seconds.)
*2: Step 7 will be skipped, if the headlamp washer is not equipped. (In the case, next step will be start after 10 seconds.)

CONCEPT OF AUTO ACTIVE TEST

- IPDM E/R actuates auto active test mode when it receives door switch signal from BCM via CAN communication line. Therefore, when auto active test mode is activated successfully, CAN communication between IPDM E/R and BCM is normal.
- If any 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

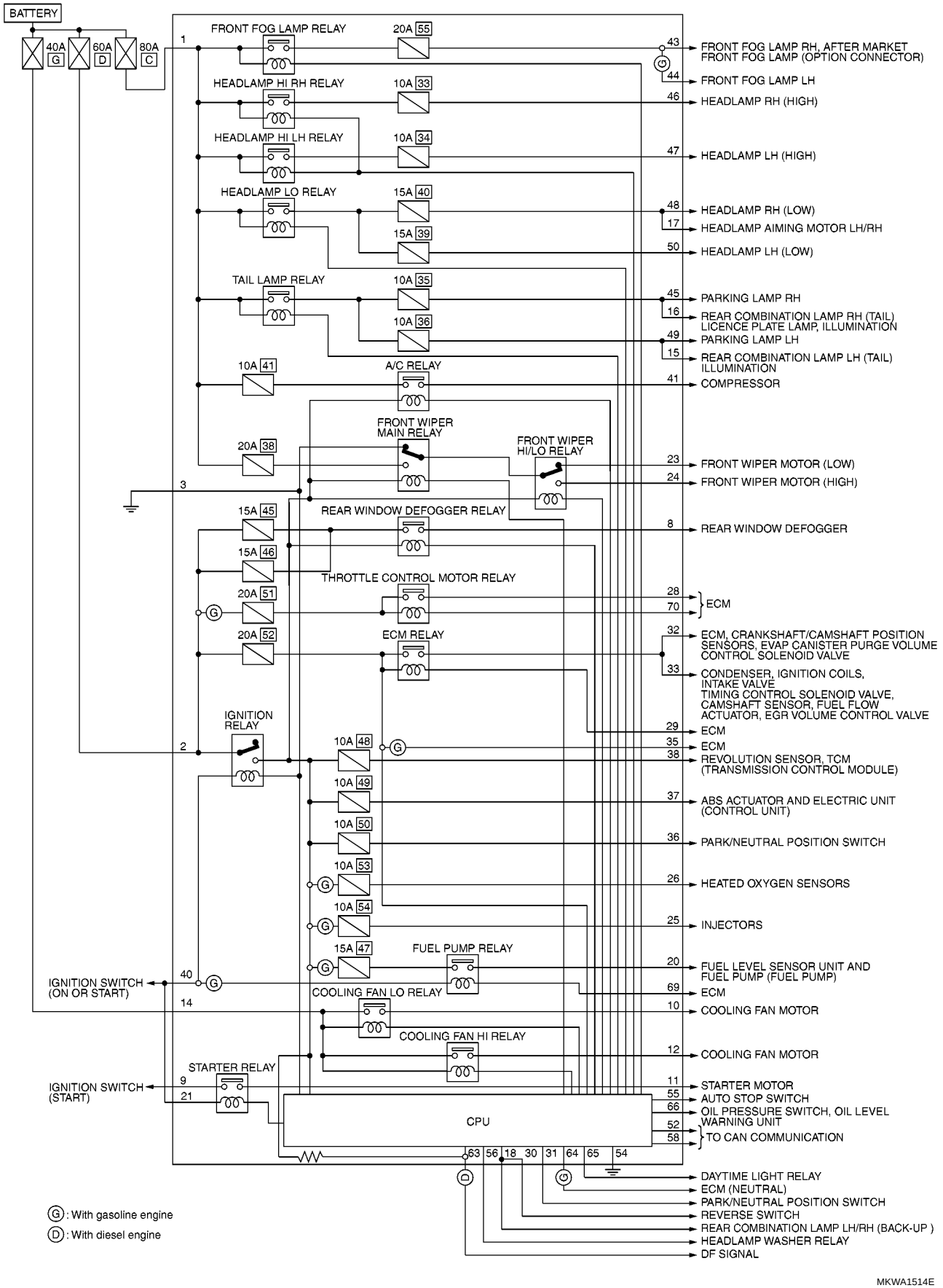
Symptom	Inspection Contents		Possible causes	Reference page
Rear window defogger does not operate.	Perform auto active test. Does rear window defogger operate?	YES	● BCM signal input system	GW-14
		NO	● Harness for open or short between the IPDM E/R and the rear window defogger ● Open circuit of rear window defogger ● IPDM E/R (integrated relay) malfunction (Rear window defogger relay)	
Front wiper does not illuminate.	Perform auto active test. Does the front wiper operate?	YES	● BCM signal input system	WW-5 (without rain sensor) or WW-48 (with rain sensor)
		NO	● Wiper motor malfunction ● Front wiper motor ground.	
Either of parking lamp, license plate lamp and tail lamp does not illuminate.	Perform auto active test. Does parking lamp, license plate lamp and tail lamp illuminate?	YES	● BCM signal input system	LT-152
		NO	● Bulb ● Harness for open or short between IPDM E/R and parking, license plate or tail lamp. ● IPDM E/R (integrated relay) malfunction	
Front fog lamp does not illuminate.	Perform auto active test. Does the front fog lamp illuminate?	YES	● BCM signal input system	LT-74
		NO	● Bulb ● Harness for open or short between IPDM E/R and front fog lamp. ● IPDM E/R (integrated relay) malfunction	
Headlamp (Hi, Lo) does not illuminate.	Perform auto active test. Does headlamp?	YES	● BCM signal input system	LT-6, "HEADLAMP - CONVENTIONAL TYPE-" or LT-42, "HEADLAMP - DAYTIME LIGHT SYSTEM -"
		NO	● Bulb ● Headlamp ground system malfunction ● Open or short in harness or headlamp between IPDM E/R and headlamps ● IPDM E/R (integrated relay) malfunction (headlamp relay)	
Headlamp washer does not operate.	Perform auto active test. Does the Headlamp washer operate?	YES	● BCM signal input system	WW-110
		NO	● Harness for open or short between IPDM E/R and headlamp washer. ● Headlamp washer relay is malfunction.	
The cooling fan is inoperative.	Perform auto active test. Does the cooling fan operate?	YES	● Signal input system of ECM ● CAN communication signal between ECM and IPDM E/R*	EC-352 (with EURO-OBD) or EC-689 (without EURO-OBD)
		NO	● Malfunction of cooling fan ● Harness open or short between the IPDM E/R and the cooling fan. ● IPDM E/R (integrated relay) malfunction	

Symptom	Inspection Contents		Possible causes	Reference page
The A/C compressor is inoperative.	Perform auto active test. Does magnetic clutch operate?	YES	● CAN communication signal between BCM and ECM*. ● CAN communication signal between ECM and IPDM E/R*. ● BCM signal input system ● Signal input system of ECM.	ATC-54
		NO	● Magnetic clutch inoperative. ● Harness for open or short between IPDM E/R and magnetic clutch. ● IPDM E/R (integrated relay) malfunction	
Oil pressure warning lamp does not operate.	Perform auto active test. Does oil pressure warning lamp blink?	YES	● Harness for open or short between IPDM E/R and oil pressure switch. ● Oil pressure switch malfunction	DI-65
		NO	● CAN communication signal between IPDM E/R and combination meter*. ● Combination meter	

*: Perform IPDM E/R self-diagnosis with CONSULT-II. Refer to PG-48, "Inspection With CONSULT-II (Self-Diagnosis)"

Schematic

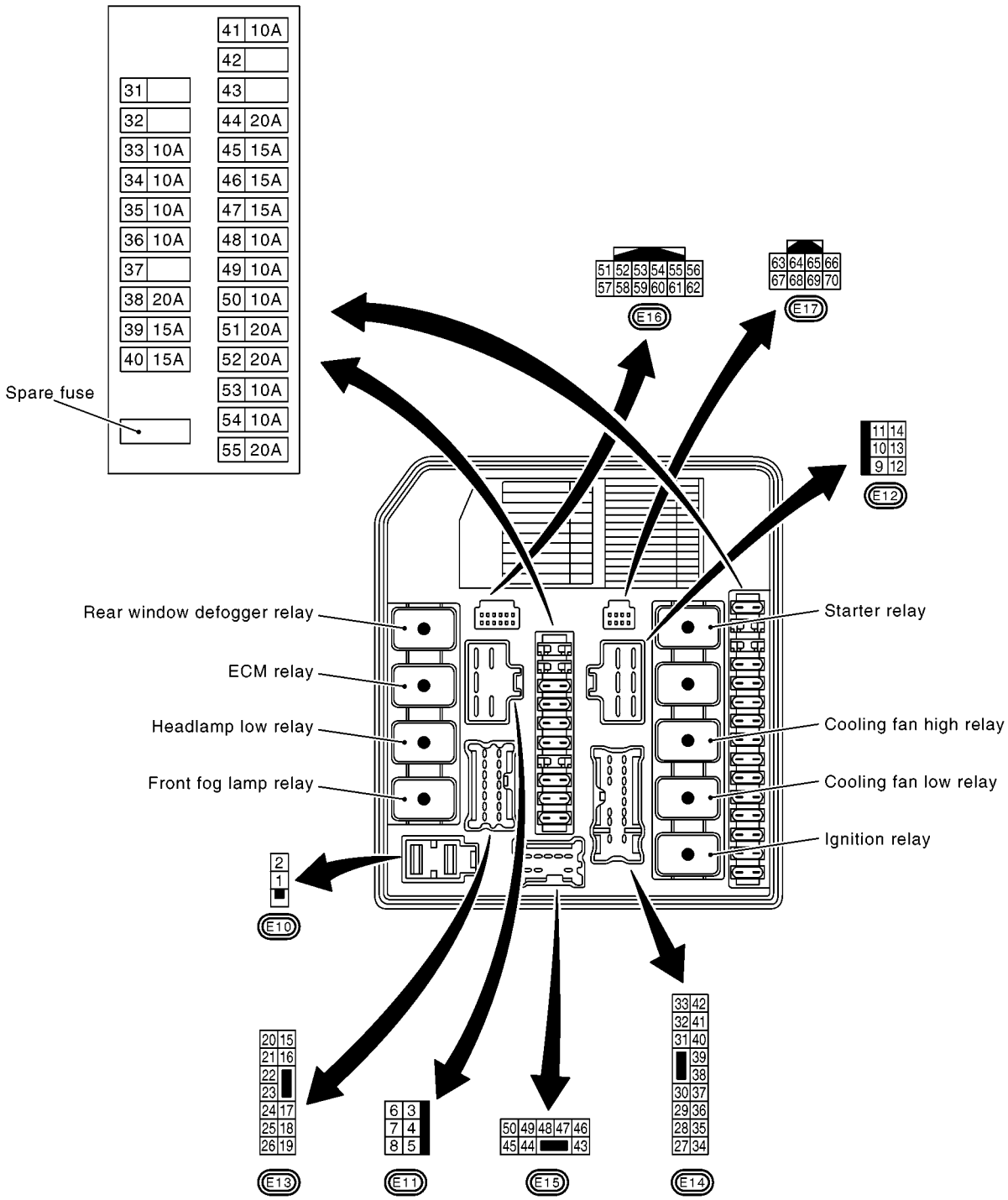
EKS0080U



NOTE:
Refer to each control system for details of connecting parts.

IPDM E/R Terminal Arrangement

EKS0080V



MKWA1370E

Inspection With CONSULT-II (Self-Diagnosis)

EKS0080W

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 diagnosis mode selection 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.	—	—	—	—
IGN RELAY ON	B2098	×	×	Ignition relay malfunction (integrated in IPDM E/R)
IGN RELAY OFF	B2099	×	×	Ignition relay malfunction (integrated in IPDM E/R)
EEPROM	B2100	×	×	IPDM E/R malfunction
CAN COMM CIRCUIT	U1000	×	×	Any of or several items below have malfunction. ● TRANSMIT DIAG ● ECM ● BCM/SEC

×: Applicable

CAUTION:

If errors of the CAN communication system and the ignition relay ON or OFF are displayed at the same time after the self-diagnostic result, replace the IPDM E/R and perform the self-diagnosis again.

NOTE:

The details for display of the period are as follows:

- CRNT: Malfunction currently detected with IPDM E/R.
- PAST: Malfunction 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 CIRCUIT>>LAN-4, "Precautions When Using CONSULT-II".
IGN RELAY ON>>Replace IPDM E/R.
IGN RELAY OFF>>Replace IPDM E/R.
EEPROM>>Replace IPDM E/R.

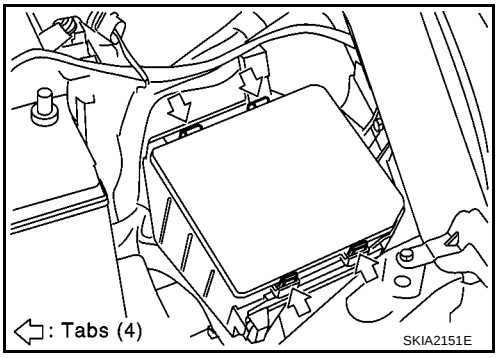
IPDM E/R Terminal Inspection

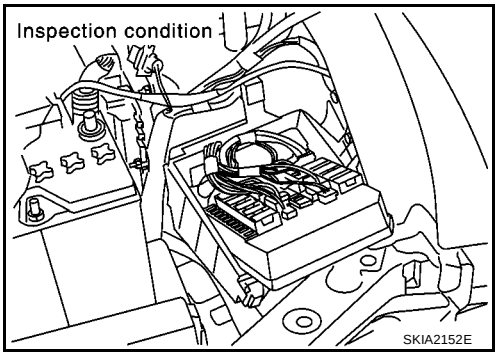
EKS0080X

CAUTION:

This is performed when the IPDM E/R is checked without removing the battery.

1. Remove the headlamp (LH).
2. Remove tabs of the IPDM E/R and place the IPDM E/R with its connector facing upward. Check each terminal.





IPDM E/R Power Supply and Ground Circuit Check

EKS0089R

1. CHECK FUSE AND FUSIBLE LINK

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

Terminal No.	Power source	Fuse, fusible link No.
1	Battery	Letter C
2	Battery	Letter D
40	Ignition switch (ON)	80

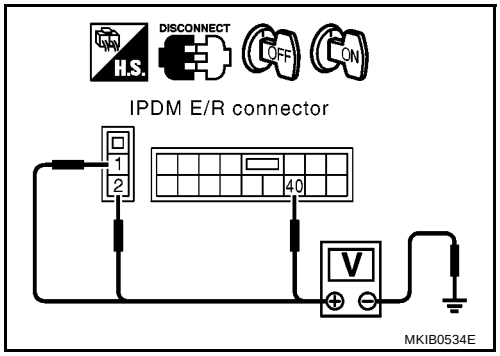
OK or NG

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

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R harness connector.
2. Check voltage between IPDM E/R and ground.

Terminals			Ignition switch position		
(+)		(-)	OFF	ACC	ON
Connector	Terminal (Wire color)				
E10	1 (R)	Ground	Battery voltage	Battery voltage	Battery voltage
	2 (G)		Battery voltage	Battery voltage	Battery voltage
E14	40 (PU)		0V	Battery voltage	Battery voltage



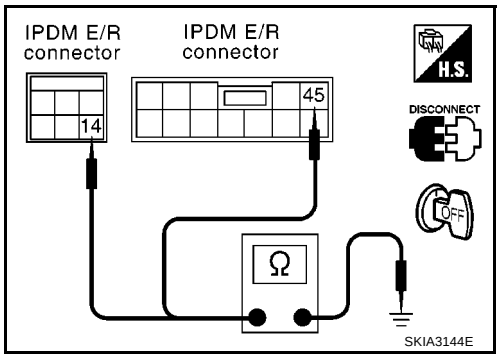
OK or NG

OK >> GO TO 3.
NG >> Check harness between fuse, fusible link and IPDM E/R.

3. CHECK GROUND CIRCUIT

1. Disconnect IPDM E/R harness connectors.
2. Check continuity between IPDM E/R harness connectors E12 terminal 14 (B), E16 terminal 54 (B) and ground.

Continuity should exist.



OK or NG

OK >> INSPECTION END.
NG >> Repair harness for ground circuit.

Diagnosis of IPDM E/R Integrated Relay

EKS0080Z

1. CHECK SYMPTOM

Check the symptom of the malfunction relay.

What is the symptom?

No operation>>GO TO 2.
No stop>> GO TO 4.

2. CHECK RELAY TYPE

Which is the relay with error?

Front fog lamp relay, headlamp relay (Hi, Lo), tail lamp relay, front wiper relay (main, Hi/Lo), rear window defogger relay, A/C relay, starter motor relay, cooling fan relay (1, 2, 3)>>GO TO 5.
Ignition relay>> Go to PG-48, "Inspection With CONSULT-II (Self-Diagnosis)"
ECM relay>>Go to EC-125, "POWER SUPPLY CIRCUIT FOR ECM" (CR engine models with EURO-OBD), EC-567, "POWER SUPPLY CIRCUIT FOR ECM" (CR engine models without EURO-OBD) or EC-K9K-237, “Wiring diagram — Main power supply and ground circuit”, “DIESEL INJECTION” (K9K engine models).
Throttle motor relay>>Go to EC-305, "DTC P1124, P1126 THROTTLE CONTROL MOTOR RELAY" (CR engine models with EURO-OBD) or EC-673, "DTC P1124, P1126 THROTTLE CONTROL MOTOR RELAY" (CR engine models without EURO-OBD).
Fuel pump relay>>Go to EC-450, "FUEL PUMP CIRCUIT" (CR engine models with EURO-OBD) or EC-826, "FUEL PUMP CIRCUIT" (CR engine models without EURO-OBD).

3. CHECK RELAY

Send an operation signal to the relay using a diagnosis tool. Check the voltage at the input and output terminals of inoperative relays according to the table below or check for continuity between input and output terminals. Refer to PG-36, "ACTIVE TEST" or PG-42, "Auto Active Test" .

Relay name	IPDM E/R terminal number		Voltage [V]	Diagnosis tool	
	Input side	Output side		CONSULT-II ACTIVE TEST	Auto ACTIVE TEST
Front fog lamp relay	1	43, 44	Battery voltage	×	×
Headlamp Hi relay		46, 47		×	×
Headlamp Lo relay		48, 50		×	×
Tail lamp relay		15, 16, 45, 49		×	×
Front wiper main relay		23		×	×
Front wiper HI/LO relay		24		×	×
A/C relay		41			×
Rear windows defogger relay	2	8		×	×
Cooling fan Lo relay 1	14	10		×	×
Cooling fan Hi relay 2		12		×	×

×: Applicable

OK or NG

OK >> Check the control unit that controls the inoperative relay. (system)
NG >> Replace the IPDM E/R. (malfunction of relay)

4. CHECK RELAY TYPE

Which is the relay with error?

Front fog lamp relay, headlamp relay (Hi, Lo), tail lamp relay, front wiper relay (main, Hi/Lo), rear window defogger relay, A/C relay, starter motor relay, cooling fan relay (1, 2, 3)>>GO TO 5.
Ignition relay>> Go to PG-48, "Inspection With CONSULT-II (Self-Diagnosis)"
ECM relay>>Go to EC-125, "POWER SUPPLY CIRCUIT FOR ECM" (CR engine models with EURO-OBD), EC-567, "POWER SUPPLY CIRCUIT FOR ECM" (CR engine models without EURO-OBD) or EC-K9K-237, “Wiring diagram — Main power supply and ground circuit”, “DIESEL INJECTION” (K9K engine models).
Throttle motor relay>>Go to EC-305, "DTC P1124, P1126 THROTTLE CONTROL MOTOR RELAY" (CR engine models with EURO-OBD) or EC-673, "DTC P1124, P1126 THROTTLE CONTROL MOTOR RELAY" (CR engine models without EURO-OBD).
Fuel pump relay>>Go to EC-450, "FUEL PUMP CIRCUIT" (CR engine models with EURO-OBD) or EC-826, "FUEL PUMP CIRCUIT" (CR engine models without EURO-OBD).

5. CHECK INPUT SIGNAL

Check the control signal status of the relay on the IPDM E/R that receives from each control unit with the data monitor of CONSULT-II. Refer to PG-35, "DATA MONITOR" .

What is the data monitor result?

Other than OFF>>Check the control unit that controls the relay (system) not deactivated.
OFF >> Replace the IPDM E/R. (error of relay ON)

Removal and Installation of IPDM E/R

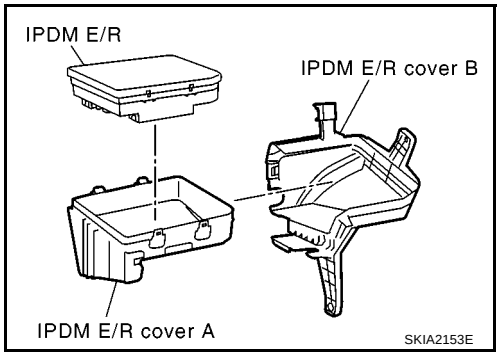
EKS0087Q

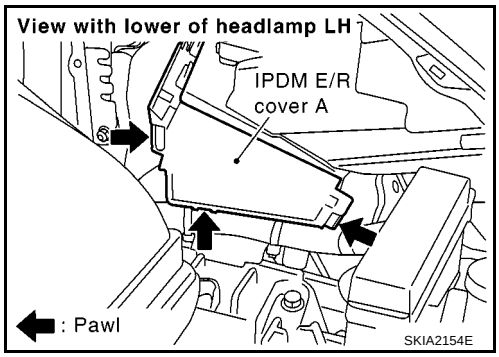
CAUTION:
Always replace with new* IPDM E/R when the IPDM E/R replacement is required.
***: New one means virgin control unit that has never been energized on-board.**

REMOVAL

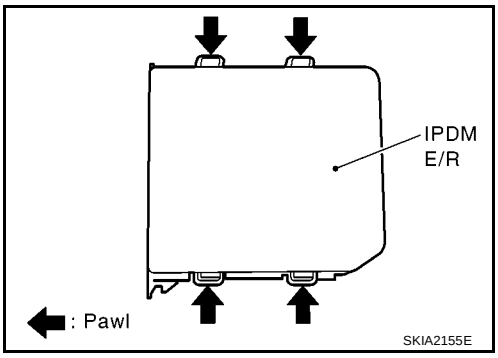
NOTE:
If possible, before removing IPDM E/R, retrieve current IPDM E/R configuration to use for reference when configuring brand-new IPDM E/R after installation. Refer to PG-36, "Configuration" .

1. Remove battery. Refer to SC-14, "Removal and Installation" in SC section.
2. Pull out IPDM E/R cover A from IPDM cover B.





3. Disconnect harness connector from IPDM E/R.
4. Remove IPDM E/R from IPDM E/R cover A.



INSTALLATION

- Install in the reverse order of removal.

NOTE:
When replacing IPDM E/R, it must be configured. Refer to PG-36, "Configuration" .

