

SECTION **PG**

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

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PRECAUTIONS

PRECAUTIONS

PFP:00011

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

EKS007NJ

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

EKS007NK

When you read wiring diagrams, refer to the following:

- Refer to [GI-15, "How to Read Wiring Diagrams"](#) in GI section.
- Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#) for power distribution.

When you perform trouble diagnosis, refer to the following:

- Refer to [GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#) in GI section.
- Refer to [GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) in GI section.

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POWER SUPPLY ROUTING CIRCUIT

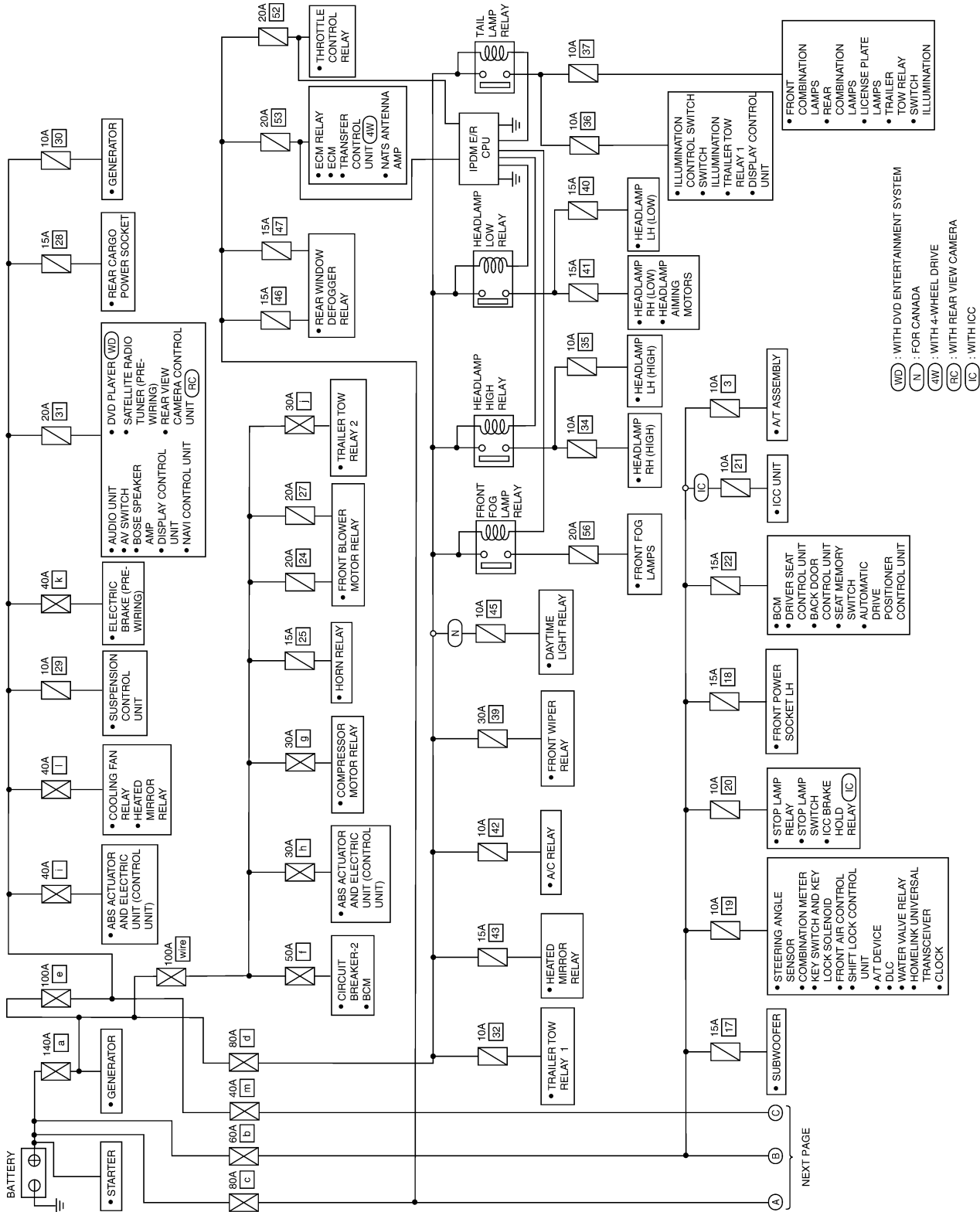
PF:24110

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POWER SUPPLY ROUTING CIRCUIT

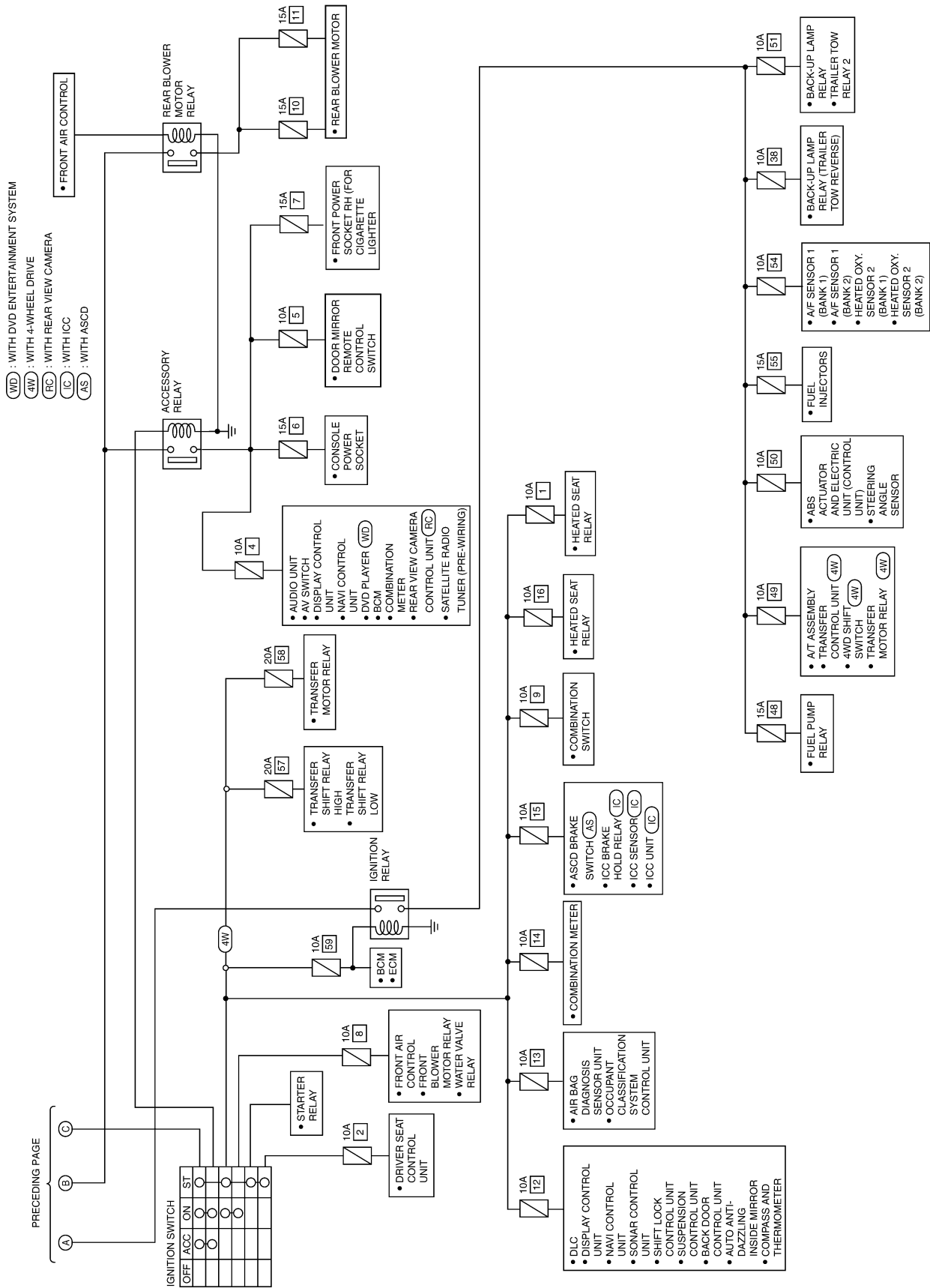
Schematic

For detailed ground distribution, refer to [PG-30, "Ground Distribution"](#).