GROUND

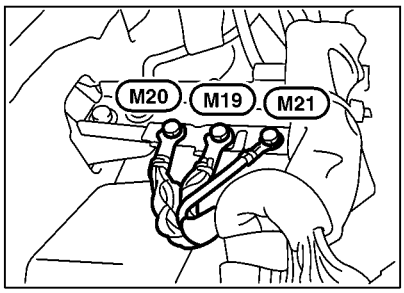
PFP:00011

Ground Distribution

EKS0079A

MAIN HARNESS

SMA for VIN >SJN**AK12U1309269



ES : With ESP
OE : Without ESP

*1 M87: ES / M6: OE
*2 D13: ES / D1: OE
*3 M84: ES / M56: OE
*4 D42: ES / D31: OE

CON-NECTOR NUMBER	CONNECT TO
M13	Door mirror remote control switch (RHD models)
M14	ESP off switch (Terminal No. 2) (RHD models)
M14	ESP off switch (Terminal No. 4) (RHD models)
M17	Data link connector (Terminal No. 4) (RHD models)
M17	Data link connector (Terminal No. 5) (RHD models)
M22	Combination meter (Terminal No. 21) • Unified meter control unit
M22	Combination meter (Terminal No. 22) • Unified meter control unit
M22	Combination meter (Terminal No. 23) • Unified meter control unit
M32	Combination switch (RHD models)
M35	NATS antenna amp. (With Intelligent Key system)
M36	NATS antenna amp. (Without Intelligent Key system)
M48	BCM (Body control module) (Terminal No. 2) (LHD models)
M50	BCM (Body control module) (Terminal No. 70) (LHD models)
M59	Power socket
M72	After market alarm unit (Option connector) (RHD models)
M78	Oil level warning unit (With diesel engine)
R2	Interior room lamp
R3	Rain sensor (With rain sensor)
R5	Sunroof motor assembly (With sunroof)
D7	Power window main switch (RHD models)
D10	Door request switch (Driver side) (RHD models with Intelligent Key system)
D33	Door mirror actuator (Passenger side) (With door mirror defogger)
D37	Front power window switch (Passenger side) (LHD models)
D39	Door request switch (Passenger side) (LHD models with Intelligent Key system)

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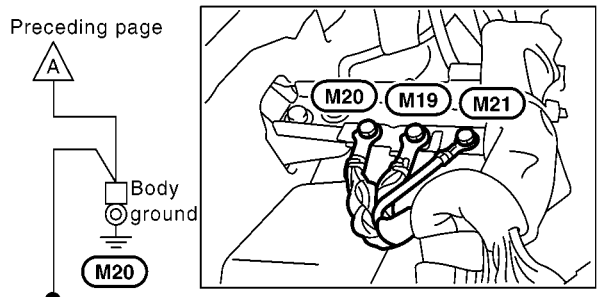
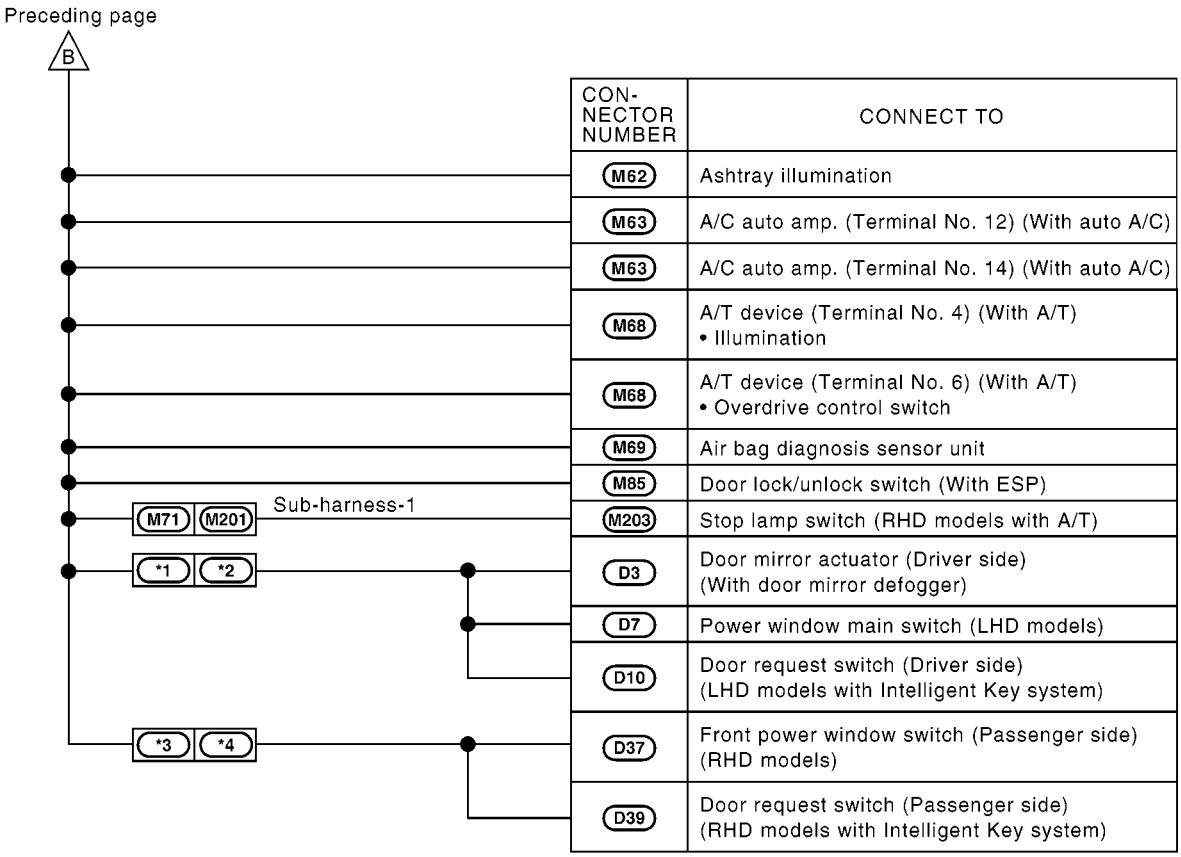


CON-NECTOR NUMBER	CONNECT TO
M11	Headlamp aiming switch (Terminal No. 2)
M11	Headlamp aiming switch (Terminal No. 4)
M12	Headlamp washer switch (Terminal No. 2) (With headlamp washer)
M12	Headlamp washer switch (Terminal No. 4) (With headlamp washer)
M13	Door mirror remote control switch (LHD models)
M14	ESP off switch (Terminal No. 2) (LHD models)
M14	ESP off switch (Terminal No. 4) (LHD models)
M17	Data link connector (Terminal No. 4) (LHD models)
M17	Data link connector (Terminal No. 5) (LHD models)
M28	Drive computer
M32	Combination switch (LHD models)
M37	Clutch interlock switch (With M/T and Intelligent Key system)
M42	Fan control amp. (With auto A/C)
M45	Thermal control amplifier (With manual A/C)
M48	BCM (Body control module) (Terminal No. 2) (RHD models)
M50	BCM (Body control module) (Terminal No. 70) (RHD models)
M51	Intelligent Key unit (With Intelligent Key system)
M58	Heater control panel (Terminal No. 6) (Without auto A/C)
M58	Heater control panel (Terminal No. 7) (Without auto A/C)
M58	Heater control panel (Terminal No. 10) (Without auto A/C)
M61	Hazard switch (Terminal No. 1)
M61	Hazard switch (Terminal No. 4)

B
Next page

MKWA1846E



CON-NECTOR NUMBER	CONNECT TO
M62	Ashtray illumination
M63	A/C auto amp. (Terminal No. 12) (With auto A/C)
M63	A/C auto amp. (Terminal No. 14) (With auto A/C)
M68	A/T device (Terminal No. 4) (With A/T) • Illumination
M68	A/T device (Terminal No. 6) (With A/T) • Overdrive control switch
M69	Air bag diagnosis sensor unit
M85	Door lock/unlock switch (With ESP)
M203	Stop lamp switch (RHD models with A/T)
D3	Door mirror actuator (Driver side) (With door mirror defogger)
D7	Power window main switch (LHD models)
D10	Door request switch (Driver side) (LHD models with Intelligent Key system)
D37	Front power window switch (Passenger side) (RHD models)
D39	Door request switch (Passenger side) (RHD models with Intelligent Key system)

ES : With ESP
OE : Without ESP

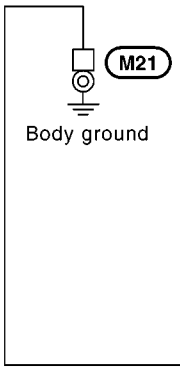
*1 M87: ES
M6: OE

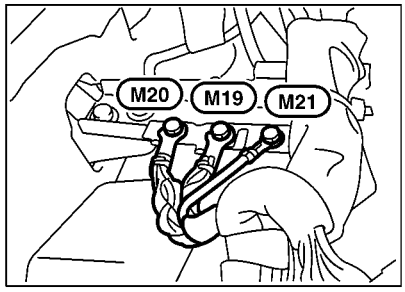
*2 D13: ES
D1: OE

*3 M84: ES
M56: OE

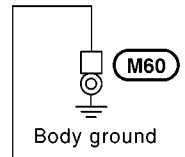
*4 D42: ES
D31: OE

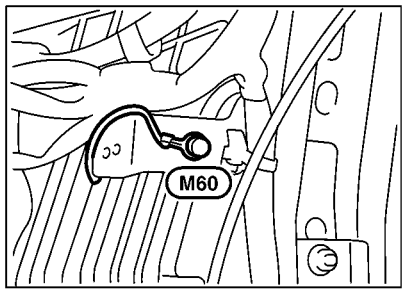
MKWA1847E





CON-NECTOR NUMBER	CONNECT TO
M24	EPS control unit



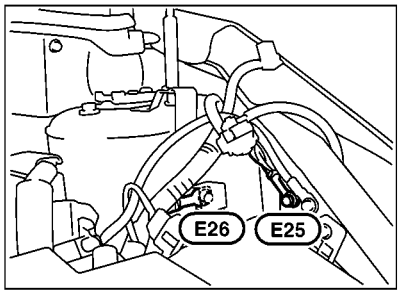


CON-NECTOR NUMBER	CONNECT TO
M27	Audio unit (Terminal No. 38) (With audio unit)
M27	Audio and NAVI control unit (Terminal No. 38) (With NAVI control unit)

MKWA1315E

ENGINE ROOM HARNESS

SMA for VIN >SJN**AK12U1309269



CON-NECTOR NUMBER	CONNECT TO
E49	ECM (Terminal No. 115)
E49	ECM (Terminal No. 116)
E106	TCM (Transmission control module) (Terminal No. 25) (With A/T)
E106	TCM (Transmission control module) (Terminal No. 48) (With A/T)
F2	ECM (Terminal No. 1)
F16	Shield wire (Manifold absolute pressure sensor) (For circuit from terminal No. 1)
F39	Shield wire [Electric throttle control actuator (Throttle position sensor)] (For circuit from terminal No. 1, 2, 4, 5)
F39	Shield wire [Electric throttle control actuator (Throttle control motor)] (For circuit from terminal No. 3, 6)

MKWA1497E

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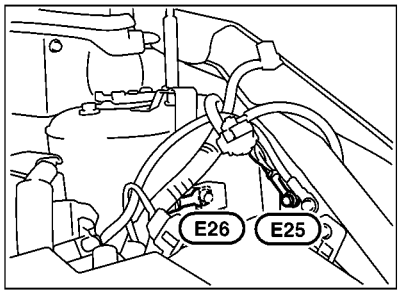
C



E26

Body ground

CON-NECTOR NUMBER	CONNECT TO
E2	Daytime light relay (With daytime light system)
E3	Cooling fan motor (Gasoline engine with A/C)
E3	Cooling fan motor-1 (Diesel engine with A/C and with PTC heater)
E4	Cooling fan motor (Gasoline engine without A/C)
E4	Cooling fan motor-2 (Diesel engine without A/C)
E8	Front turn signal lamp LH
E11	IPDM E/R (Intelligent power distribution module engine room) (Terminal No. 3)
E16	IPDM E/R (Intelligent power distribution module engine room) (Terminal No. 54)
E20	Headlamp aiming motor LH
E24	Side turn signal lamp LH
E34	Front fog lamp RH (With front fog lamp)
E37	Parking lamp RH
E42	Headlamp RH (Without daytime light system)
E43	Brake fluid level switch
E63	Cooling fan motor-2 (With PTC heater)
E109	Stop lamp switch (LHD models with A/T)
F129	Compressor (With diesel engine)

Engine control harness
(With diesel engine)

E60 F101

D
Next page

MKWA1498E

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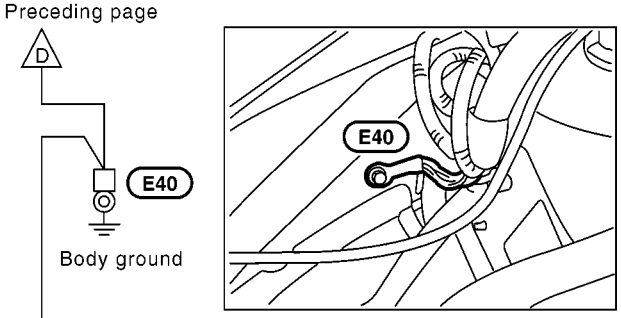
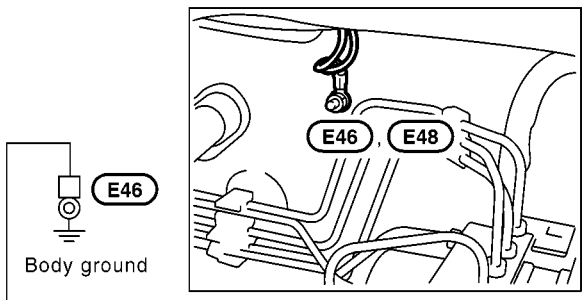
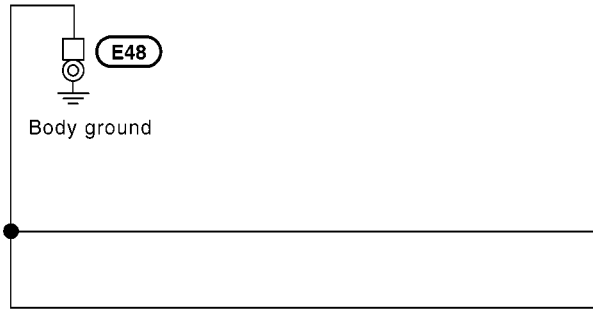


CON-NECTOR NUMBER	CONNECT TO
E7	Front fog lamp LH (With front fog lamp)
E21	Headlamp LH
E22	Parking lamp LH
E27	Shield wire (Crash zone sensor) (For circuit from terminal No. 1, 2)
E30	Horn
E32	Front turn signal lamp RH
E33	Headlamp washer motor (With headlamp washer)
E35	Side turn signal lamp RH
E39	Headlamp aiming motor RH
E44	Front wiper motor



CON-NECTOR NUMBER	CONNECT TO
E45	ABS actuator and electric unit (Control unit) (Terminal No. 1) (Without ESP)
E45	ABS actuator and electric unit (Control unit) (Terminal No. 4) (Without ESP)

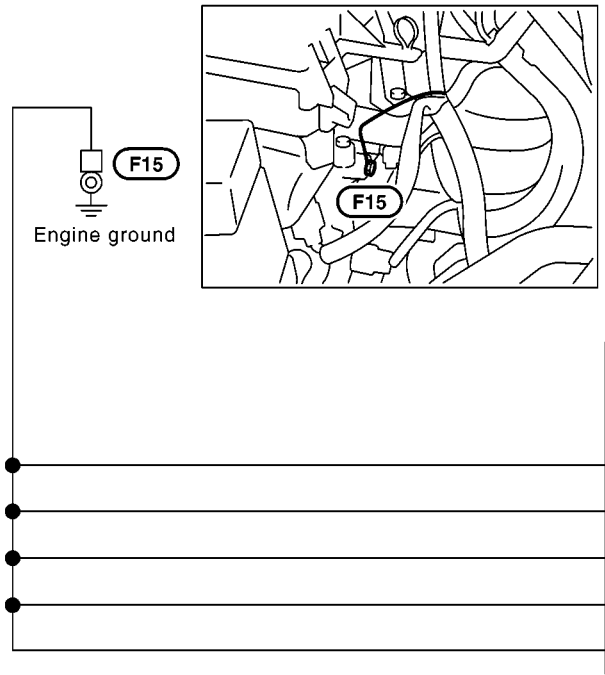


CON-NECTOR NUMBER	CONNECT TO
E47	ABS actuator and electric unit (Control unit) (Terminal No. 1) (With ESP)
E47	ABS actuator and electric unit (Control unit) (Terminal No. 4) (With ESP)

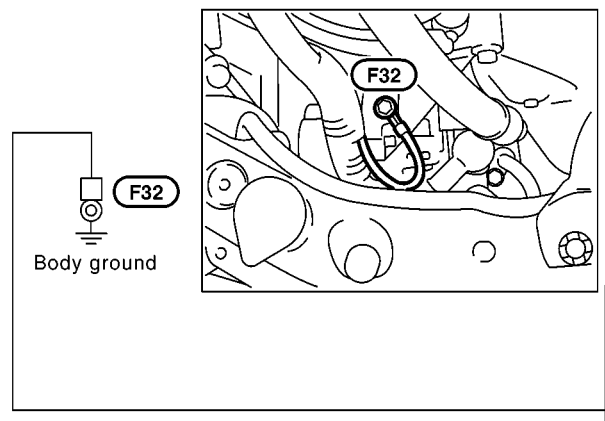
MKWA1848E

ENGINE CONTROL HARNESS/CR ENGINE MODELS

SMA for VIN >SJN**AK12U1309269



CON-NECTOR NUMBER	CONNECT TO
F26	Condenser
F33	Ignition coil No. 1 (With power transistor)
F34	Ignition coil No. 2 (With power transistor)
F35	Ignition coil No. 3 (With power transistor)
F36	Ignition coil No. 4 (With power transistor)

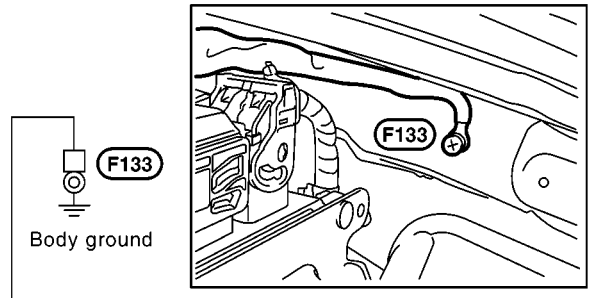


CON-NECTOR NUMBER	CONNECT TO
F31	Alternator (E)

MKWA1319E

ENGINE CONTROL HARNESS/K9K ENGINE MODELS

SMA for VIN >SJN**AK12U1309269

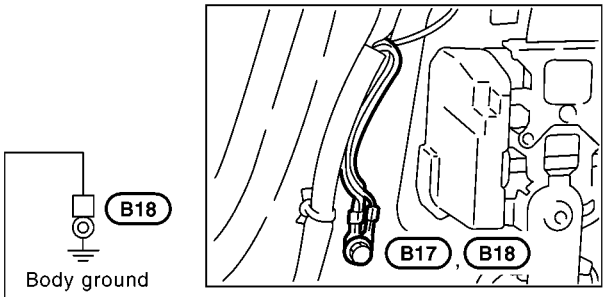


CON-NECTOR NUMBER	CONNECT TO
F134	ECM (Terminal No. 111)
F134	ECM (Terminal No. 112)

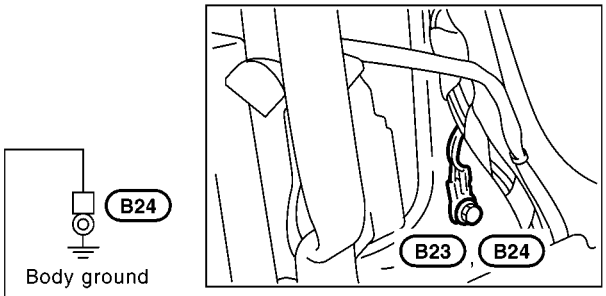
MKWA1500E

BODY HARNESS

SMA for VIN >SJN**AK12U1309269

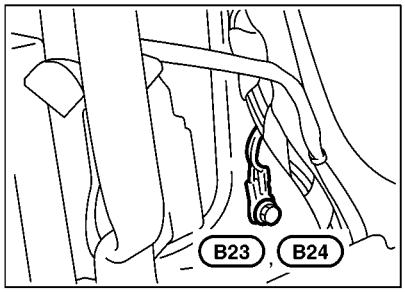


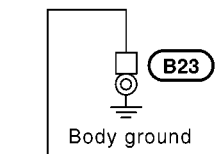
CON-NECTOR NUMBER	CONNECT TO
B13	Shield wire [RH side air bag (Satellite) sensor] (For circuit from terminal No. 1, 2)



CON-NECTOR NUMBER	CONNECT TO
B19	Shield wire [LH side air bag (Satellite) sensor] (For circuit from terminal No. 1, 2)

MKWA1320E



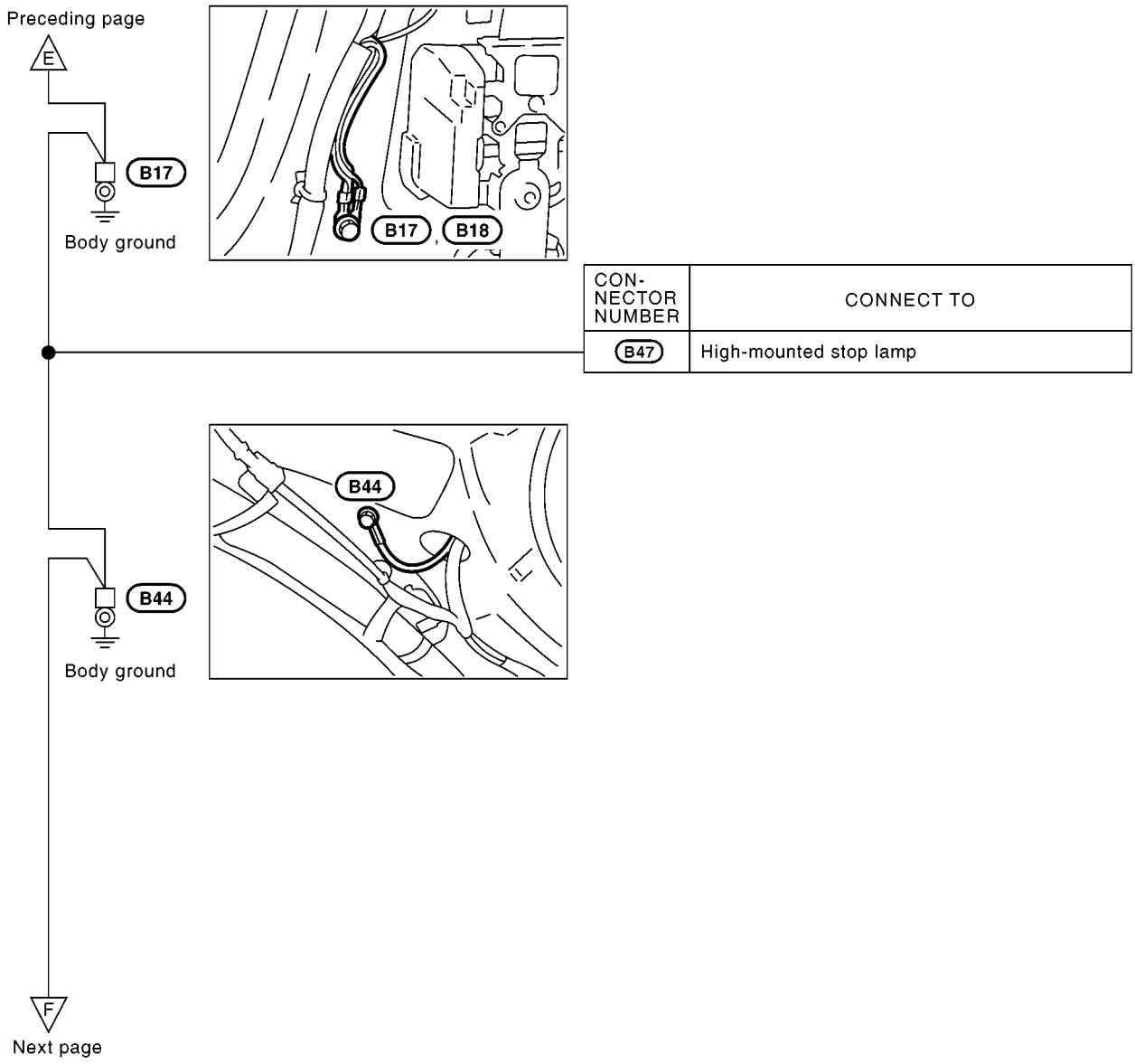


CON-NECTOR NUMBER	CONNECT TO
B5	Seat belt buckle switch RH
B6	Heated seat RH (With heated seat)
B10	Seat belt buckle switch LH
B11	Heated seat LH (With heated seat)
B28	Fuel level sensor unit and fuel pump (With gasoline engine) • Fuel pump
B36	Rear combination lamp RH
B37	Rear combination lamp LH
B38	License plate lamp
B56	Heated seat switch RH (Terminal No. 4) (With heated seat)
B56	Heated seat switch RH (Terminal No. 6) (With heated seat)
B57	Heated seat switch LH (Terminal No. 4) (With heated seat)
B57	Heated seat switch LH (Terminal No. 6) (With heated seat)
B58	Door lock/unlock switch (Without ESP)

E

Next page

MKWA1849E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E
B17
Body ground
B17
B18
CON-
NECTOR
NUMBER
CONNECT TO
B47
High-mounted stop lamp
B44
B44
Body ground
F
Next page

MKWA1322E

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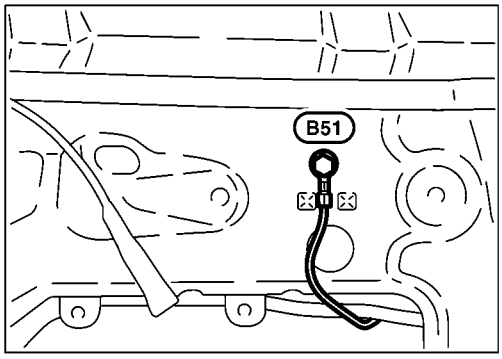
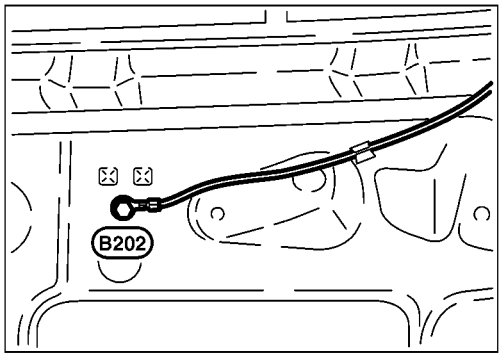
F

CON-NECTOR NUMBER	CONNECT TO
B52	External back door release switch
B53	Rear wiper motor
B54	Door request switch (Back door) (With Intelligent Key system)
B55	Back door release actuator (Terminal No. 2) • Back door switch
B55	Back door release actuator (Terminal No. 4) • Release motor

B51

Body ground





B202

Body ground

CON-NECTOR NUMBER	CONNECT TO
B201	Rear window defogger

MKWA1323E

HARNESS

PFP:00011

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

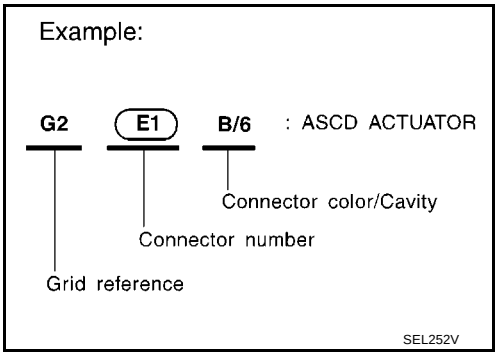
Harness Layout

EKS0079B

HOW TO READ HARNESS LAYOUTS

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

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



To use the grid reference

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

SMA for VIN >SJN**AK12U1337130

CONNECTOR SYMBOL

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

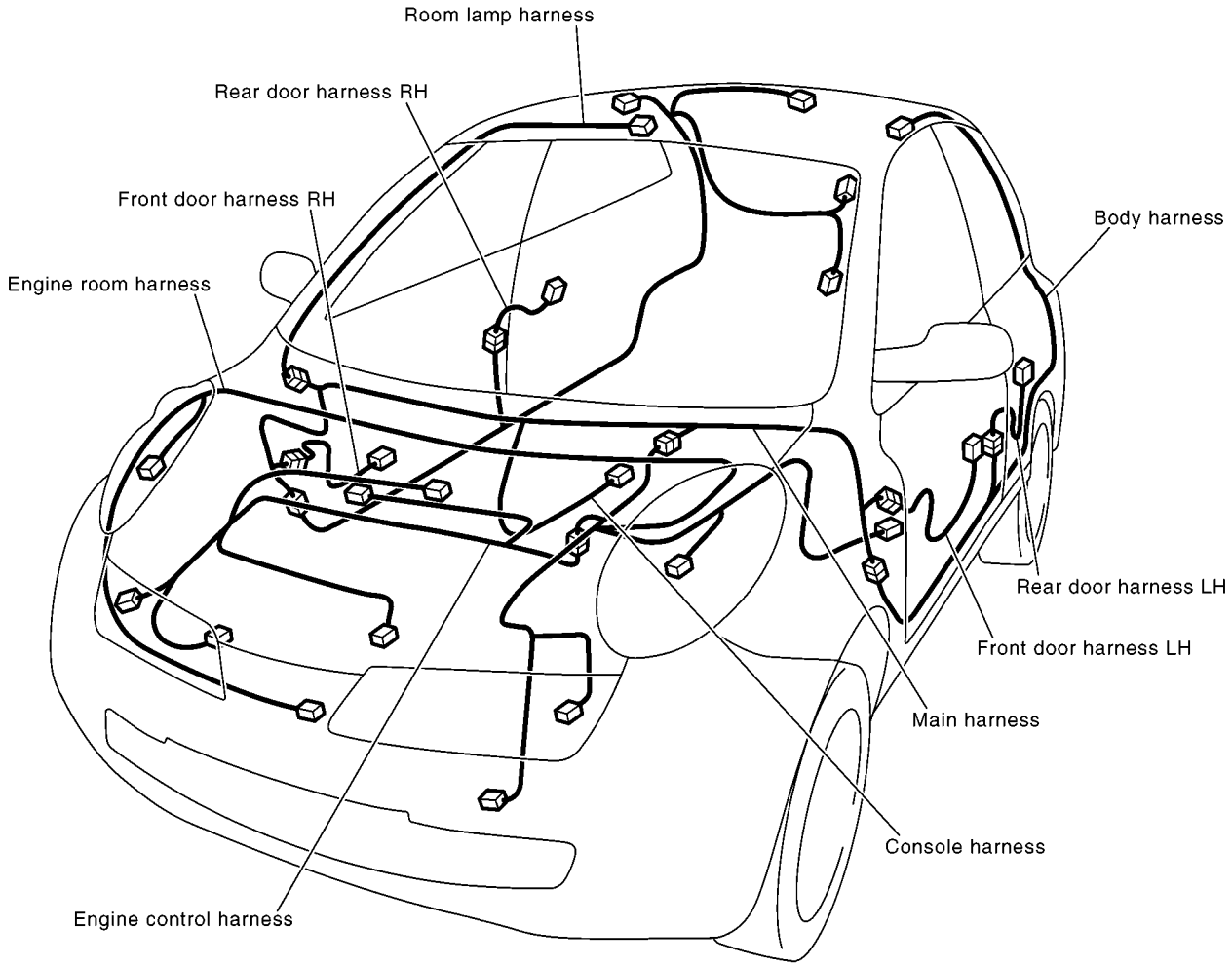
Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
• Cavity: Less than 4 • Relay connector				
• Cavity: From 5 to 8				
• Cavity: More than 9	—	—		
• Ground terminal etc.	—			

SKIA0404E

OUTLINE/CR ENGINE MODELS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1337130

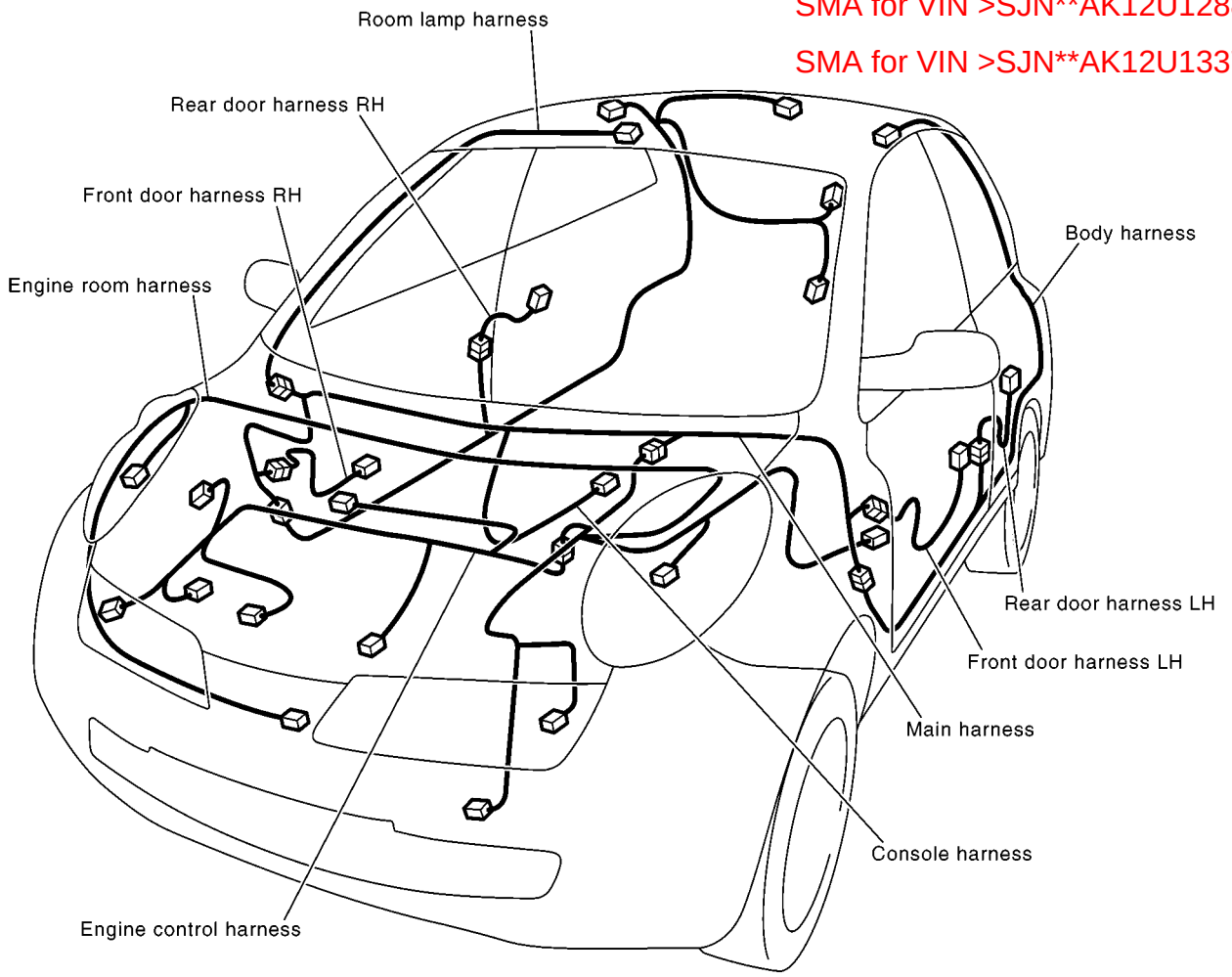


MKWA1354E

OUTLINE/K9K ENGINE MODELS

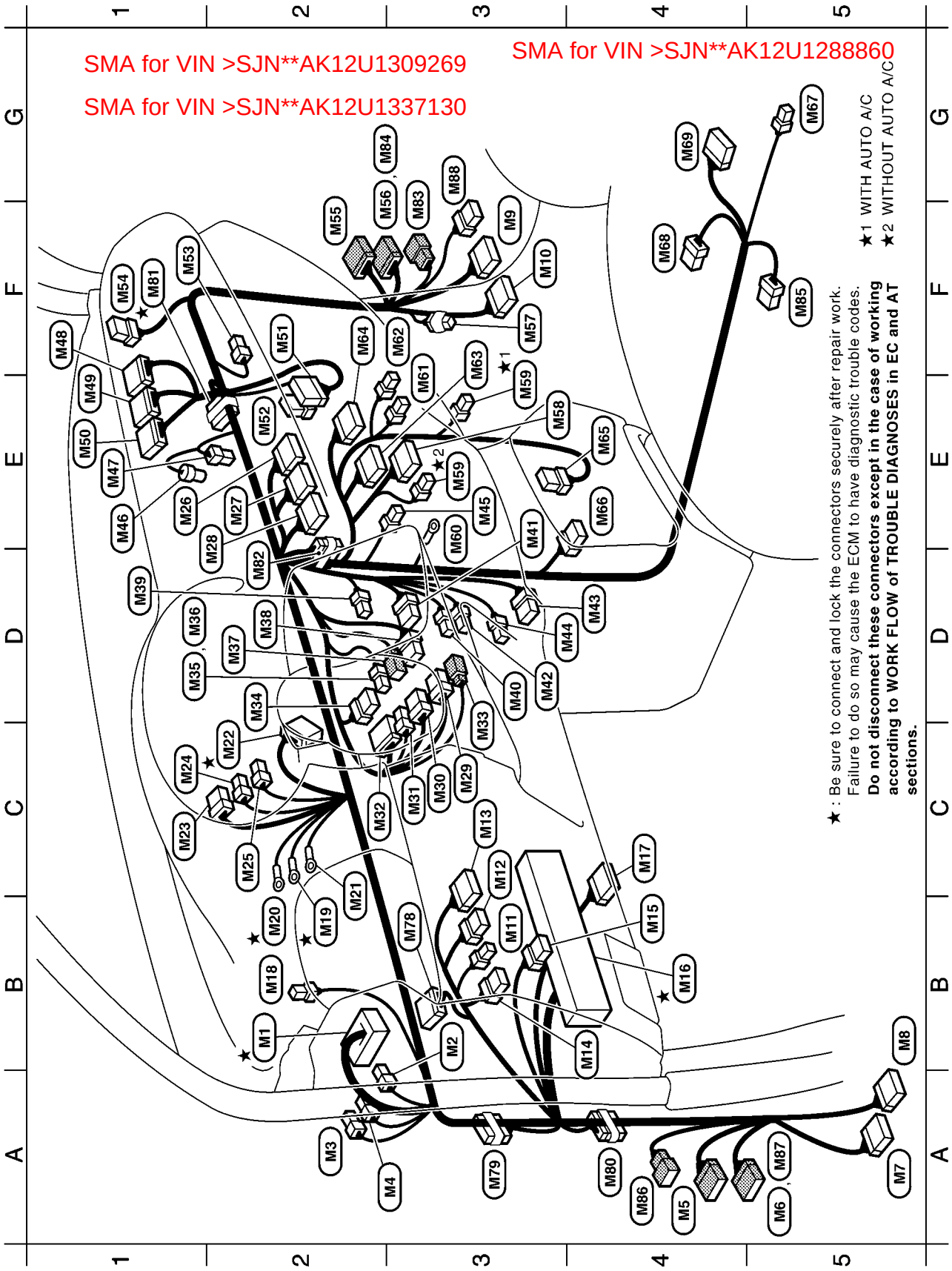
SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1337130



MKWA1490E

MAIN HARNESS/LHD MODELS



MKWA1852E

B2 ★	M1	SMJ	:	To E101
B3	M2	Y/4	:	To E102 (Without ESP)
A2	M3	B/2	:	To E103
A3	M4	W/2	:	To E104 (With headlamp washer without ESP)
A4	M5	W/12	:	To D2 (Without ESP)
A5	M6	W/10	:	To D1 (Without ESP)
A5	M7	W/12	:	To B4
B5	M8	W/10	:	To B3 (Without ESP)
F3	M9	W/24	:	To B2
F3	M10	W/10	:	To B1 (Without ESP)
B3	M11	W/4	:	Headlamp aiming switch
C3	M12	GY/8	:	Headlamp washer switch (With headlamp washer)
C3	M13	W/10	:	Door mirror remote control switch
B4	M14	GY/6	:	ESP off switch
B4	M15	W/5	:	Headlamp washer relay (With headlamp washer without ESP)
B4 ★	M16	–	:	Fuse block (J/B)
C4	M17	W/16	:	Data link connector
B2	M18	W/2	:	Sunload sensor (With auto A/C)
B2 ★	M19	–	:	Body ground
B2 ★	M20	–	:	Body ground
C2	M21	–	:	Body ground
C2 ★	M22	W/40	:	Combination meter
C1	M23	W/6	:	EPS control unit
C1	M24	W/1	:	EPS control unit
C2	M25	B/1	:	EPS control unit
E1	M26	–/20	:	Audio unit or NAVI control unit
E2	M27	B/16	:	Audio unit or NAVI control unit
E2	M28	W/12	:	Drive computer (With drive computer)
C3	M29	GY/8	:	Combination switch (Spiral cable) (Steering switch)
C3	M30	Y/6	:	Combination switch (Spiral cable) (Air bag)
C3	M31	W/4	:	Steering lock unit (With Intelligent Key system)
C2	M32	W/16	:	Combination switch
C3	M33	W/2	:	Key switch (Without Intelligent Key system)
D2	M34	GY/6	:	Key switch and ignition knob switch (With Intelligent Key system)
D2	M35	GY/4	:	NATS antenna amp. (With Intelligent Key system)
D2	M36	–/4	:	NATS antenna amp. (Without Intelligent Key system)
D2	M37	BR/2	:	Clutch interlock switch (With M/T and Intelligent Key system)
D2	M38	W/6	:	Ignition switch
D1	M39	W/2	:	In-vehicle sensor (With auto A/C)
D3	M40	W/4	:	Fan resistor (Without auto A/C)
E3	M41	G/6	:	Fan control amp. (With auto A/C)
D3	M42	G/2	:	Fan control amp. (With auto A/C)
D4	M43	B/6	:	Intake door motor (With auto A/C)
D4	M44	W/3	:	Intake sensor (With auto A/C)
E3	M45	W/3	:	Thermal control amplifier (With manual A/C)
E1	M46	B/2	:	Blower motor (Without A/C)
E1	M47	–/2	:	Blower motor (With A/C)
F1	M48	W/40	:	BCM (Body control module)
E1	M49	W/24	:	BCM (Body control module)
E1	M50	B/15	:	BCM (Body control module)
F2	M51	W/40	:	Intelligent Key unit (With Intelligent Key system)
E2	M52	W/5	:	Door lock/unlock relay (With Intelligent Key system)
F1	M53	Y/2	:	Front passenger air bag module
F1	M54	W/8	:	To R1
F2	M55	W/12	:	To D32 (Without ESP)
F2	M56	W/10	:	To D31 (Without ESP)
F3	M57	W/1	:	Towbar kit
E3	M58	W/15	:	Heater control panel (Without auto A/C)
E3	M59	B/2	:	Power socket
E3	M60	–	:	Body ground
E3	M61	W/4	:	Hazard switch
F3	M62	W/2	:	Ashtray illumination
F3	M63	B/18	:	A/C auto amp. (With auto A/C)
F2	M64	W/18	:	A/C auto amp. (With auto A/C)
E4	M65	B/6	:	Mode door motor (With auto A/C)
E4	M66	B/6	:	Air mix door motor (With auto A/C)
G5	M67	B/1	:	Parking brake switch
F4	M68	W/6	:	A/T device (With A/T)
G4	M69	Y/20	:	Air bag diagnosis sensor unit
B3	M78	W/12	:	Oil level warning unit (With diesel engine)
A3	M79	W/20	:	Joint connector-1
A4	M80	W/20	:	Joint connector-2
F1 ★	M81	L/20	:	Joint connector-3
D2	M82	L/20	:	Joint connector-4
G3	M83	GY/6	:	To D41 (With ESP)
G2	M84	W/12	:	To D42 (With ESP)
F5	M85	W/6	:	Door lock/unlock switch (With ESP)
A4	M86	GY/6	:	To D12 (With ESP)
A5	M87	W/12	:	To D13 (With ESP)
G3	M88	W/6	:	To B60 (With ESP)

★ : 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.