WKWA2503E

POWER SUPPLY ROUTING CIRCUIT



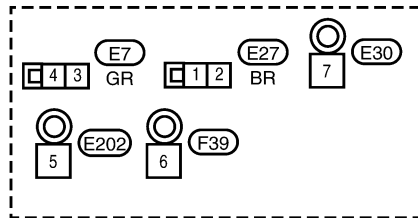
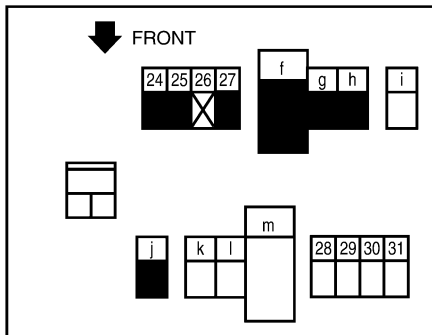
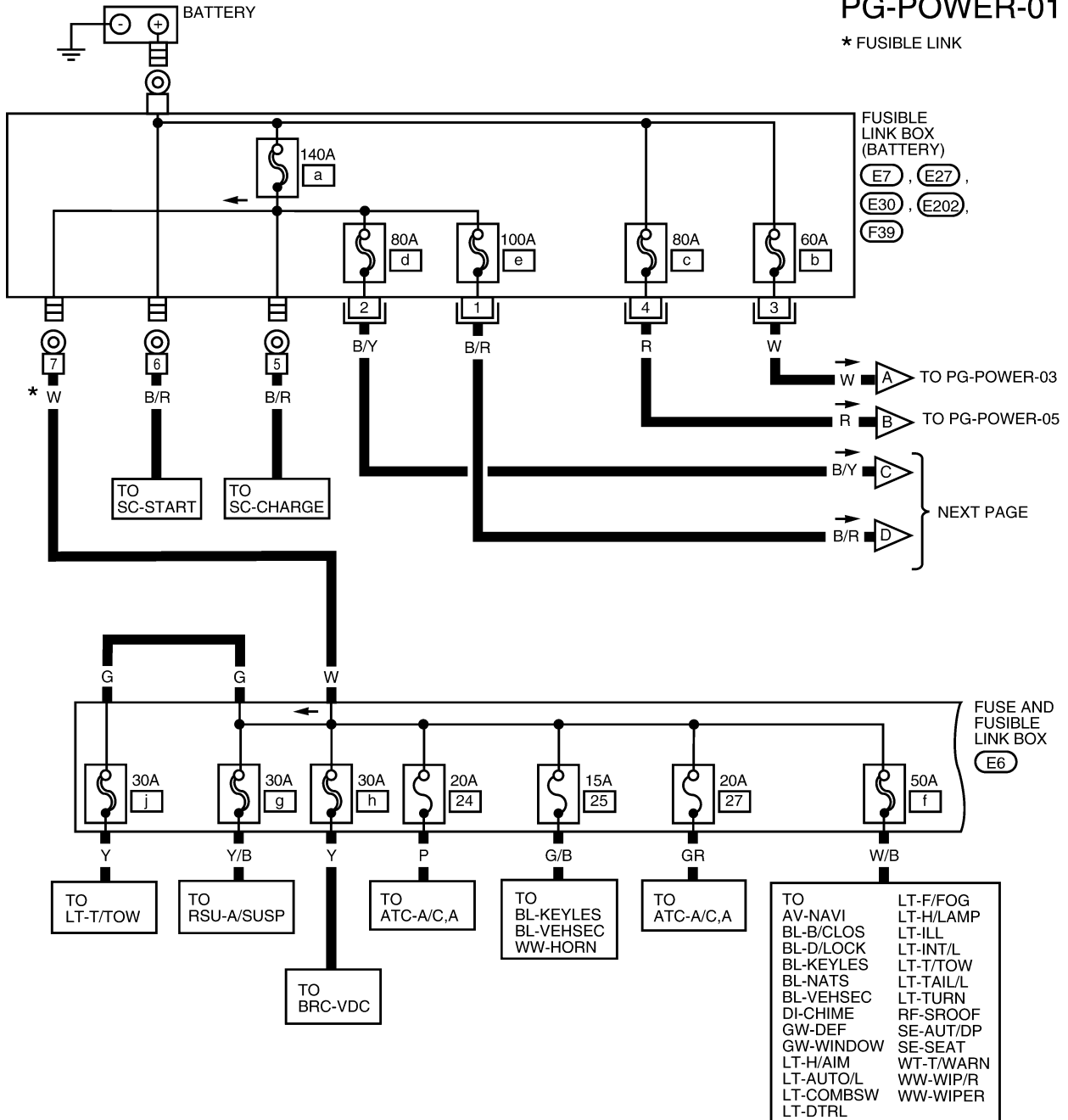
POWER SUPPLY ROUTING CIRCUIT