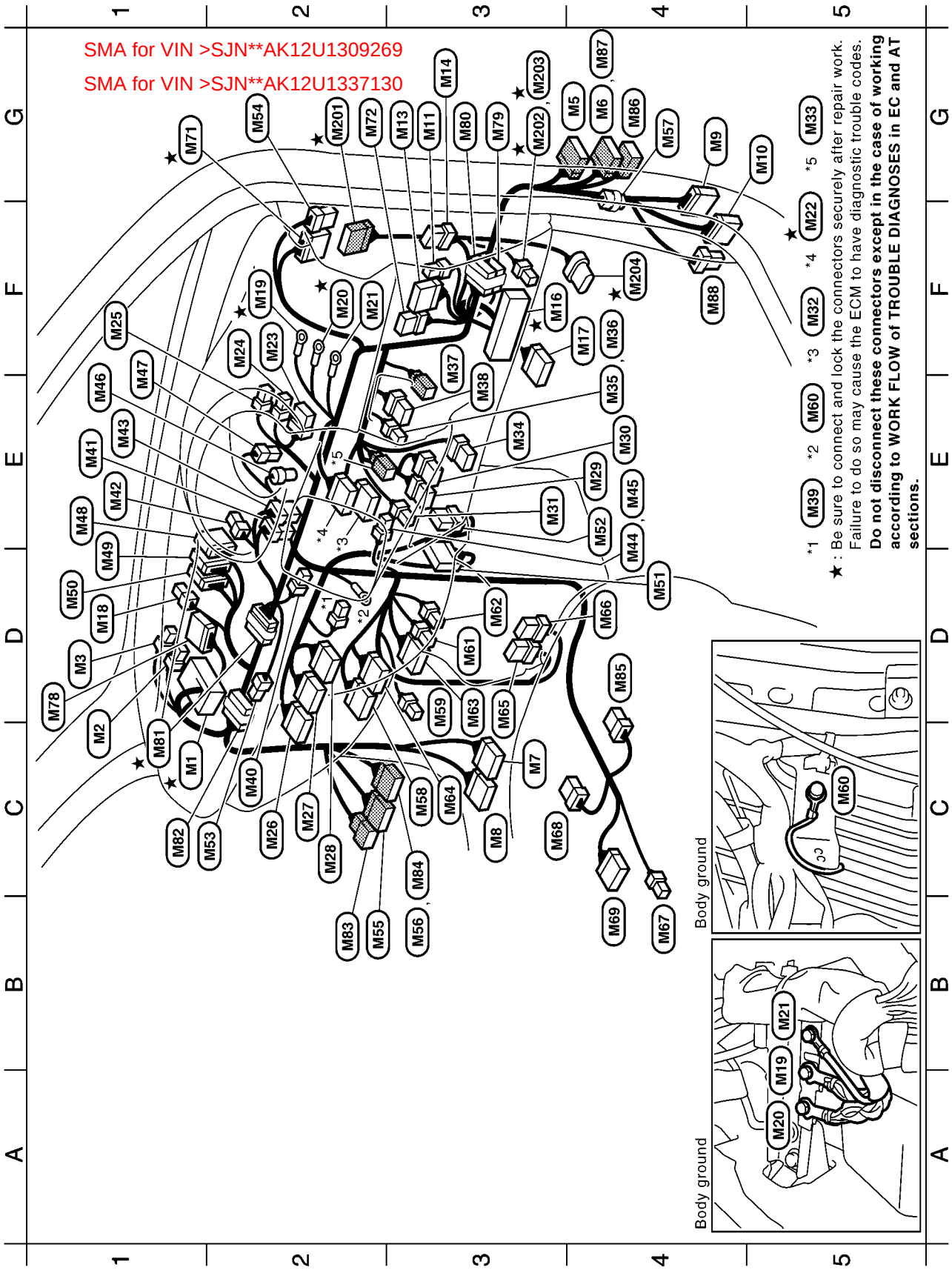
MKWA1853E

MAIN HARNESS/RHD MODELS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



MKWA1854E

C1 ★	M1	SMJ	:	To E101
C1	M2	Y/4	:	To E102 (Without ESP)
D1	M3	B/2	:	To E103
G4	M5	W/12	:	To D2 (Without ESP)
G4	M6	W/10	:	To D1 (Without ESP)
C3	M7	W/12	:	To B4
C3	M8	W/10	:	To B3 (Without ESP)
G4	M9	W/24	:	To B2
G5	M10	W/10	:	To B1
G3	M11	W/4	:	Headlamp aiming switch
G3	M13	W/10	:	Door mirror remote control switch
G3	M14	GY/6	:	ESP off switch
F3 ★	M16	–	:	Fuse block (J/B)
F4	M17	W/16	:	Data link connector
D1	M18	W/2	:	Sunload sensor (With auto A/C)
F2 ★	M19	–	:	Body ground
F2 ★	M20	–	:	Body ground
F2	M21	–	:	Body ground
F5 ★	M22	W/40	:	Combination meter
F2	M23	W/6	:	EPS control unit
F2	M24	W/1	:	EPS control unit
F1	M25	B/1	:	EPS control unit
C2	M26	–/20	:	Audio unit or NAVI control unit
C2	M27	B/16	:	Audio unit or NAVI control unit
C2	M28	W/12	:	Drive computer (With drive computer)
E4	M29	GY/8	:	Combination switch (Spiral cable) (Steering switch)
E4	M30	Y/6	:	Combination switch (Spiral cable) (Air bag)
E3	M31	W/4	:	Steering lock unit (With Intelligent Key system)
F5	M32	W/16	:	Combination switch
G5	M33	W/2	:	Key switch (Without Intelligent Key system)
E3	M34	GY/6	:	Key switch and ignition knob switch (With Intelligent Key system)
E4	M35	GY/4	:	NATS antenna amp. (With Intelligent Key system)
F4	M36	–/4	:	NATS antenna amp. (Without Intelligent Key system)
F3	M37	BR/2	:	Clutch interlock switch (With M/T and Intelligent Key system)
E3	M38	W/6	:	Ignition switch
E5	M39	W/2	:	In-vehicle sensor (With auto A/C)
C2	M40	W/4	:	Fan resistor (Without auto A/C)
E1	M41	G/6	:	Fan control amp. (With auto A/C)
E1	M42	G/2	:	Fan control amp. (With auto A/C)
E1	M43	B/6	:	Intake door motor (With auto A/C)
D4	M44	W/3	:	Intake sensor (With auto A/C)
E4	M45	W/3	:	Thermal control amplifier (With manual A/C)
E1	M46	B/2	:	Blower motor (Without A/C)
F1	M47	–/2	:	Blower motor (With A/C)
E1	M48	W/40	:	BCM (Body control module)
D1	M49	W/24	:	BCM (Body control module)
D1	M50	B/15	:	BCM (Body control module)
D4	M51	W/40	:	Intelligent Key unit (With Intelligent Key system)
E4	M52	W/5	:	Door lock/unlock relay (With Intelligent Key system)
C2	M53	Y/2	:	Front passenger air bag module
G2	M54	W/8	:	To R1
B2	M55	W/12	:	To D32 (Without ESP)
B3	M56	W/10	:	To D31 (Without ESP)
G4	M57	W/1	:	Towbar kit
C3	M58	W/15	:	Heater control panel (Without auto A/C)
D3	M59	B/2	:	Power socket
E5	M60	–	:	Body ground
D3	M61	W/4	:	Hazard switch
D3	M62	W/2	:	Ashtray illumination
D3	M63	B/18	:	A/C auto amp. (With auto A/C)
C3	M64	W/18	:	A/C auto amp. (With auto A/C)
D3	M65	B/6	:	Mode door motor (With auto A/C)
D4	M66	B/6	:	Air mix door motor (With auto A/C)
B4	M67	B/1	:	Parking brake switch
C3	M68	W/6	:	A/T device (With A/T)
B4	M69	Y/20	:	Air bag diagnosis sensor unit
G1 ★	M71	W/10	:	To M201
G2	M72	W/6	:	After market alarm unit (Option connector)
D1	M78	W/12	:	Oil level warning unit (With diesel engine)
G3	M79	W/20	:	Joint connector-1
G3	M80	W/20	:	Joint connector-2
C1 ★	M81	L/20	:	Joint connector-3
C1	M82	L/20	:	Joint connector-4
B2	M83	GY/6	:	To D41 (With ESP)
C3	M84	W/12	:	To D42 (With ESP)
D4	M85	W/6	:	Door lock/unlock switch (With ESP)
G4	M86	GY/6	:	To D12 (With ESP)
G4	M87	W/12	:	To D13 (With ESP)
F4	M88	W/6	:	To B60 (With ESP)

Sub-harness 1

G2 ★	M201	W/10	:	To M71
G3 ★	M202	B/2	:	Stop lamp switch (With M/T)
G3 ★	M203	W/4	:	Stop lamp switch (With A/T)
F4 ★	M204	B/6	:	Accelerator pedal position sensor

★ : 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.

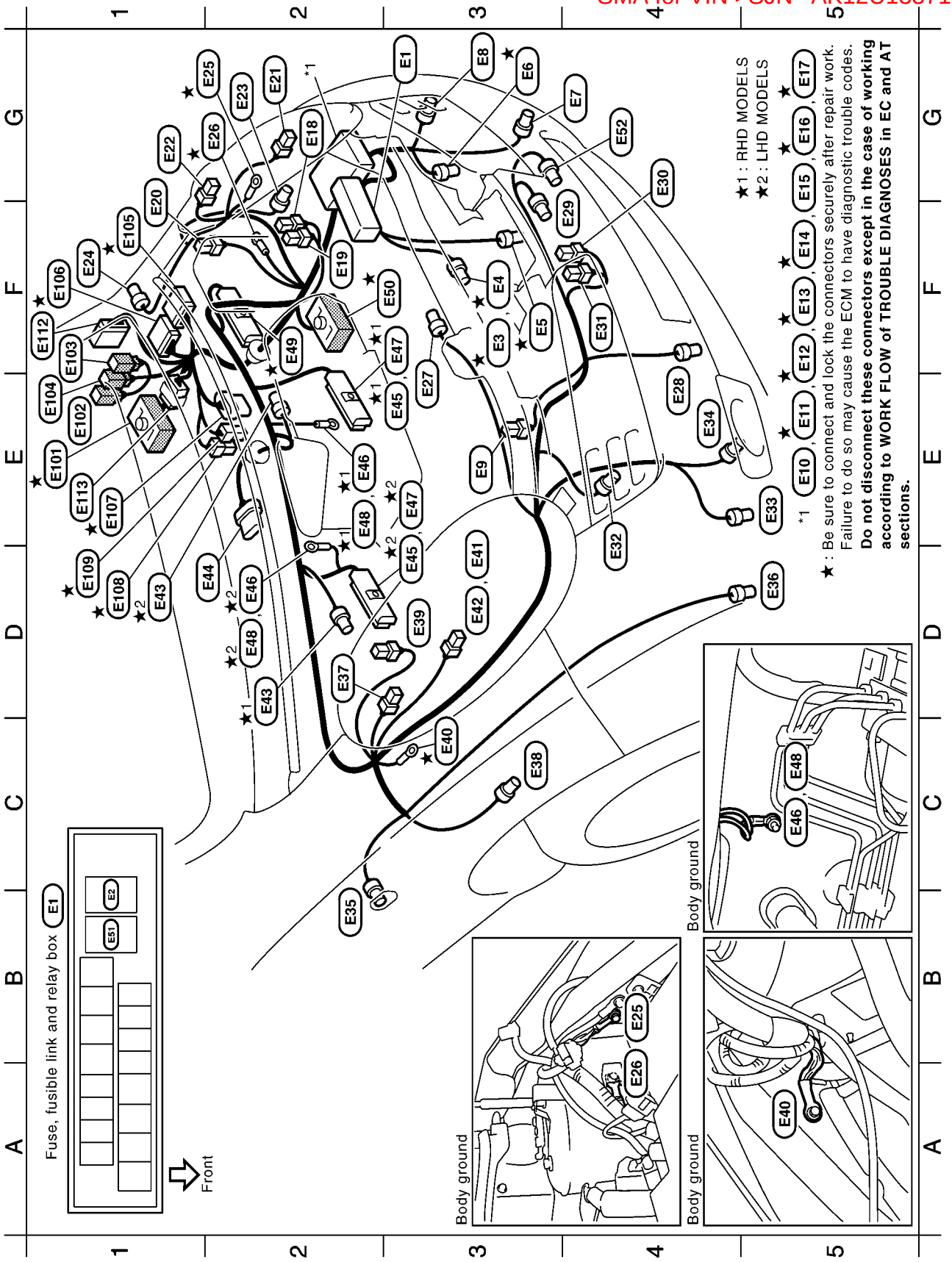
MKWA1855E

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1288860

ENGINE ROOM HARNESS/CR ENGINE MODELS

SMA for VIN >SJN**AK12U1337130



MKWA1856E

G3	E1	–	:	Fuse, fusible link and relay box
B1	E2	W/5	:	Daytime light relay (With daytime light system)
F3 ★	E3	B/2	:	Cooling fan motor (With A/C)
F3 ★	E4	–/2	:	Cooling fan motor (Without A/C)
F3 ★	E5	B/2	:	Resistor (With A/C)
G3 ★	E6	GY/2	:	Dropping resistor (With A/T)
G4	E7	B/2	:	Front fog lamp LH (With front fog lamp)
G3	E8	GY/2	:	Front turn signal lamp LH
E3	E9	B/1	:	After market alarm unit (Hood switch) (RHD models)
E5	E10	B/2	:	IPDM E/R (Intelligent power distribution module engine room)
E5 ★	E11	B/6	:	IPDM E/R (Intelligent power distribution module engine room)
F5 ★	E12	W/6	:	IPDM E/R (Intelligent power distribution module engine room)
F5 ★	E13	BR/12	:	IPDM E/R (Intelligent power distribution module engine room)
F5 ★	E14	W/16	:	IPDM E/R (Intelligent power distribution module engine room)
G5	E15	BR/8	:	IPDM E/R (Intelligent power distribution module engine room)
G5 ★	E16	W/12	:	IPDM E/R (Intelligent power distribution module engine room)
G5 ★	E17	W/8	:	IPDM E/R (Intelligent power distribution module engine room)
G2	E18	BR/2	:	Fusible link holder
F2	E19	GY/2	:	Fusible link holder
F1	E20	B/3	:	Headlamp aiming motor LH
G2	E21	B/3	:	Headlamp LH
G1	E22	B/2	:	Parking lamp LH
G2	E23	B/2	:	Front wheel sensor LH
F1	E24	W/2	:	Side turn signal lamp LH
G2 ★	E25	–	:	Body ground
G2 ★	E26	–	:	Body ground
E3	E27	Y/2	:	Crash zone sensor
E4	E28	B/3	:	Refrigerant pressure sensor (With A/C)
F4	E29	B/2	:	Ambient sensor (With A/C)
G4	E30	B/1	:	Horn (–)
F4	E31	B/1	:	Horn (+)
D4	E32	GY/2	:	Front turn signal lamp RH
E5	E33	–/2	:	Headlamp washer motor (With headlamp washer)
E4	E34	B/2	:	Front fog lamp RH (With front fog lamp)
B2	E35	–/2	:	Side turn signal lamp RH
D5	E36	B/2	:	Washer motor
D2	E37	B/2	:	Parking lamp RH
C3	E38	B/2	:	Front wheel sensor RH
D3	E39	B/3	:	Headlamp aiming motor RH
C3 ★	E40	–	:	Body ground
D3	E41	B/3	:	Headlamp RH (With daytime light system)
D3	E42	B/3	:	Headlamp RH (Without daytime light system)
D1, D2	E43	GY/2	:	Brake fluid level switch
D2	E44	GY/6	:	Front wiper motor
D3, E3	E45	B/26	:	ABS actuator and electric unit (Control unit) (Without ESP)
D2, E2	E46	–	:	Body ground (Without ESP)
E3, F3	E47	SMJ	:	ABS actuator and electric unit (Control unit) (With ESP)
D2, E2	E48	–	:	Body ground (With ESP)
F2 ★	E49	SMJ	:	ECM
F2 ★	E50	SMJ	:	To F1
B1	E51	W/3	:	Horn relay
G4	E52	B/2	:	Outside air temperature sensor (With drive computer)
E1 ★	E101	SMJ	:	To M1
E1	E102	Y/4	:	To M2 (Without ESP)
F1	E103	B/2	:	To M3
E1	E104	W/2	:	To M4 (With headlamp washer and without ESP)
F1 ★	E105	W/24	:	TCM (With A/T)
F1 ★	E106	GY/24	:	TCM (With A/T)
E1 ★	E107	B/6	:	Accelerator pedal position sensor (LHD models)
D1 ★	E108	B/2	:	Stop lamp switch (LHD models with M/T)
D1 ★	E109	W/4	:	Stop lamp switch (LHD models with A/T)
F1	E112	W/16	:	To B59 (With ESP)
E1	E113	W/5	:	Headlamp washer relay (With headlamp washer and with ESP)

★ : 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.

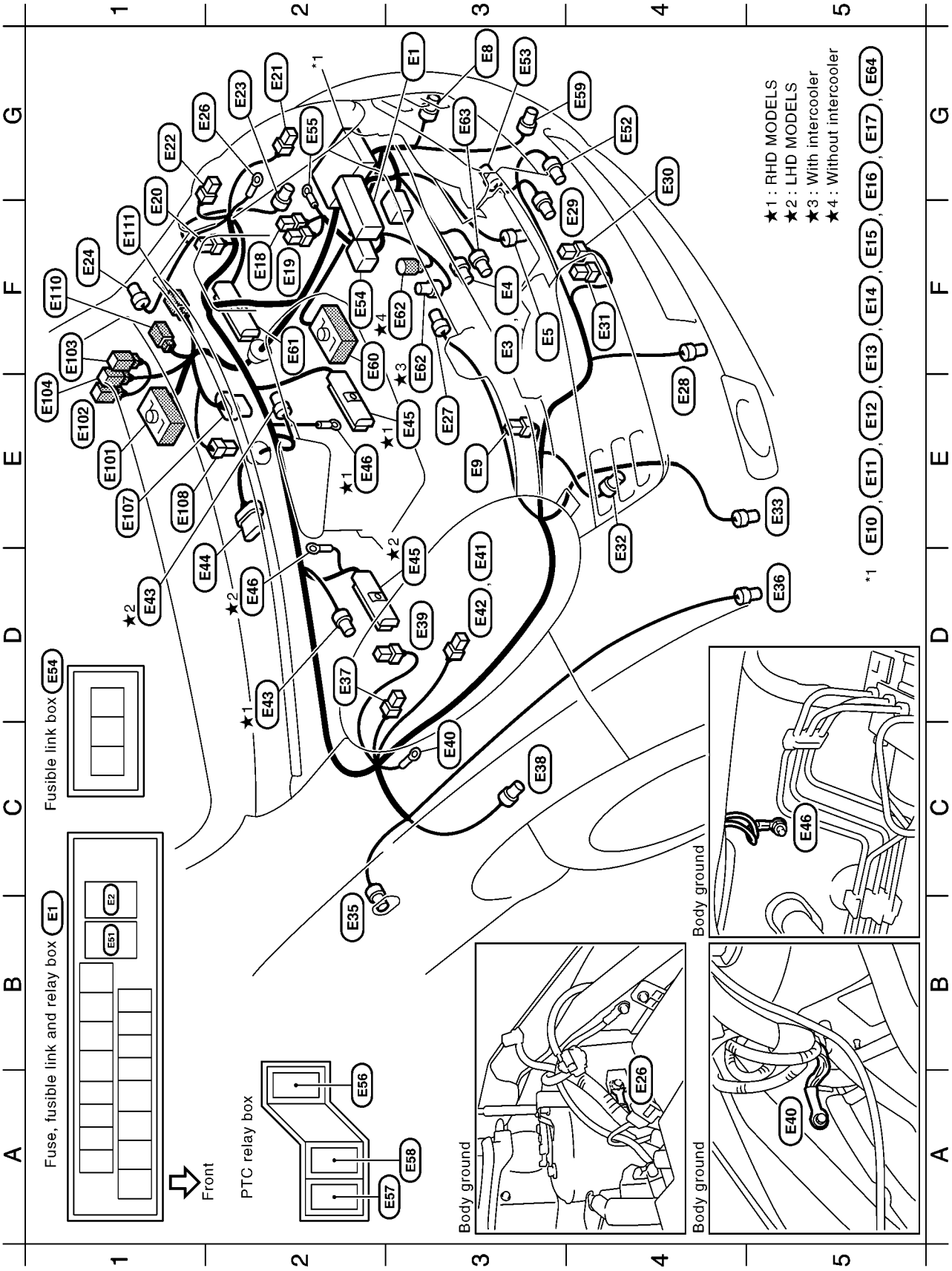
MKWA1857E

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1288860

ENGINE ROOM HARNESS/K9K ENGINE MODELS

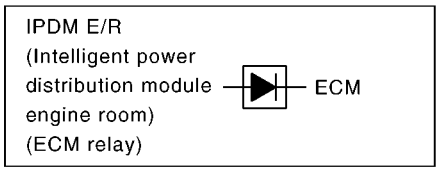
SMA for VIN >SJN**AK12U1337130



MKWA3240E

G3	E1	–	:	Fuse, fusible link and relay box
B1	E2	W/5	:	Daytime light relay (With daytime light system)
F3	E3	B/2	:	Cooling fan motor-1 (With A/C and with PTC heater)
F3	E4	–/2	:	Cooling fan motor-2 (Without A/C)
F3	E5	B/2	:	Resistor (With A/C and with PTC heater)
G3	E8	GY/2	:	Front turn signal lamp LH
E3	E9	B/1	:	After market alarm unit (Hood switch) (RHD models)
E5	E10	B/2	:	IPDM E/R (Intelligent power distribution module engine room)
E5	E11	B/6	:	IPDM E/R (Intelligent power distribution module engine room)
F5	E12	W/6	:	IPDM E/R (Intelligent power distribution module engine room)
F5	E13	BR/12	:	IPDM E/R (Intelligent power distribution module engine room)
F5	E14	W/16	:	IPDM E/R (Intelligent power distribution module engine room)
G5	E15	BR/8	:	IPDM E/R (Intelligent power distribution module engine room)
G5	E16	W/12	:	IPDM E/R (Intelligent power distribution module engine room)
G5	E17	W/8	:	IPDM E/R (Intelligent power distribution module engine room)
F2	E18	BR/2	:	Fusible link holder
F2	E19	GY/2	:	Fusible link holder
F1	E20	B/3	:	Headlamp aiming motor LH
G2	E21	B/3	:	Headlamp LH
G1	E22	B/2	:	Parking lamp LH
G2	E23	B/2	:	Front wheel sensor LH
F1	E24	W/2	:	Side turn signal lamp LH
G1	E26	–	:	Body ground
E3	E27	Y/2	:	Crash zone sensor
E4	E28	B/3	:	Refrigerant pressure sensor (With A/C)
F4	E29	B/2	:	Ambient sensor (With auto A/C)
G4	E30	B/1	:	Horn (–)
F4	E31	B/1	:	Horn (+)
D4	E32	GY/2	:	Front turn signal lamp RH
E5	E33	–/2	:	Headlamp washer motor (With headlamp washer)
B2	E35	W/2	:	Side turn signal lamp RH
D5	E36	B/2	:	Washer motor
D2	E37	B/2	:	Parking lamp RH
C3	E38	B/2	:	Front wheel sensor RH
D3	E39	B/3	:	Headlamp aiming motor RH
C3	E40	–	:	Body ground
D3	E41	B/3	:	Headlamp RH (With daytime light system)
D3	E42	B/3	:	Headlamp RH (Without daytime light system)
C2, D1	E43	GY/2	:	Brake fluid level switch
D2	E44	GY/6	:	Front wiper motor
D3, E3	E45	B/26	:	ABS actuator and electric unit (Control unit)
D2, E2	E46	–	:	Body ground
B1	E51	W/3	:	Horn relay
G4	E52	B/2	:	Outside air temperature sensor
G3	E53	B/2	:	Outside air temperature sensor (With PTC heater)
F2	E54	–	:	Fusible link box
G2	E55	–	:	Fusible link holder
A2	E56	–/4	:	PTC heater relay 1 (With PTC heater)
A3	E57	–/4	:	PTC heater relay 2 (With PTC heater)
A3	E58	–/4	:	PTC heater relay 3 (With PTC heater)
G4	E59	GY/1	:	After market front fog lamp (Option connector)
F2	E60	SMJ	:	To F101
F2	E61	SMJ	:	ECM
F3	E62	GY/1	:	To F103
G3	E63	–/2	:	Cooling fan motor-2 (With PTC heater)
G5	E64	W/2	:	Diode
E1	E101	SMJ	:	To M1
E1	E102	Y/4	:	To M2
F1	E103	B/2	:	To M3
E1	E104	W/2	:	To M4 (With headlamp washer)
E1	E107	B/6	:	Accelerator pedal position sensor (LHD models)
E1	E108	B/2	:	Stop lamp switch (LHD models)
F1	E110	B/1	:	PTC heater
F1	E111	B/2	:	PTC heater

Diode E64



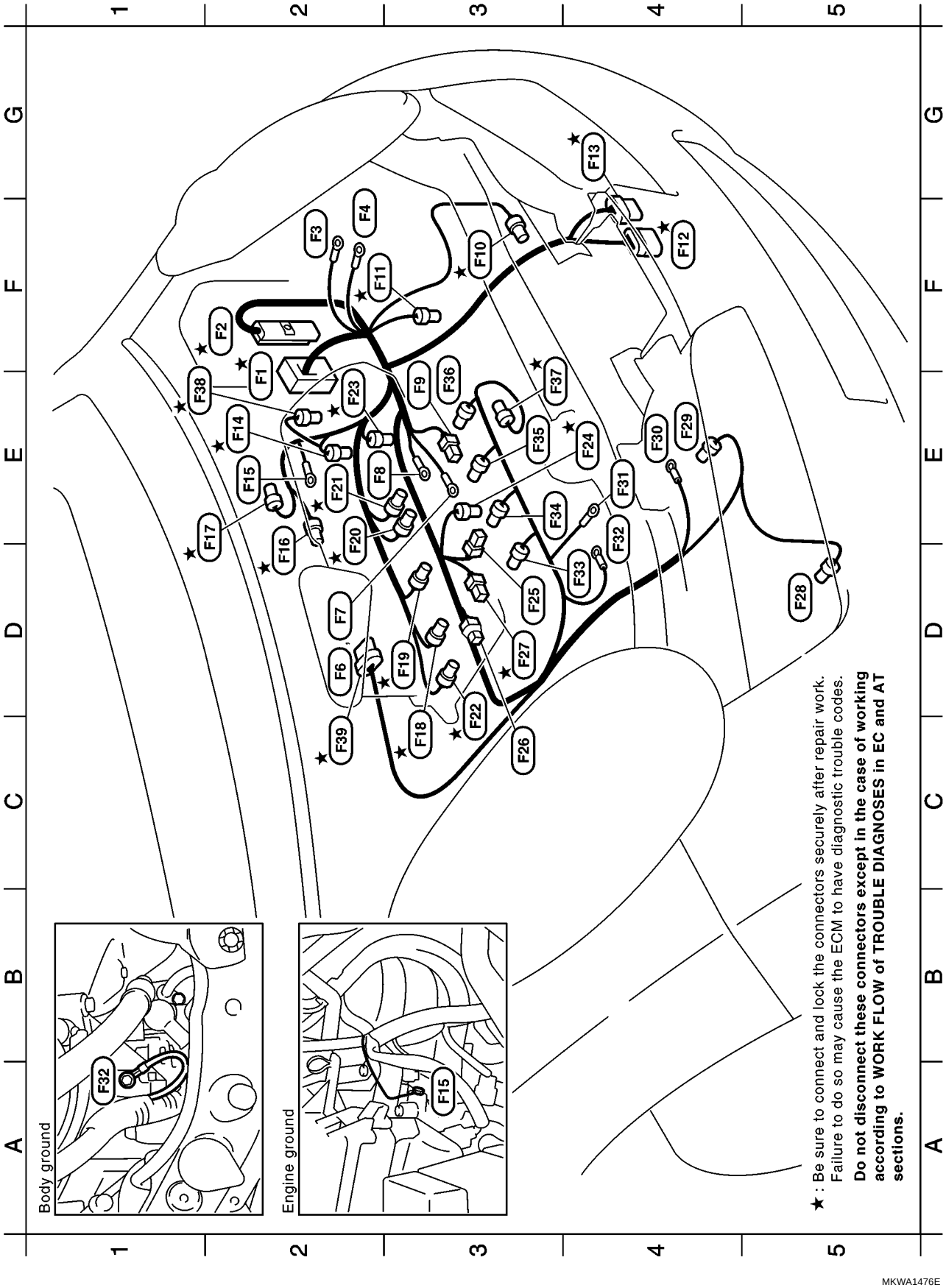
MKWA1859E

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1288860

ENGINE CONTROL HARNESS/CR ENGINE MODELS

SMA for VIN >SJN**AK12U1337130



MKWA1476E

E2	★F1	SMJ	:	To E50
F2	★F2	SMJ	:	ECM
F2	F3	–	:	Fusible link holder
F2	F4	–	:	Fusible link holder
D2	F6	–	:	Starter motor (Except for cold area)
D2	F7	–	:	Starter motor (For cold area)
E2	F8	–	:	Starter motor (Except for cold area)
E3	F9	B/1	:	Starter motor (For cold area)
F3	★F10	G/3	:	Park/neutral position switch (With M/T)
F2	★F11	BR/3	:	Revolution sensor (With A/T)
F4	★F12	B/10	:	Park/neutral position switch (With A/T)
G4	★F13	B/8	:	Terminal cord assembly (With A/T)
E2	★F14	B/3	:	Camshaft position sensor
E2	F15	–	:	Engine ground
D2	★F16	GY/4	:	Manifold absolute pressure sensor
E2	★F17	L/2	:	EVAP canister purge volume control solenoid valve
C3	★F18	GY/2	:	Injector No. 1
D3	★F19	GY/2	:	Injector No. 2
D2	★F20	GY/2	:	Injector No. 3
E2	★F21	GY/2	:	Injector No. 4
D3	★F22	G/2	:	Intake valve timing control solenoid valve
E2	★F23	GY/2	:	Engine coolant temperature sensor
E4	★F24	G/4	:	Heated oxygen sensor 2
D3	F25	B/1	:	Oil pressure switch
C3	F26	W/2	:	Condenser
D3	★F27	B/2	:	Knock sensor
D5	F28	B/1	:	Compressor (With A/C)
E4	F29	GY/2	:	Alternator
E4	F30	–	:	Alternator
E4	F31	–	:	Alternator (E)
D4	F32	–	:	Body ground
D4	F33	GY/3	:	Ignition coil No. 1
E3	F34	GY/3	:	Ignition coil No. 2
E3	F35	GY/3	:	Ignition coil No. 3
E3	F36	GY/3	:	Ignition coil No. 4
E3	★F37	G/4	:	Heated oxygen sensor 1
E2	★F38	G/3	:	Crankshaft position sensor
C2	★F39	B/6	:	Electric throttle control actuator

★ : 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.

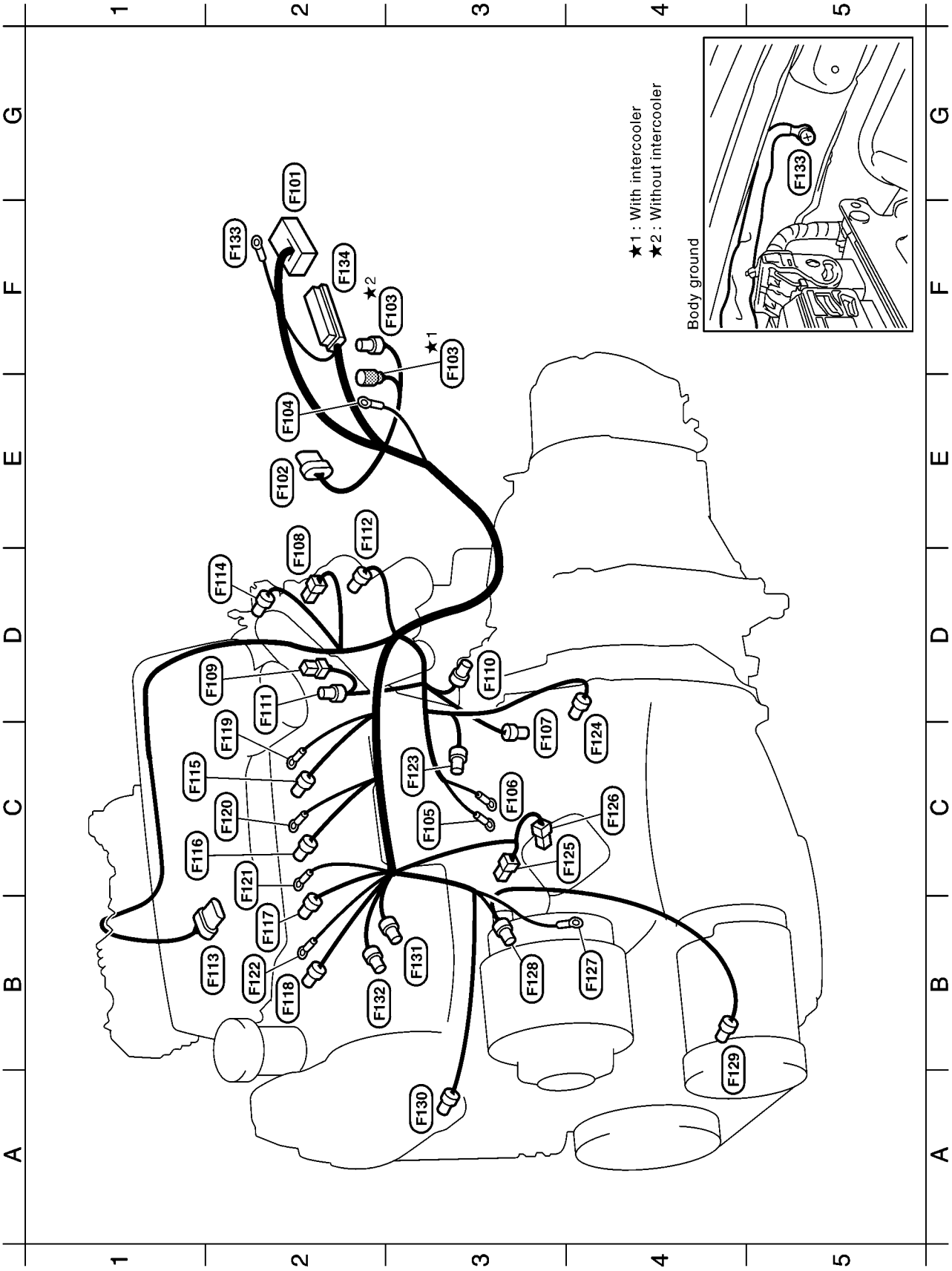
MKWA1860E

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1288860

ENGINE CONTROL HARNESS/K9K ENGINE MODELS

SMA for VIN >SJN**AK12U1337130

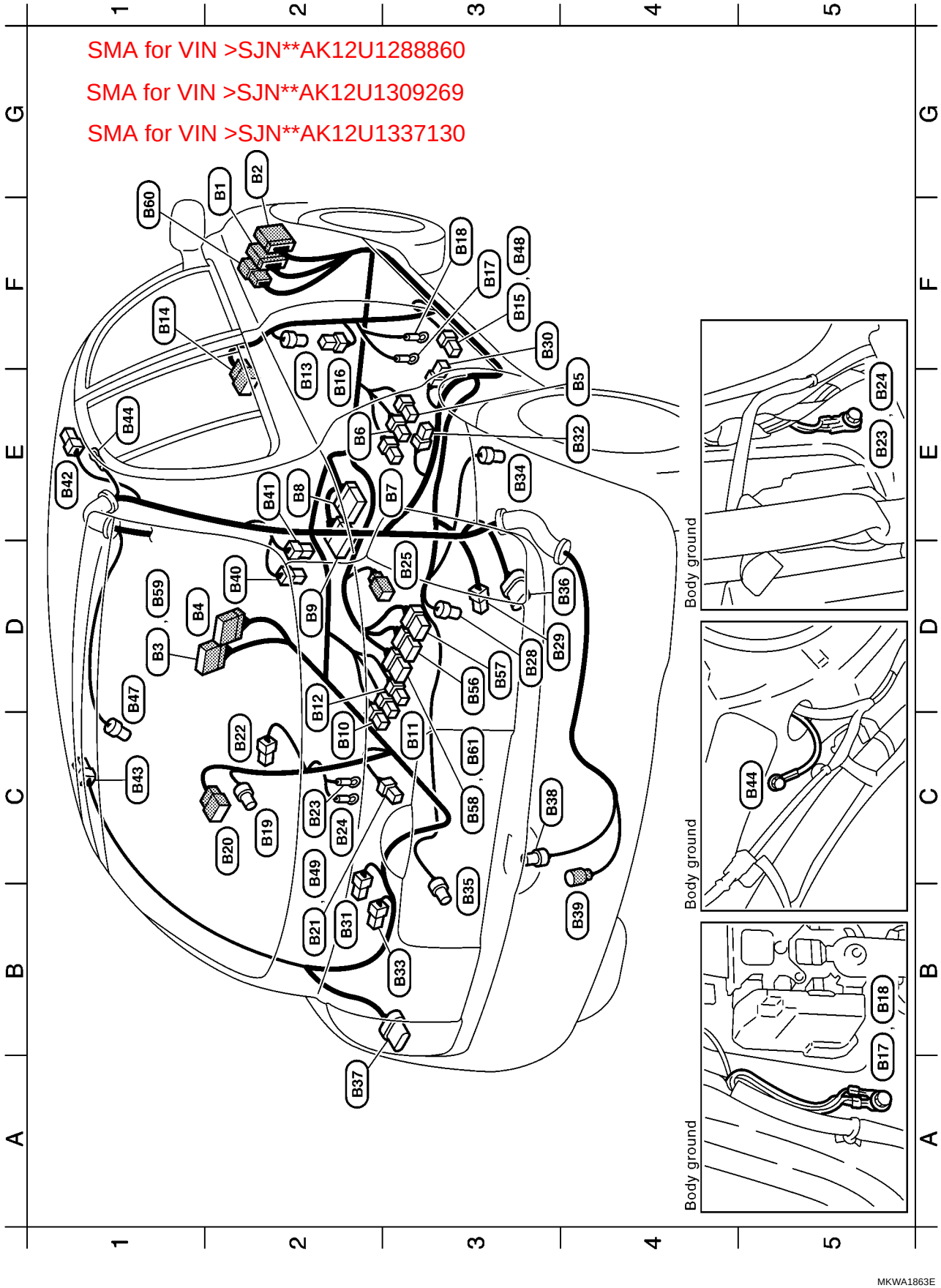


MKWA3241E

G2	F101	SMJ	: To E60
E2	F102	B/8	: Glow relay
F3	F103	GY/1	: To E62
E2	F104	–	: Fusible link holder
C3	F105	–	: Starter motor
C3	F106	–	: Starter motor
C3	F107	G/3	: Park/neutral position switch
D2	F108	–/2	: Charge air temperature sensor (Without intercooler)
D2	F109	–/2	: Intake air temperature sensor
D3	F110	B/2	: Crankshaft position sensor (POS)
D2	F111	–/4	: Engine coolant temperature sensor
E2	F112	–/4	: Charge air pressure sensor (With intercooler)
B2	F113	–/6	: EGR volume control solenoid valve
D2	F114	–/3	: Charge air pressure sensor (Without intercooler)
C2	F115	–/2	: Fuel injector No. 1
C2	F116	–/2	: Fuel injector No. 2
B2	F117	–/2	: Fuel injector No. 3
B2	F118	–/2	: Fuel injector No. 4
C2	F119	B/1	: Glow plug No. 1
C2	F120	B/1	: Glow plug No. 2
C2	F121	B/1	: Glow plug No. 3
B2	F122	B/1	: Glow plug No. 4
C3	F123	B/3	: Common rail fuel pressure sensor
C4	F124	W/1	: Oil pressure switch
C3	F125	B/2	: Knock sensor (Accelometer)
C4	F126	B/2	: Oil level sensor
B4	F127	–	: Alternator (B)
B3	F128	B/2	: Alternator (S), (L)
B4	F129	GY/2	: Compressor (With A/C)
A3	F130	B/3	: Camshaft sensor
B3	F131	BR/2	: Fuel flow actuator
B2	F132	G/2	: Fuel temperature sensor
F2	F133	–	: Body ground
F2	F134	SMJ	: ECM

MKWA1862E

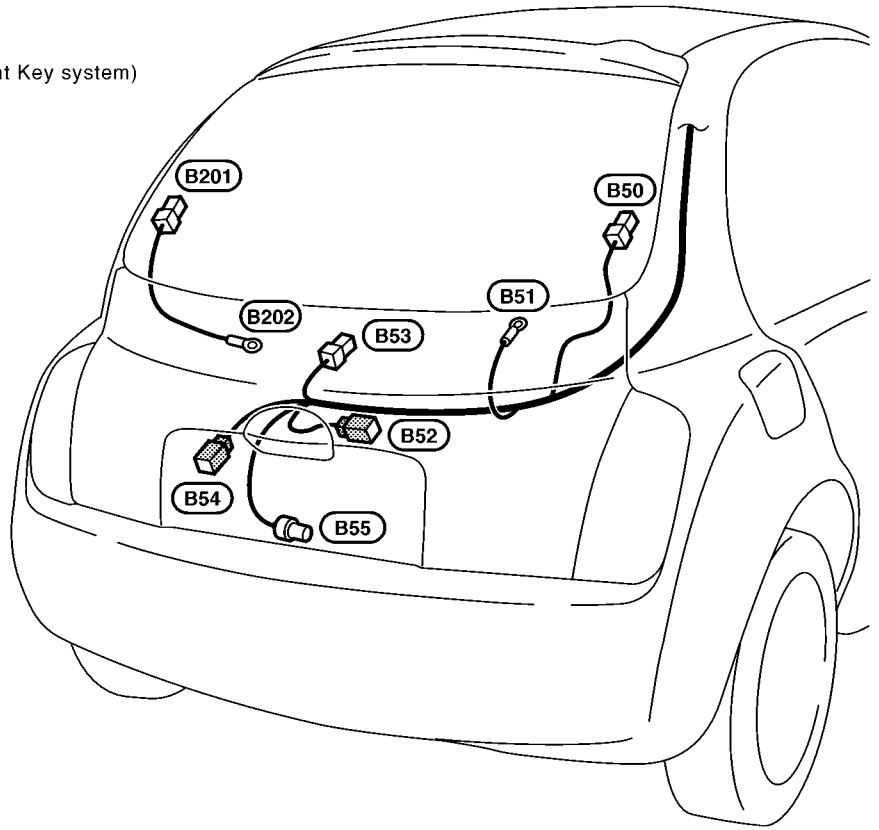
BODY HARNESS



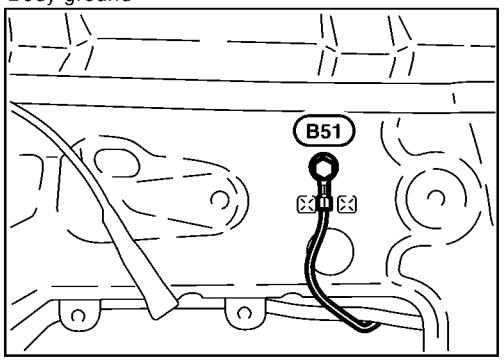
G2	B1	W/10	: To M10	D2	B40	B/1	: Luggage room lamp (+)
G2	B2	W/24	: To M9	E2	B41	B/1	: Luggage room lamp
D1	B3	W/10	: To M8	E1	B42	Y/2	: RH side curtain air bag module (With curtain air bag)
D2	B4	W/12	: To M7	C1	B43	Y/2	: LH side curtain air bag module (With curtain air bag)
E4	B5	W/2	: Seat belt buckle switch RH	E1	B44	–	: Body ground
E2	B6	W/3	: Heated seat RH (With heated seat)	C1	B47	B/2	: High-mounted stop lamp
E3	B7	BR/2	: Front RH side air bag module	F3	B48	Y/2	: Front RH seat belt pre-tensioner (With 3 doors)
E2	B8	Y/12	: Air bag diagnosis sensor unit	B2	B49	Y/2	: Front LH seat belt pre-tensioner (With 3 doors)
D2	B9	Y/12	: Air bag diagnosis sensor unit	D3	B56	BR/6	: Heated seat switch RH (With heated seat)
C2	B10	W/2	: Seat belt buckle switch LH	D3	B57	W/6	: Heated seat switch LH (With heated seat)
C3	B11	W/3	: Heated seat LH (With heated seat)	C3	B58	W/6	: Door lock/unlock switch (Without ESP)
D2	B12	BR/2	: Front LH side air bag module	D1	B59	W/16	: To E112
F2	B13	Y/2	: RH side air bag (satellite) sensor	F1	B60	W/6	: To M88
F1	B14	W/6	: To D81	C3	B61	B/6	: Yaw rate/side G sensor (With ESP)
F3	B15	B/2	: Front RH seat belt pre-tensioner (With 5 doors)				
E2	B16	W/3	: Front door switch RH				
F3	B17	–	: Body ground				
F3	B18	–	: Body ground				
C2	B19	Y/2	: LH side air bag (satellite) sensor				
C2	B20	W/6	: To D61				
B2	B21	B/2	: Front LH seat belt pre-tensioner (With 5 doors)				
C2	B22	W/3	: Front door switch LH				
C2	B23	–	: Body ground				
C2	B24	–	: Body ground				
D3	B25	GY/2	: Inside key antenna (Center console) (With Intelligent Key system)				
D3	B28	GY/4	: Fuel level sensor unit and fuel pump				
D3	B29	BR/2	: Inside key antenna (Luggage room) (With Intelligent Key system)				
F3	B30	W/1	: Rear door switch RH (With 5 doors)				
B2	B31	W/1	: Rear door switch LH (With 5 doors)				
E4	B32	BR/2	: Rear door speaker RH (3 doors with 6 speakers)				
B3	B33	BR/2	: Rear door speaker LH (3 doors with 6 speakers)				
E3	B34	B/2	: Rear wheel sensor RH				
B3	B35	B/2	: Rear wheel sensor LH				
D4	B36	B/6	: Rear combination lamp RH				
A2	B37	B/6	: Rear combination lamp LH				
C3	B38	B/2	: License plate lamp				
B4	B39	GY/2	: Outside antenna (Back door) (With Intelligent Key system)				