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

EKS007NM

PG-POWER-01

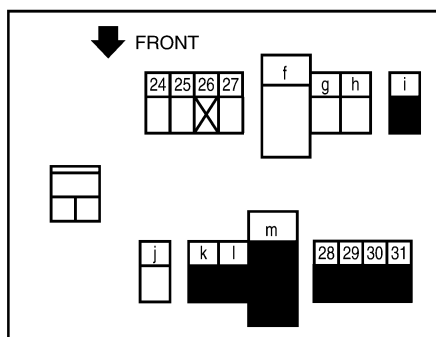
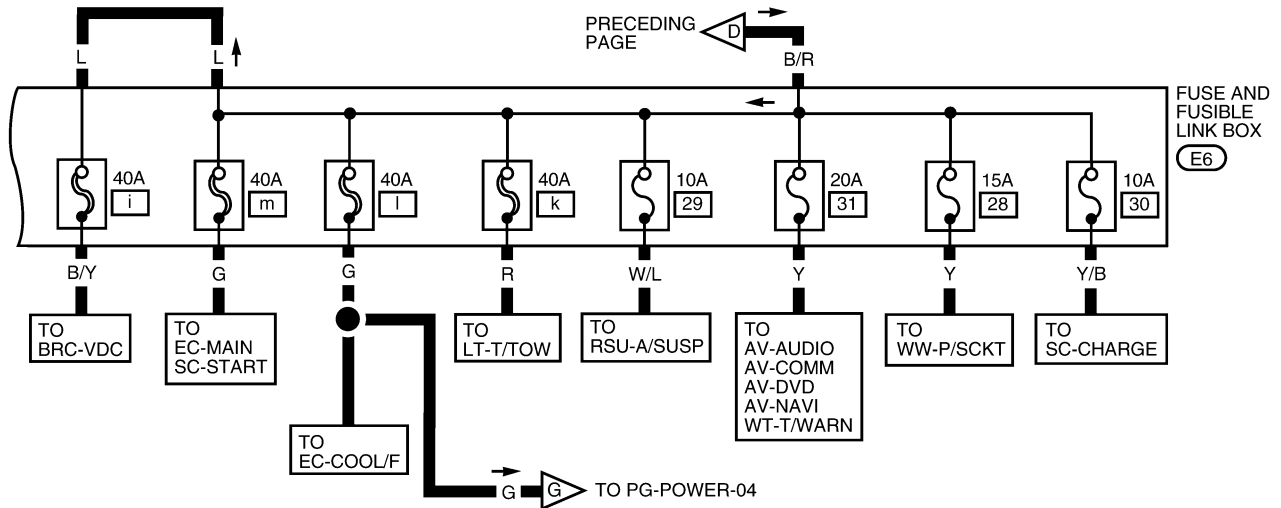
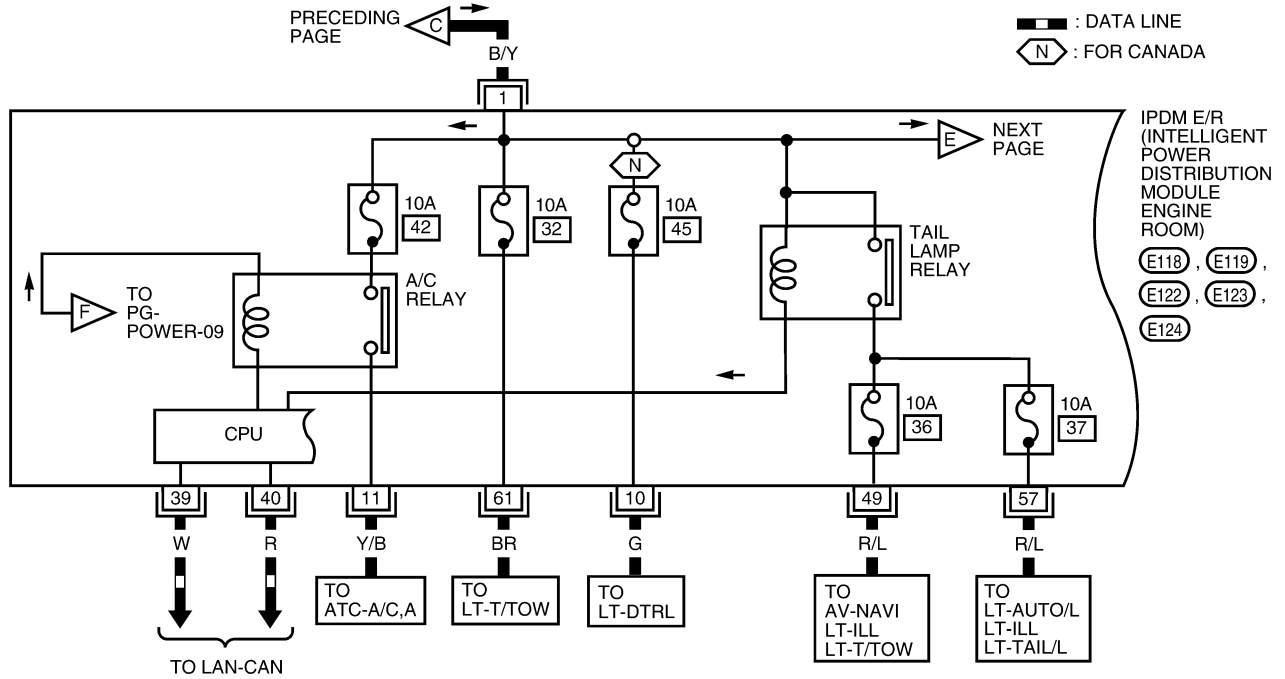
* FUSIBLE LINK