MKWA1864E

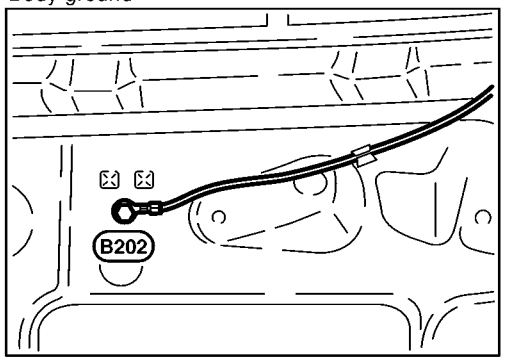
B50	B/1	:	Rear window defogger (+)
B51	–	:	Body ground
B52	W/2	:	External back door release switch
B53	W/3	:	Rear wiper motor
B54	BR/2	:	Door request switch (Back door) (With Intelligent Key system)
B55	W/4	:	Back door release actuator
B201	B/1	:	Rear window defogger (–)
B202	–	:	Body ground



Body ground



Body ground



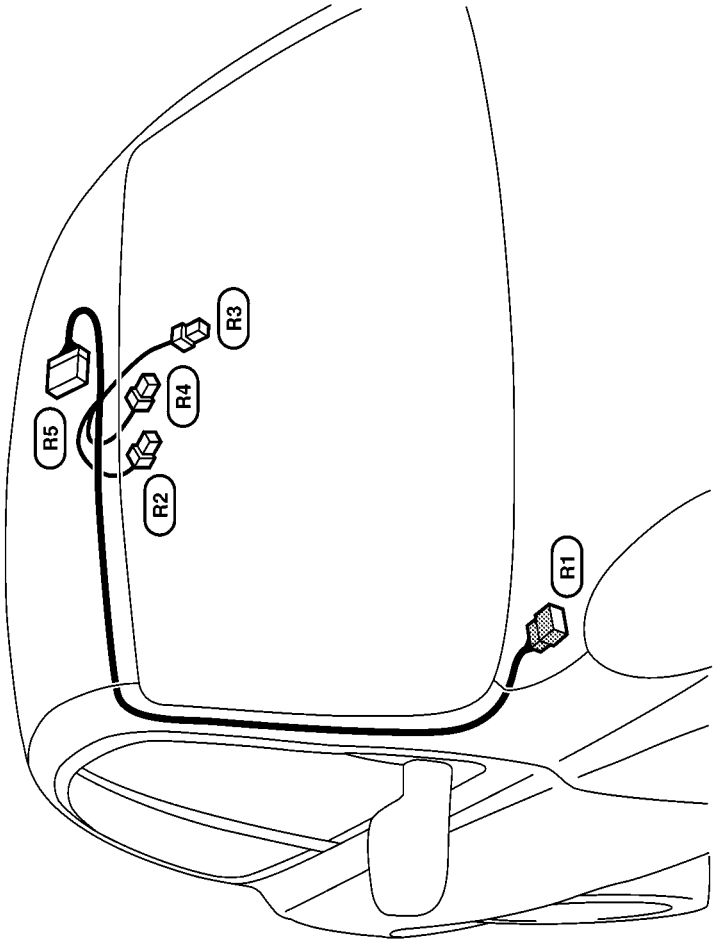
MKWA1482E

ROOM LAMP HARNESS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



R1 W/8 : To M54
R2 W/3 : Interior room lamp
R3 B/3 : Rain sensor (With rain sensor)
R4 W/4 : Sunroof switch (With sunroof)
R5 GY/10 : Sunroof motor assembly (With sunroof)

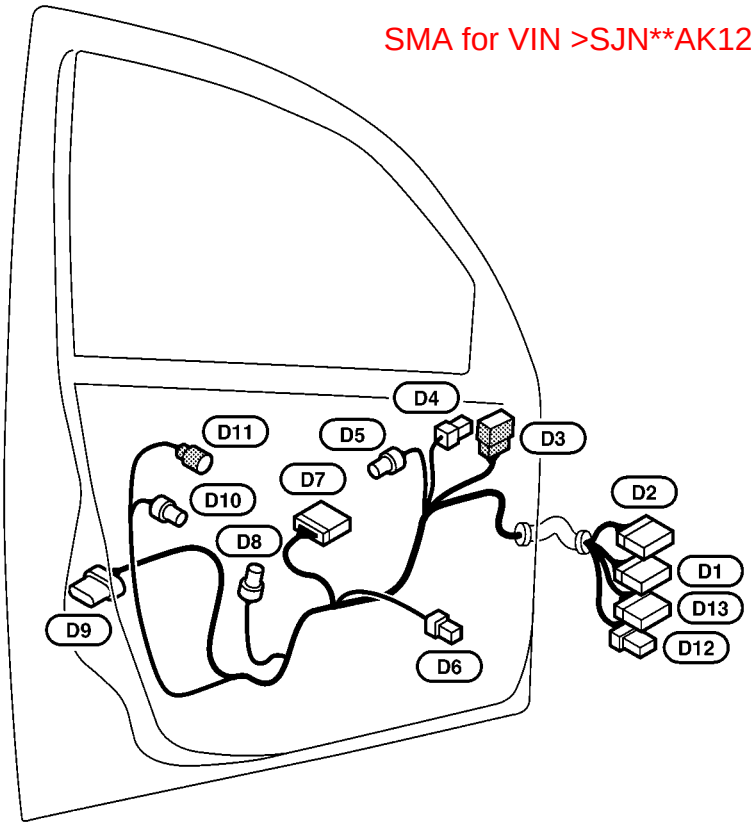
MKWA1483E

FRONT DOOR HARNESS LH SIDE/LHD MODELS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



D1	W/10	:	To M6 (Without ESP)
D2	W/12	:	To M5 (Without ESP)
D3	GY/6	:	Door mirror actuator (Driver side)
D4	BR/2	:	Tweeter LH (With 6 speakers)
D5	GY/2	:	Front power window motor (Driver side)
D6	W/2	:	Front door speaker LH
D7	W/16	:	Power window main switch
D8	BR/2	:	Intelligent Key warning buzzer (With Intelligent Key system)
D9	B/6	:	Door lock actuator (Driver side)
D10	GY/2	:	Door request switch (Driver side) (With Intelligent Key system)
D11	W/2	:	Outside antenna (Driver side) (With Intelligent Key system)
D12	GY/6	:	To M86 (With ESP)
D13	W/12	:	To M87 (With ESP)

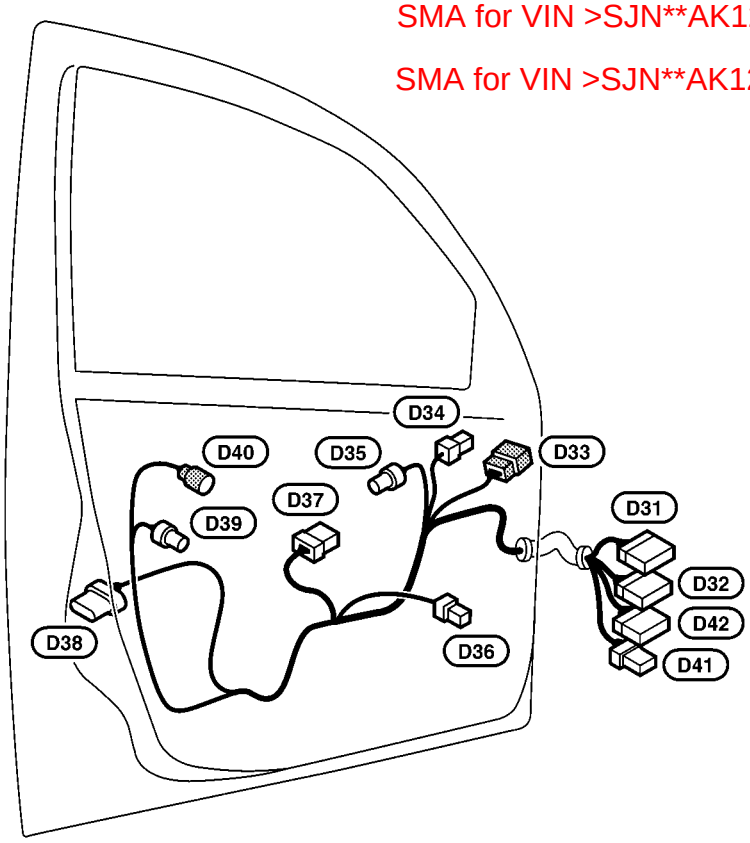
MKWA1865E

FRONT DOOR HARNESS LH SIDE/RHD MODELS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



D31	W/10	:	To M56 (Without ESP)
D32	W/12	:	To M55 (Without ESP)
D33	GY/6	:	Door mirror actuator (Passenger side)
D34	BR/2	:	Tweeter LH (With 6 speakers)
D35	GY/2	:	Front power window motor (Passenger side)
D36	W/2	:	Front door speaker LH
D37	W/8	:	Front power window switch (Passenger side)
D38	B/6	:	Door lock actuator (Passenger side)
D39	GY/2	:	Door request switch (Passenger side) (With Intelligent Key system)
D40	W/2	:	Outside antenna (Passenger side) (With Intelligent Key system)
D41	GY/6	:	To M83 (With ESP)
D42	W/12	:	To M84 (With ESP)

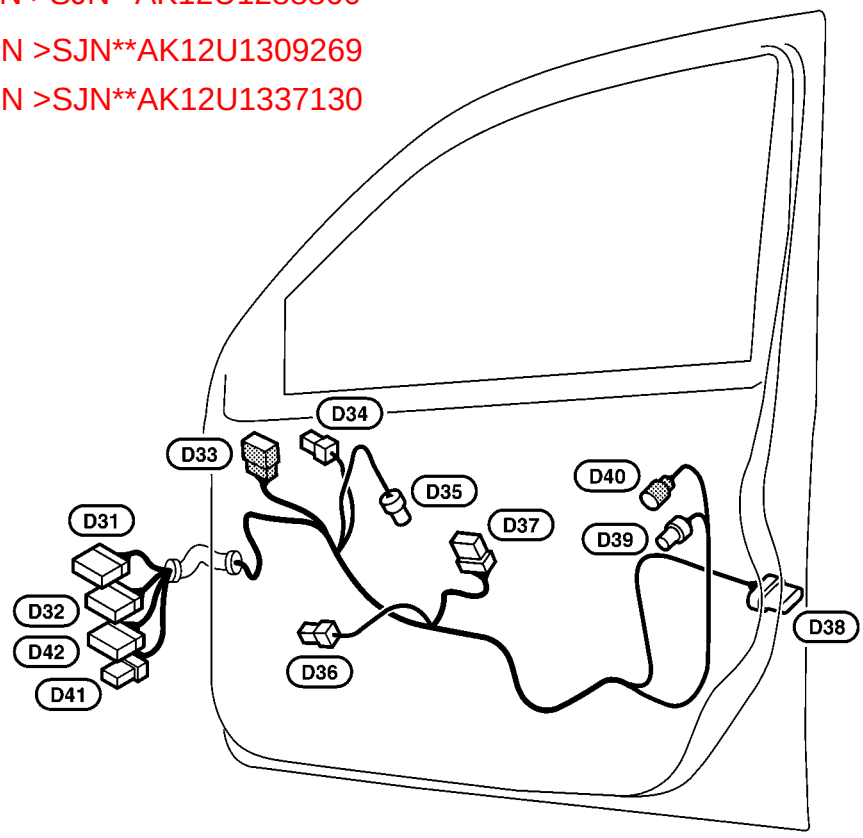
MKWA1866E

FRONT DOOR HARNESS RH SIDE/LHD MODELS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



D31	W/10	:	To M56 (Without ESP)
D32	W/12	:	To M55 (Without ESP)
D33	GY/6	:	Door mirror actuator (Passenger side)
D34	BR/2	:	Tweeter RH (With 6 speakers)
D35	GY/2	:	Front power window motor (Passenger side)
D36	W/2	:	Front door speaker RH
D37	W/8	:	Front power window switch (Passenger side)
D38	B/6	:	Door lock actuator (Passenger side)
D39	GY/2	:	Door request switch (Passenger side) (With Intelligent Key system)
D40	W/2	:	Outside antenna (Passenger side) (With Intelligent Key system)
D41	GY/6	:	To M83 (With ESP)
D42	W/12	:	To M84 (With ESP)

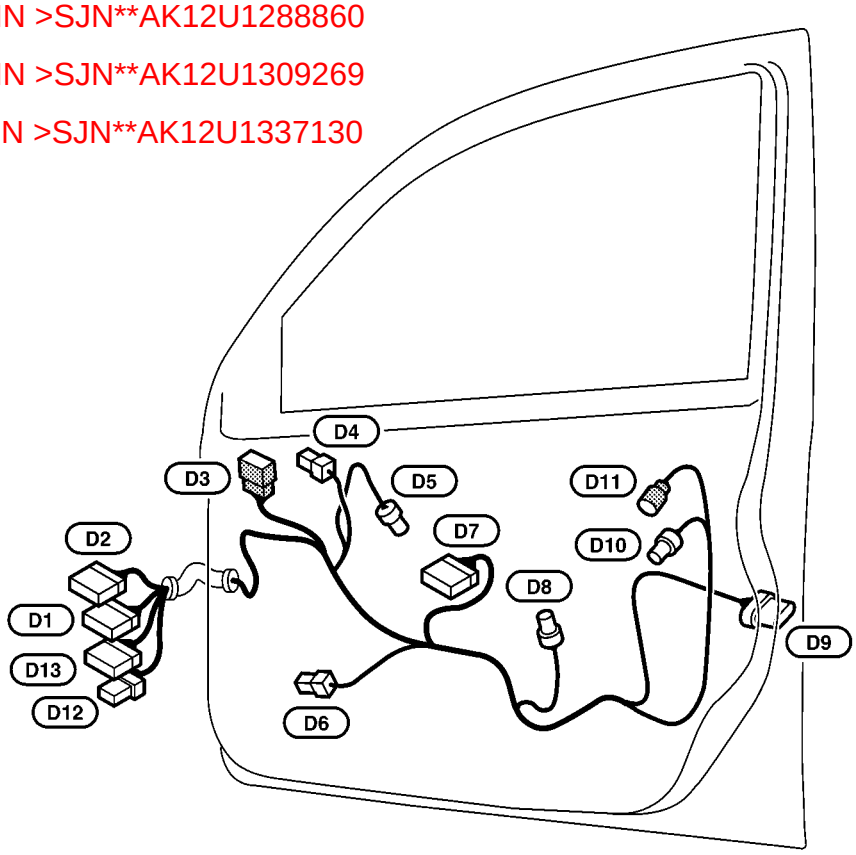
MKWA1867E

FRONT DOOR HARNESS RH SIDE/RHD MODELS

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



D1	W/10	:	To M6 (Without ESP)
D2	W/12	:	To M5 (Without ESP)
D3	GY/6	:	Door mirror actuator (Driver side)
D4	BR/2	:	Tweeter RH (With 6 speakers)
D5	GY/2	:	Front power window motor (Driver side)
D6	W/2	:	Front door speaker RH
D7	W/16	:	Power window main switch
D8	BR/2	:	Intelligent Key warning buzzer (With Intelligent Key system)
D9	B/6	:	Door lock actuator (Driver side)
D10	GY/2	:	Door request switch (Driver side) (With Intelligent Key system)
D11	W/2	:	Outside antenna (Driver side) (With Intelligent Key system)
D12	GY/6	:	To M86 (With ESP)
D13	W/12	:	To M87 (With ESP)

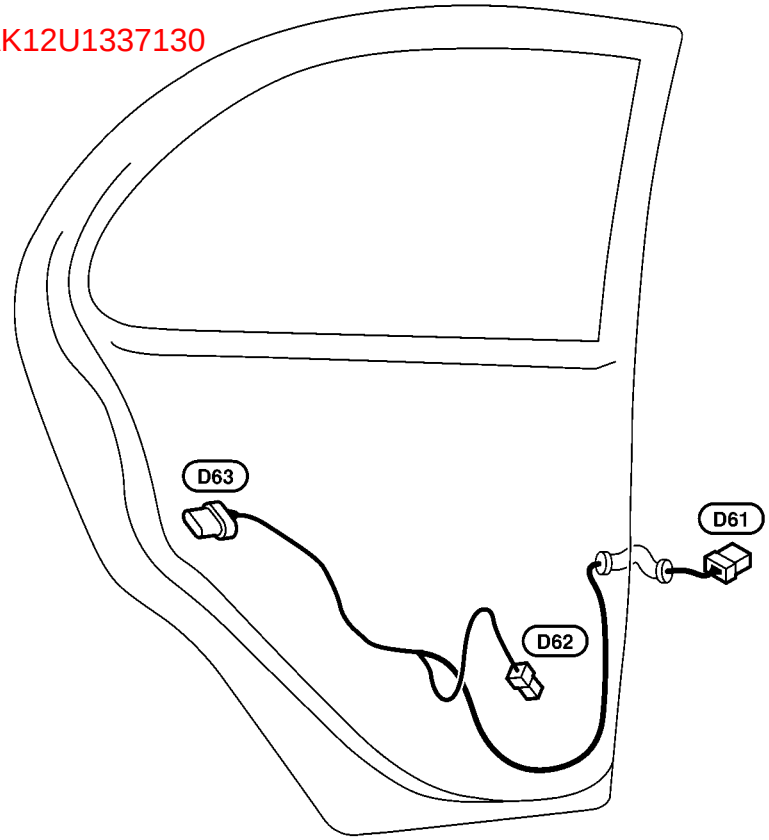
MKWA1868E

REAR DOOR HARNESS LH

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



D61	W/6	:	To B20
D62	W/2	:	Rear door speaker LH (With 6 speakers)
D63	B/6	:	Rear door lock actuator LH

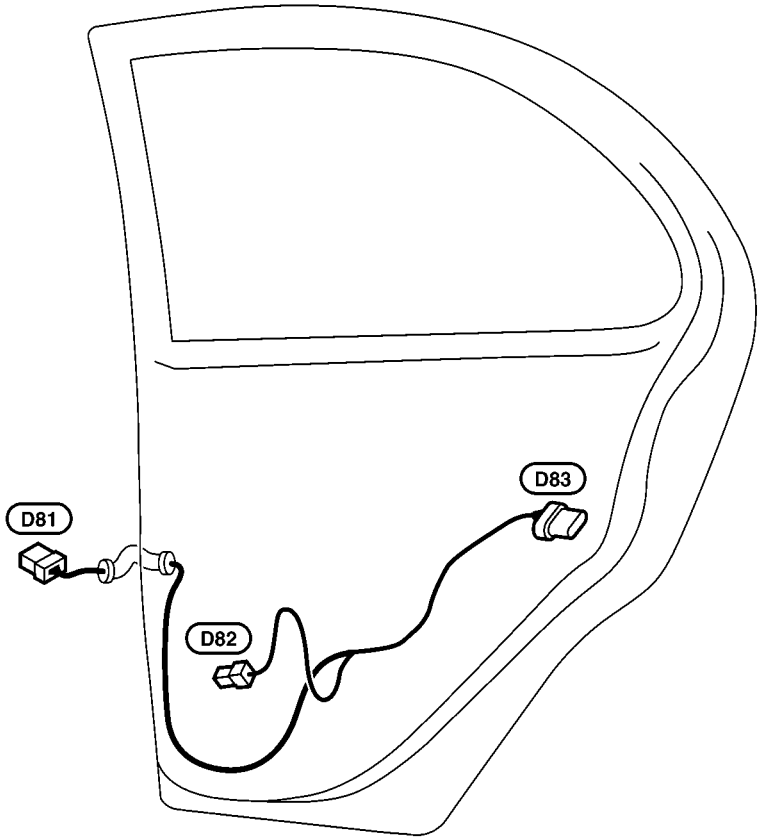
MKWA1488E

REAR DOOR HARNESS RH

SMA for VIN >SJN**AK12U1288860

SMA for VIN >SJN**AK12U1309269

SMA for VIN >SJN**AK12U1337130



D81	W/6	:	To B14
D82	W/2	:	Rear door speaker RH (With 6 speakers)
D83	B/6	:	Rear door lock actuator RH

MKWA1489E

Wiring Diagram Codes (Cell Codes)

EKS0079C

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 Gear Function
2NDSIG	AT	A/T 2ND Gear Function
3RDSIG	AT	A/T 3RD Gear Function
4THSIG	AT	A/T 4TH Gear Function
A/C	ATC	Auto Air Conditioner
A/C	MTC	Manual Air Conditioner
A/WIP	WW	Front Wiper and Washer System (With Rain Sensor)
ABS	BRC	Anti-lock Brake System
AP/SEN	EC	Manifold Absolute Pressure Sensor
APPS	EC	Accelerator Pedal Position Sensor
APPS1	EC	Accelerator Pedal Position Sensor 1
APPS2	EC	Accelerator Pedal Position Sensor 2
APPS3	EC	Accelerator Pedal Position Sensor
AUDIO	AV	Audio
BA/FTS	AT	A/T Fluid Temperature Sensor and TCM Power Source
BACK/L	LT	Back-up Lamp
BRK/SW	EC	Brake Switch
BTS	EC	Turbocharger Air Temperature Sensor
CAN	AT	CAN Communication Line
CAN	EC	CAN Communication Line
CAN	LAN	CAN System
CHARGE	SC	Charging System
CHIME	DI	Warning Chime
CIGAR	WW	Power Socket
CKPS	EC	Crankshaft Position Sensor
CMPS	EC	Crankshaft Position Sensor
COMBSW	LT	Combination Switch
COOL/F	EC	Cooling System
CRFPS	EC	Common Rail Fuel Pressure Sensor
D/COMP	DI	Drive Computer
D/LOCK	BL	Power Door Lock
DEF	GW	Rear Window Defogger
DTRL	LT	Headlamp - With Daytime Light System
ECM/PW	EC	ECM Power Supply
ECTS	EC	Engine Coolant Temperature Sensor
EGRC/V	EC	EGR Control System
ENGSS	AT	Engine Speed Signal
EPS	STC	Electric Power Steering System
ESP	BRC	Electronic Stability Program System
ETC1	EC	Electrical Throttle Control Function
ETC2	EC	Electrical Throttle Control Motor Relay

Code	Section	Wiring Diagram Name
ETC3	EC	Electrical Throttle Control Motor
F/FOG	LT	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FRO2	EC	Heated Oxygen Sensor 1
FTS	AT	A/T Fluid Temperature Sensor
FTS	EC	Fuel Temperature Sensor
FUEL	EC	Fuel Injection System Function
GLOW	EC	Glow Control System
H/AIM	LT	Headlamp Aiming Control System
H/LAMP	LT	Headlamp
H/SEAT	SE	Heated Seat
HEATER	MTC	Heater
HLC	WW	Headlamp Washer
HO2S1	EC	Heated Oxygen Sensor 1
HO2S1H	EC	Heated Oxygen Sensor 1 Heater
HO2S2	EC	Heated Oxygen Sensor 2
HO2S2H	EC	Heated Oxygen Sensor 2 Heater
HORN	WW	Horn
I/KEY	BL	Intelligent Key System
IATS	EC	Intake Air Temperature Sensor
IATSEN	EC	Intake Air Temperature Sensor
IGNSYS	EC	Ignition Signal
ILL	LT	Illumination
IMV/D	EC	Fuel Flow Actuator
INJECT	EC	Injector
INT/L	LT	Interior and Luggage Room Lamps
IVC	EC	Intake Valve Timing Control Solenoid Valve
IVC/V	EC	Intake Valve Timing Control Solenoid Valve
KS	EC	Knock Sensor
LPSV	AT	Line Pressure Solenoid Valve
MAIN	AT	Main Power Supply and Ground Circuit
MAIN	EC	Main Power Supply and Ground Circuit
METER	DI	Combination Meters
MIL/DL	EC	Malfunction Indicator, Data Link Connector for CONSULT-II
MIRROR	GW	Door Mirror
MULTI	BL	Multi-remote Control System
NATS	BL	NATS (Nissan Anti-Theft System)
NAVI	AV	Audio and Navigation System
NONDTC	AT	NON-detective Items
OVRCSV	AT	Overrun Clutch Solenoid Valve
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHASE	EC	Camshaft Position Sensor (PHASE)
PNP/SW	AT	Park/Neutral Position (PNP) Switch
PNP/SW	EC	Park/Neutral Position (PNP) Switch

Code	Section	Wiring Diagram Name
PNPSW	EC	Park/Neutral Position (PNP) Switch
POS	EC	Crankshaft Position Sensor (POS)
POWER	PG	Power Supply Routing Circuit
PRGVLV	EC	EVAP Canister Purge Volume Control Solenoid Valve
PRWIRE	BL	After Market Alarm - Prewire
PTC/H	MTC	PTC Heater
R/FOG	LT	Rear Fog Lamp
RP/SEN	EC	Refrigerant Pressure Sensor
RRO2	EC	Heated Oxygen Sensor 2
S/LOCK	BL	Power Door Lock-Super Lock
SEN/PW	EC	Electric Throttle Control Actuator (Throttle Position Sensor)
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
START	SC	Starting System
STOP/L	LT	Stop Lamp
TAIL/L	LT	Parking, License Plate and Tail Lamps
TCBST	EC	TC Boost Pressure Sensor
TCV	AT	Torque Converter Clutch Solenoid Valve
TPS	AT	Throttle Position Sensor
TPS1	EC	Electric Throttle Control Actuator (Throttle Position Sensor 1)
TPS2	EC	Electric Throttle Control Actuator (Throttle Position Sensor 2)
TPS3	EC	Electric Throttle Control Actuator (Throttle Position Sensor 3)
TURN	LT	Turn Signal and Hazard Warning Lamps
VSSAT	AT	Vehicle Speed Sensor A/T (Revolution Senor)
VSSMTR	AT	Vehicle Speed Sensor MTR
WARN	DI	Warning Lamps
WINDOW	GW	Power Window System
WIP/R	WW	Rear Wiper and Washer System
WIPER	WW	Front Wiper and Washer System

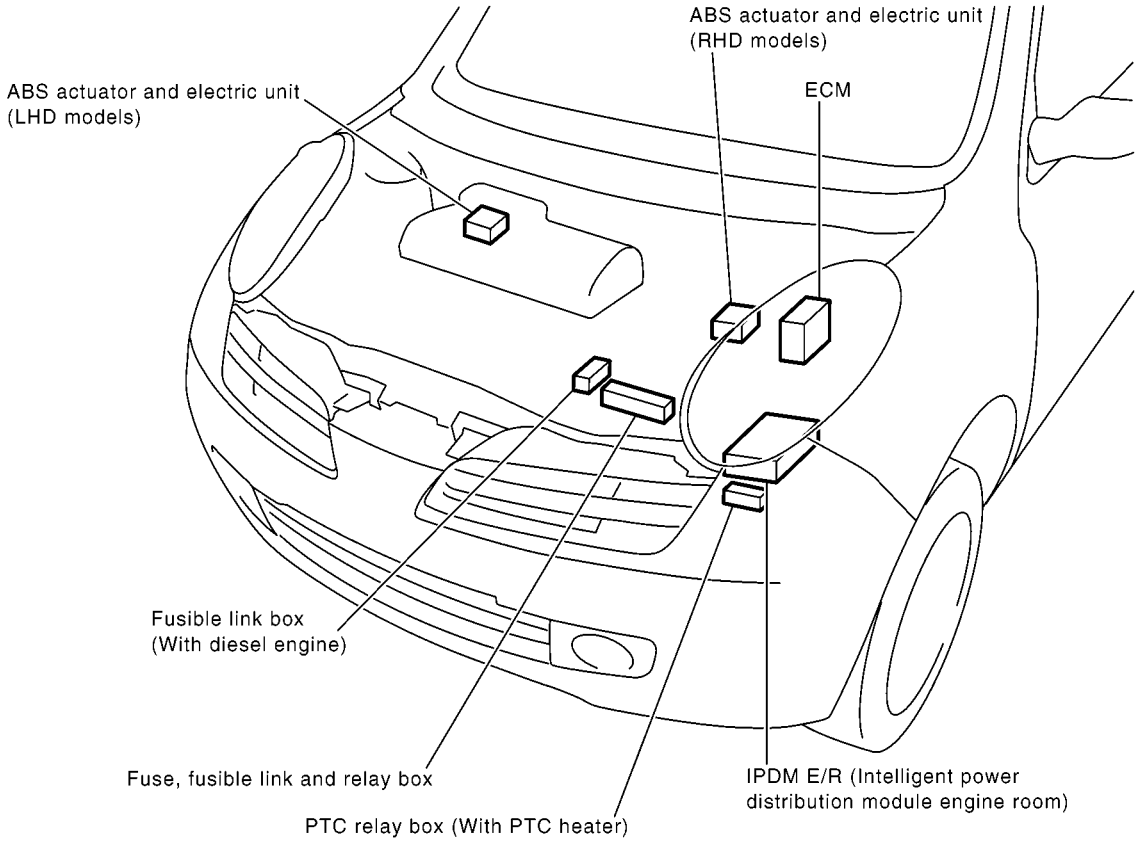
ELECTRICAL UNITS LOCATION

PFP:25230

Electrical Units Location

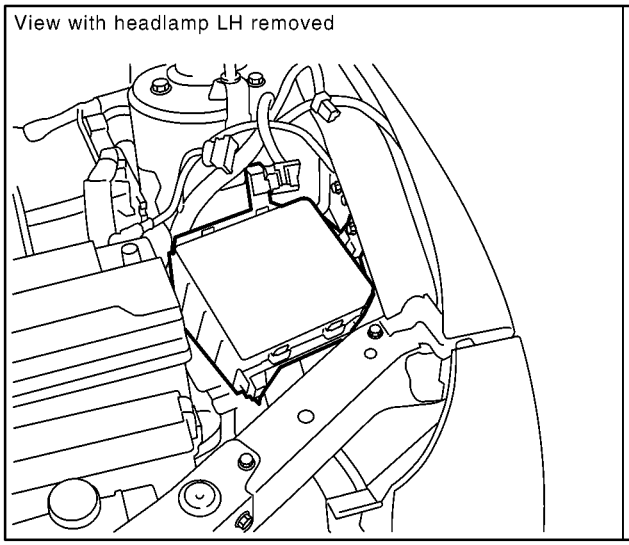
EKS0079D

ENGINE COMPARTMENT

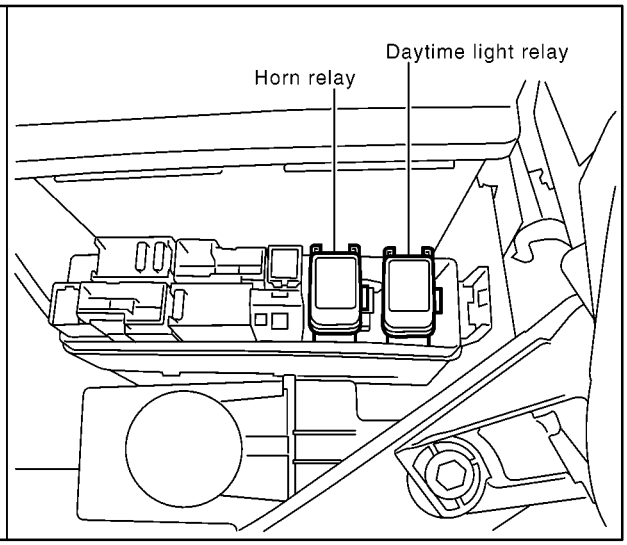


IPDM E/R (Intelligent power distribution module engine room)

View with headlamp LH removed

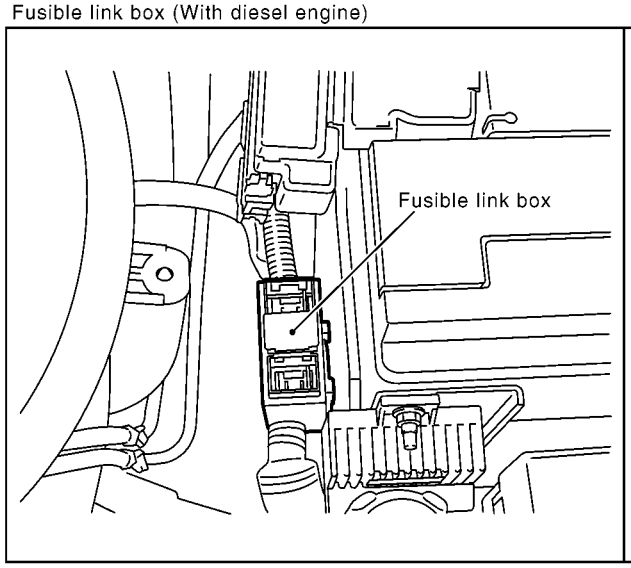


Fuse, fusible link and relay box

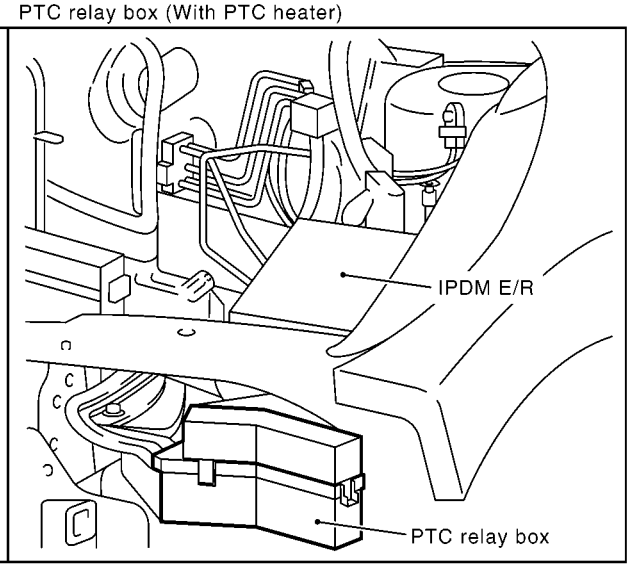


MKWA1869E

Fusible link box (With diesel engine)

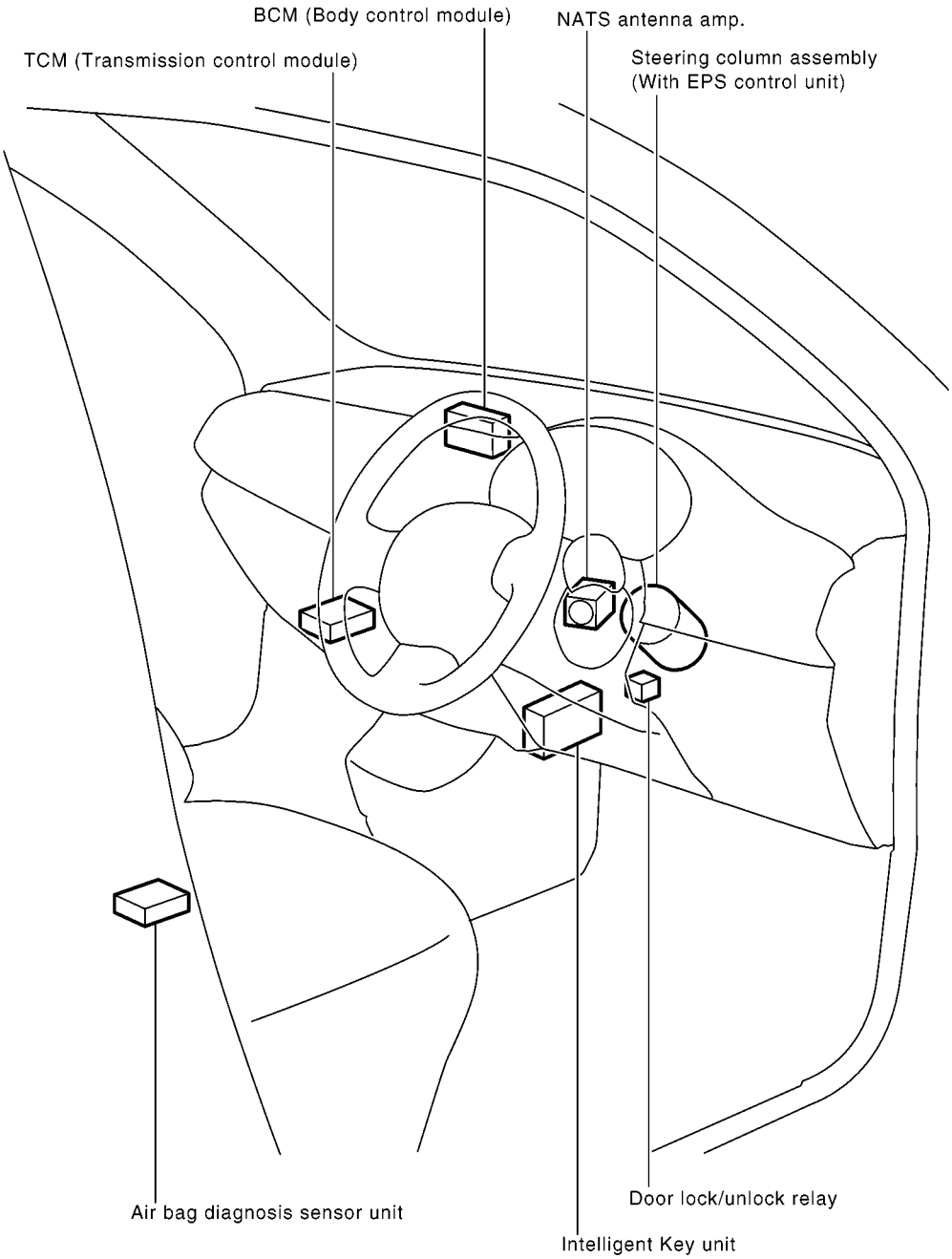


PTC relay box (With PTC heater)



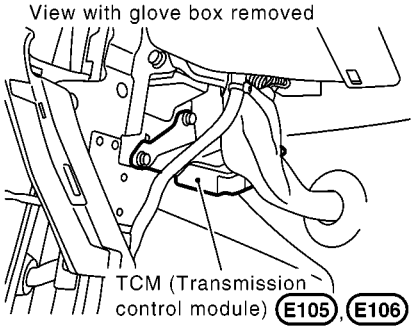
MKWA1870E

PASSENGER COMPARTMENT



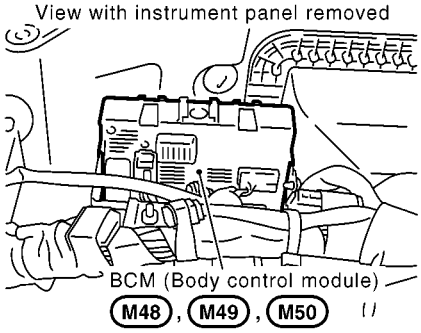
MKWA1871E

View with glove box removed



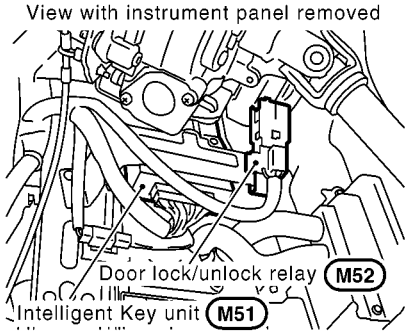
TCM (Transmission control module) E105, E106

View with instrument panel removed



BCM (Body control module) M48, M49, M50

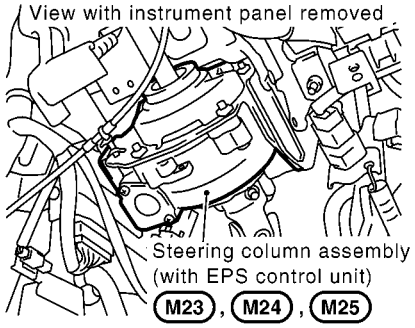
View with instrument panel removed



Door lock/unlock relay M52

Intelligent Key unit M51

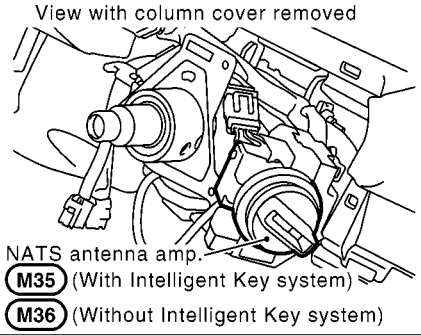
View with instrument panel removed



Steering column assembly (with EPS control unit)

M23, M24, M25

View with column cover removed

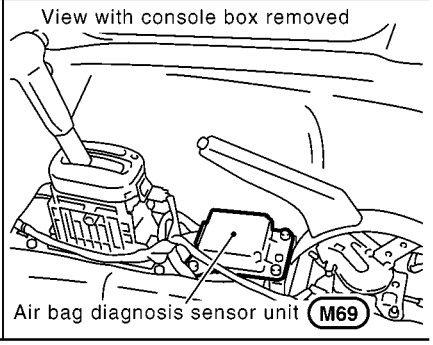


NATS antenna amp.

M35 (With Intelligent Key system)

M36 (Without Intelligent Key system)

View with console box removed



Air bag diagnosis sensor unit M69

MKWA1872E

HARNESS CONNECTOR

PFP:00011

Description

EKS0079E

HARNESS CONNECTOR (TAB-LOCKING TYPE)

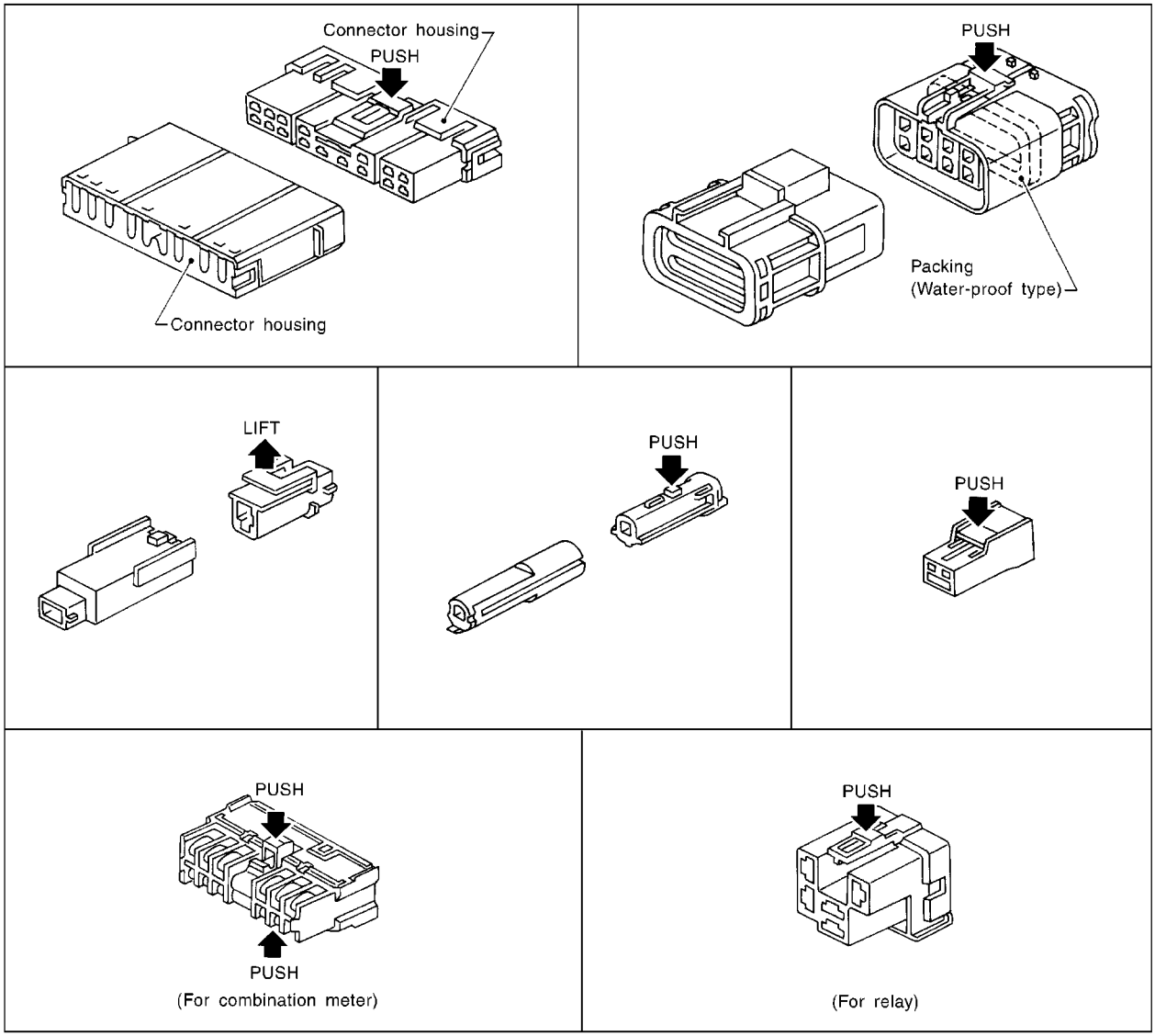
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