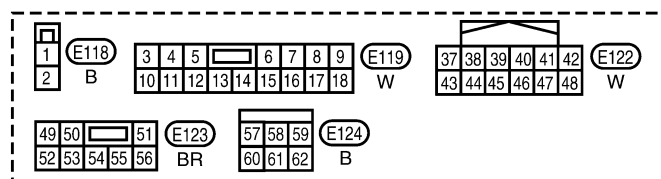
WKWA2505E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-02



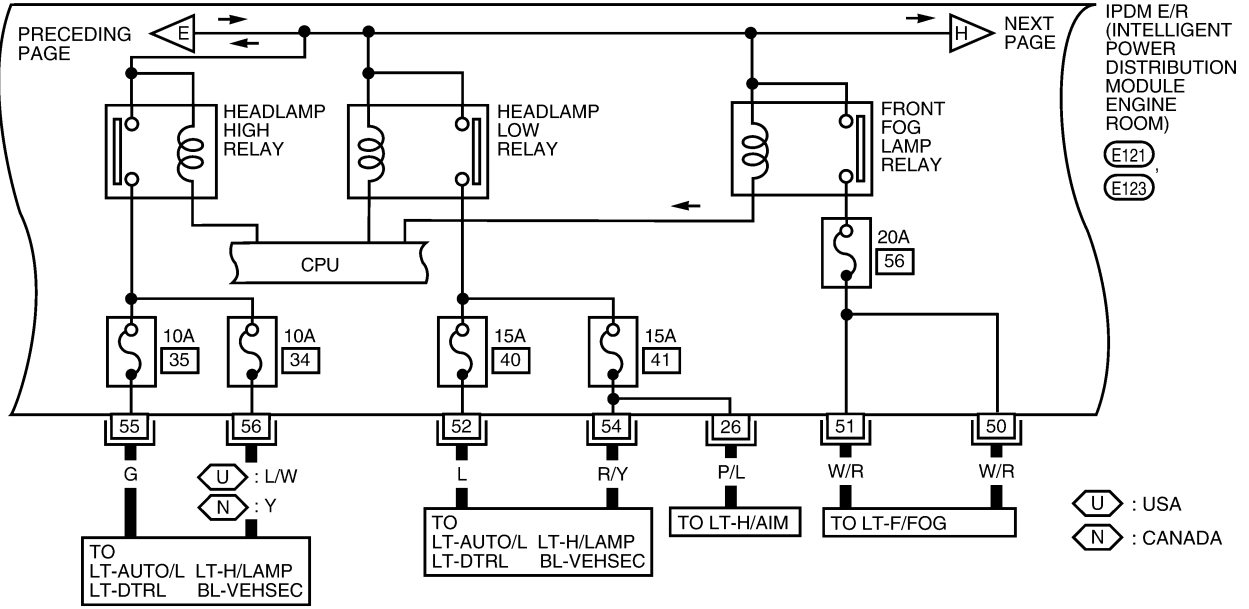
(E6)