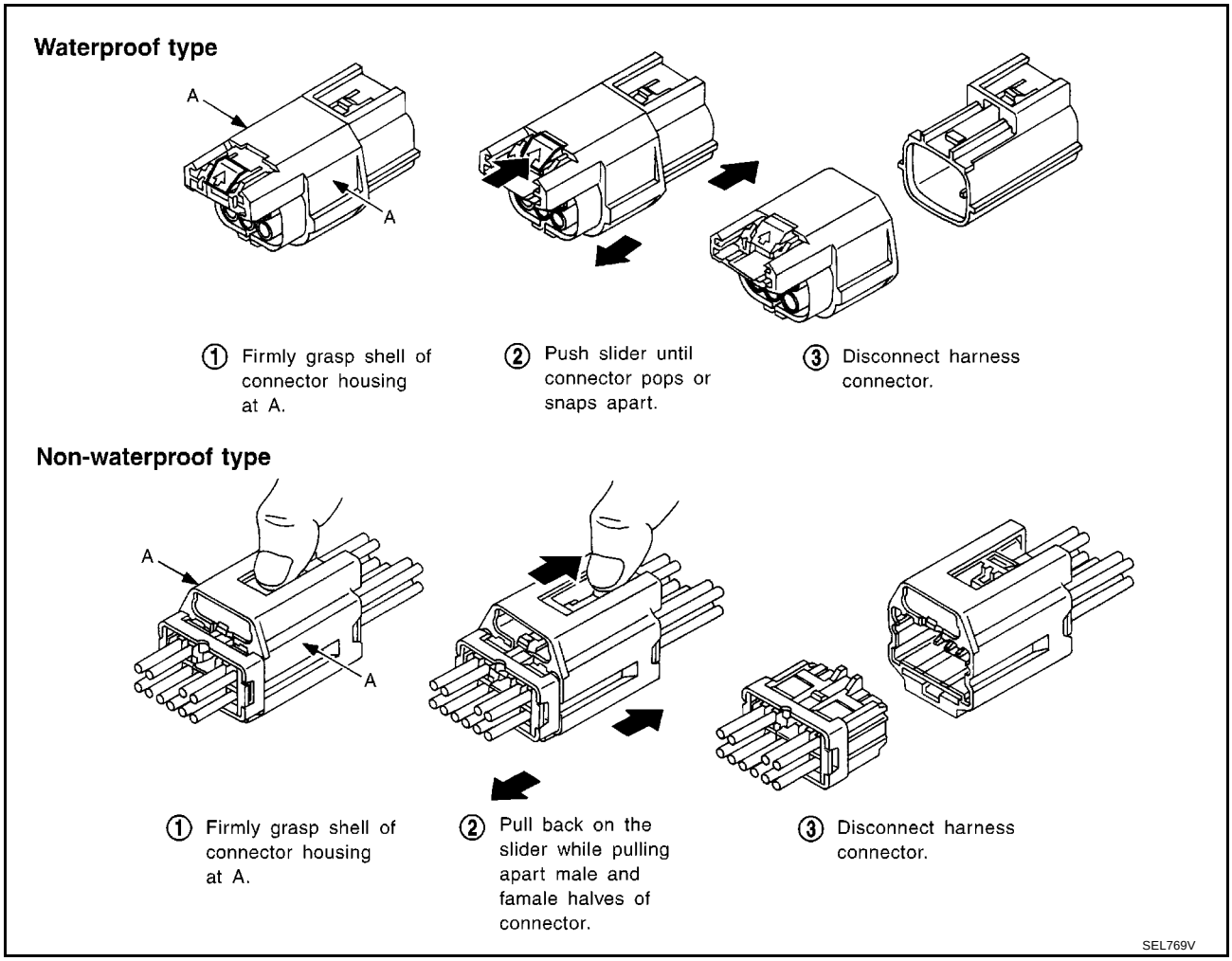
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- 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]

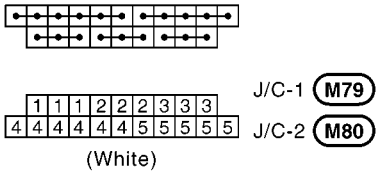


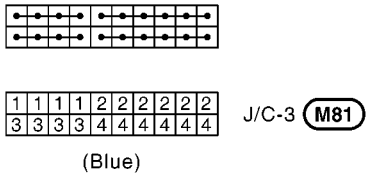
JOINT CONNECTOR (J/C)

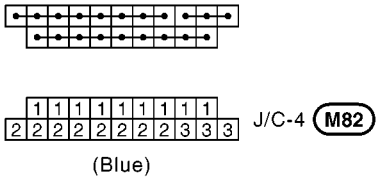
PFP:B4341

Terminal Arrangement

EKS00EOL







MKWA1519E

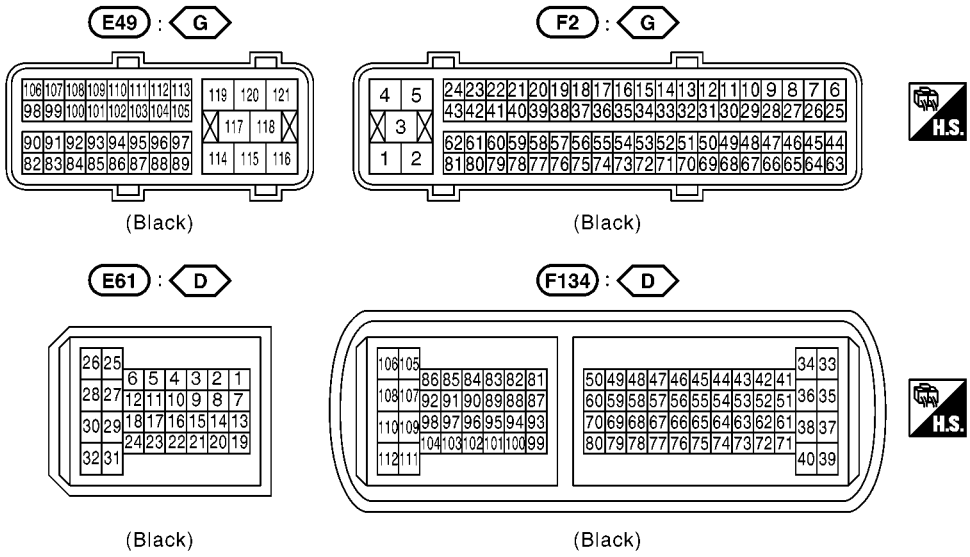
ELECTRICAL UNITS

PFP:00011

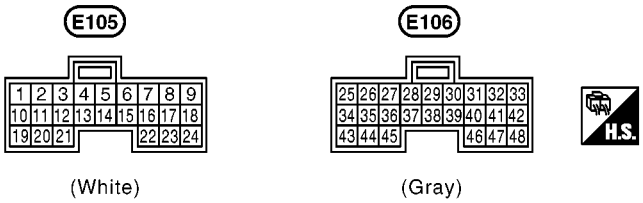
Terminal Arrangement

EKS0079F

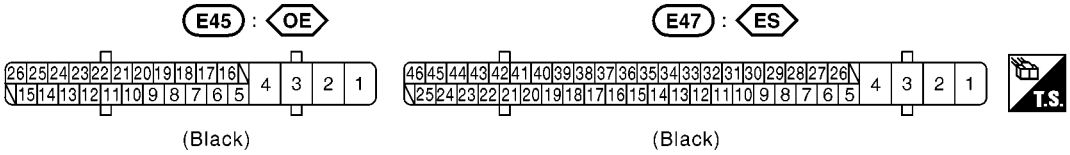
ECM



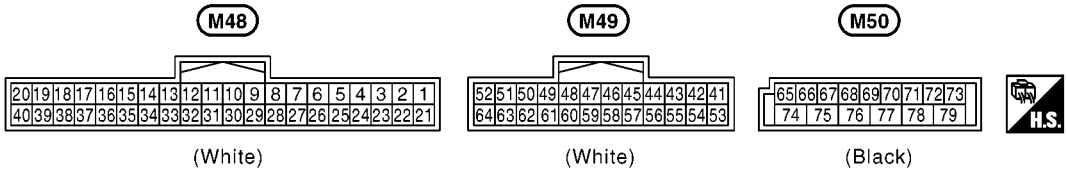
TCM (TRANSMISSION CONTROL MODULE)



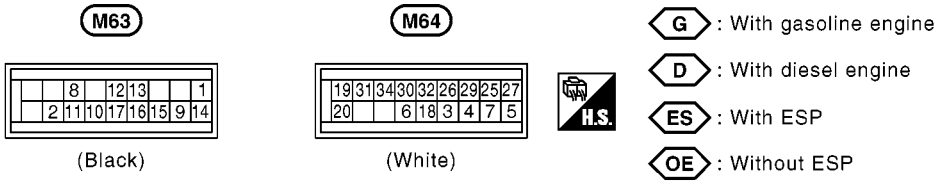
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)



BCM (BODY CONTROL MODULE)



A/C AUTO AMP.



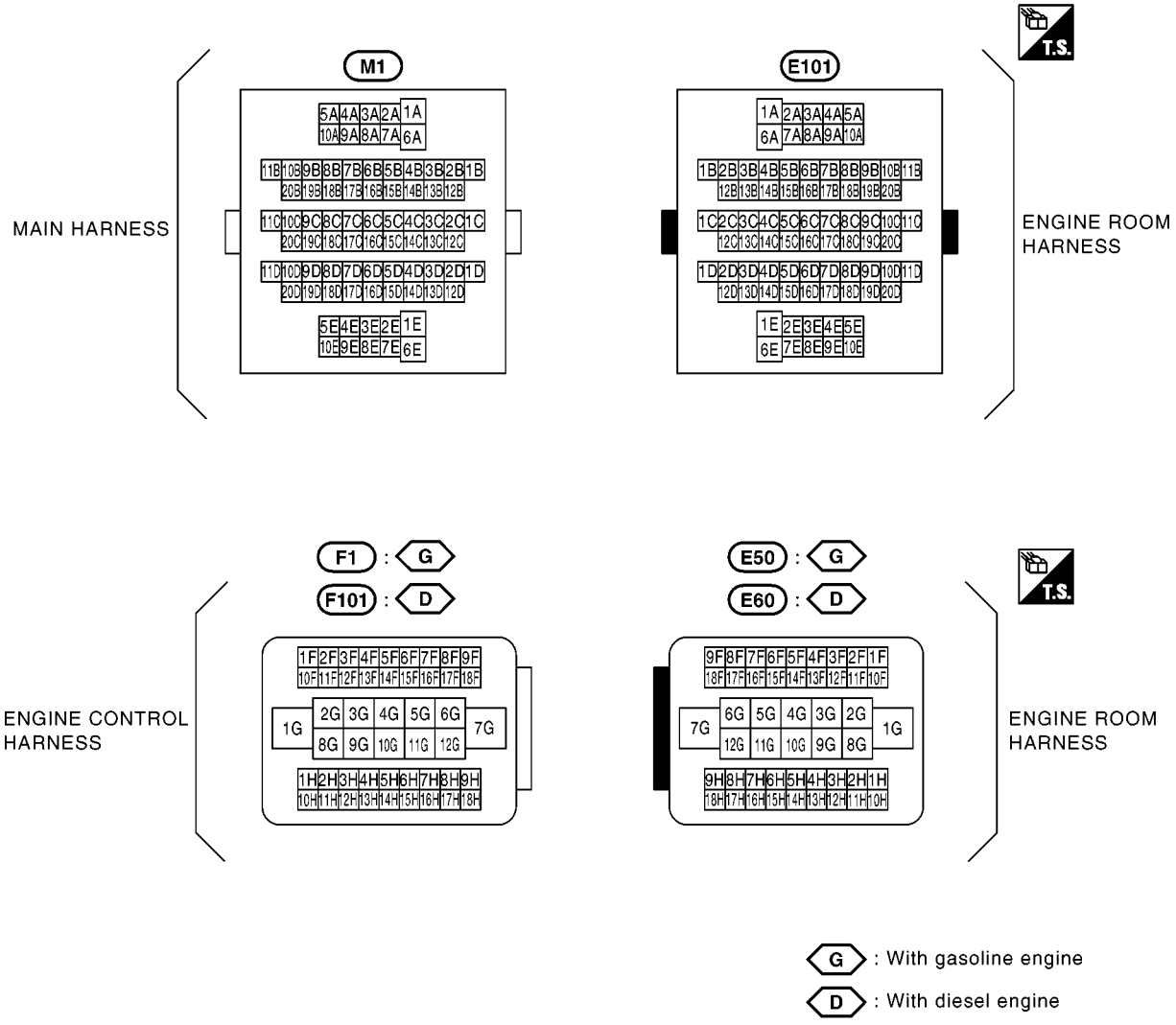
MKWA1873E

SMJ (SUPER MULTIPLE JUNCTION)

PFP:B4341

Terminal Arrangement

EKS007XZ



MKWA1515E

STANDARDIZED RELAY

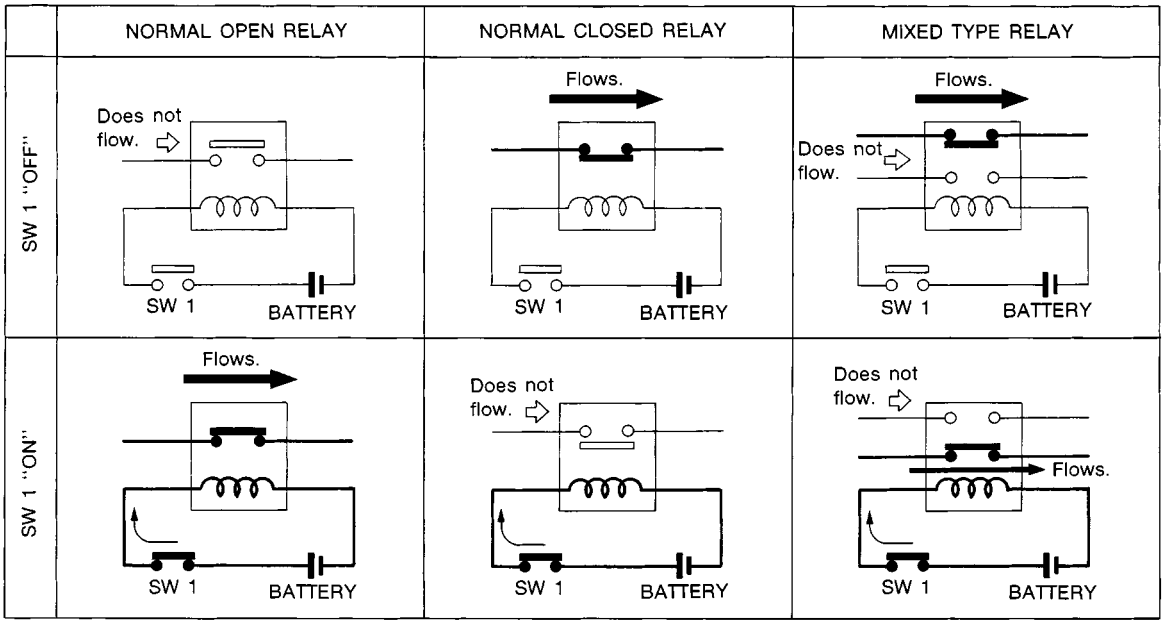
PFP:00011

Description

EKS0079G

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

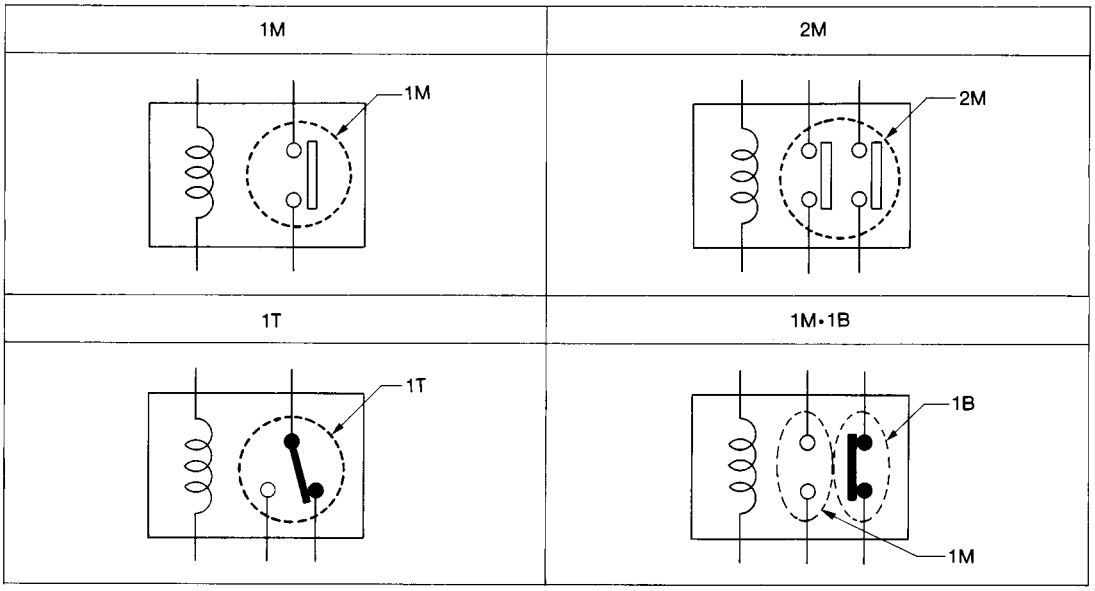
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



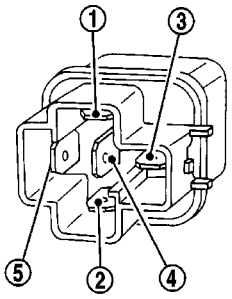
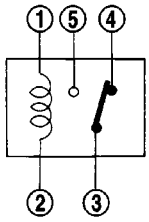
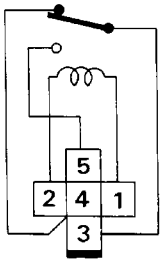
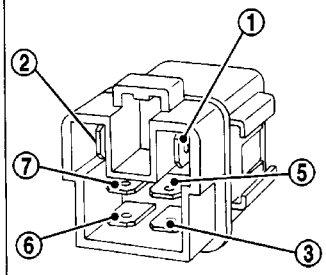
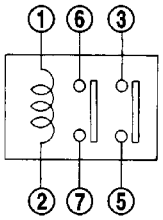
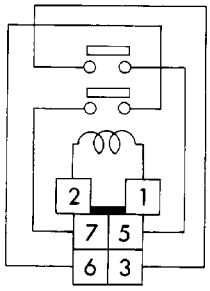
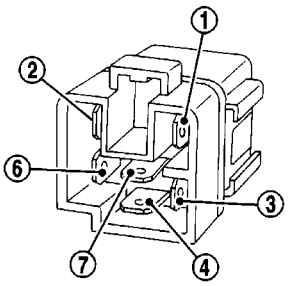
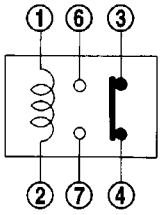
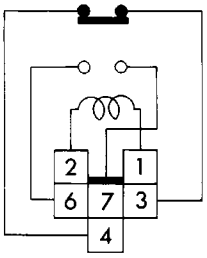
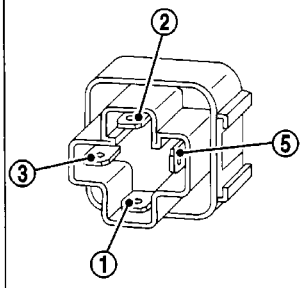
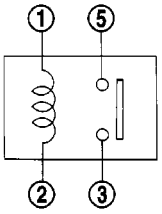
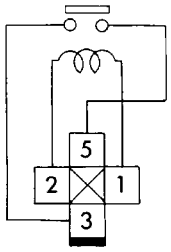
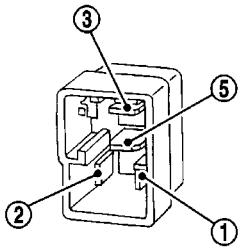
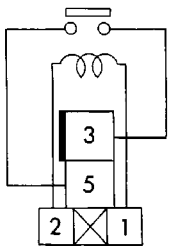
SEL881H

TYPE OF STANDARDIZED RELAYS

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



SEL882H

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

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

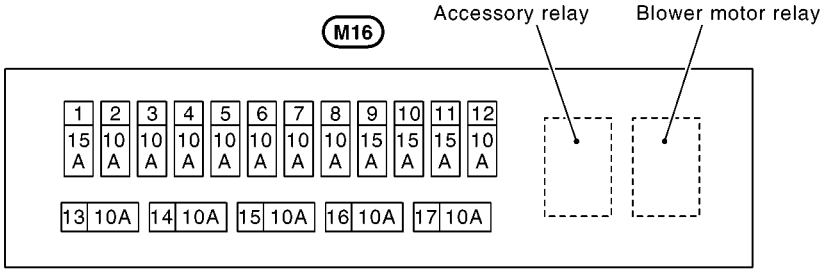
SEL188W

FUSE BLOCK - JUNCTION BOX (J/B)

PFP:24350

Terminal Arrangement

EKS0079H



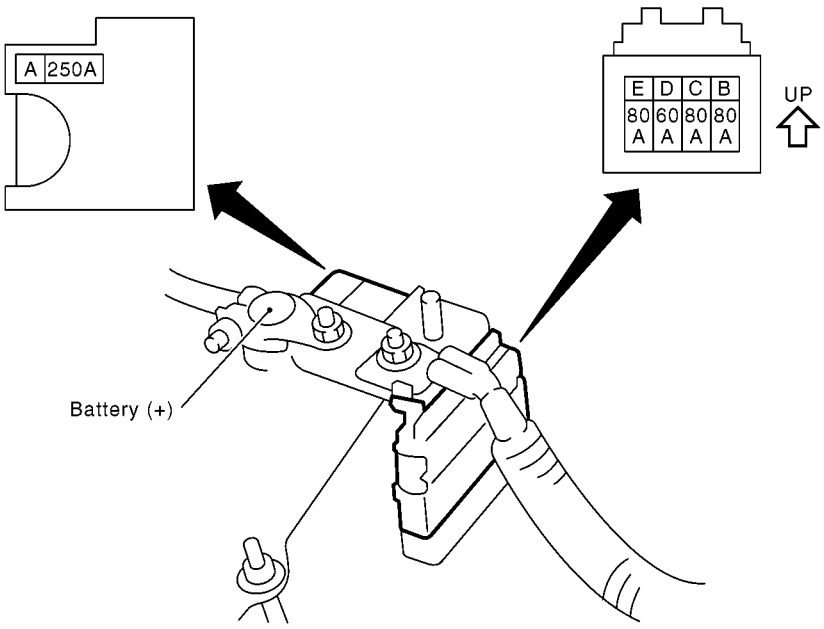
MKWA1516E

FUSE AND FUSIBLE LINK BOX

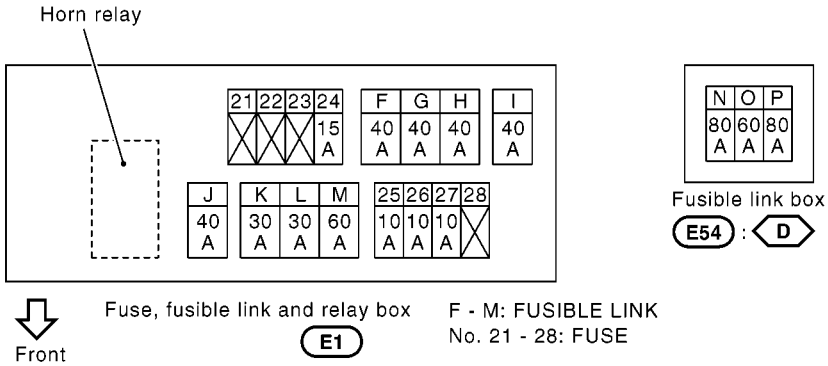
PFP:24381

Terminal Arrangement

EKS0079I



Fusible link holder E18, E19, F3 : G, F4 : G, F104 : D, E55 : D



G : With gasoline engine

D : With diesel engine

MKWA1874E