WKWA2506E

POWER SUPPLY ROUTING CIRCUIT

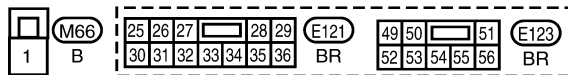
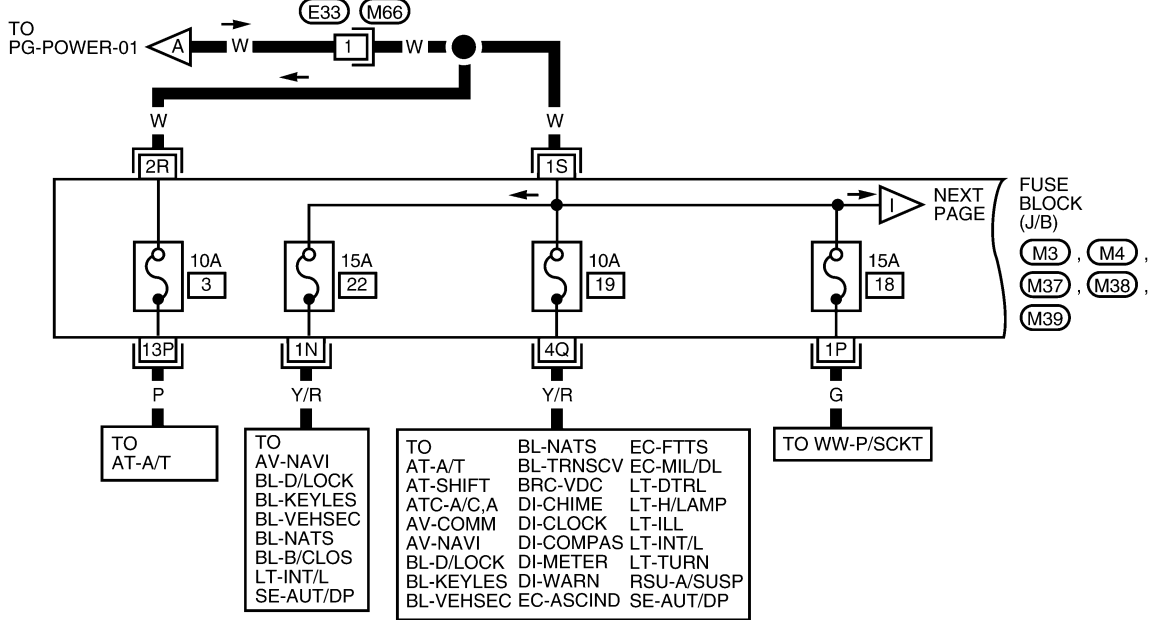
PG-POWER-03



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

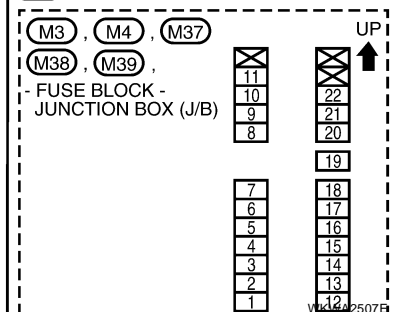
E121

E123



REFER TO THE FOLLOWING.

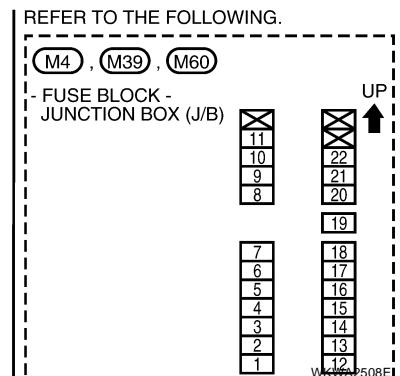
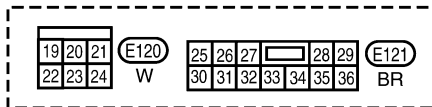
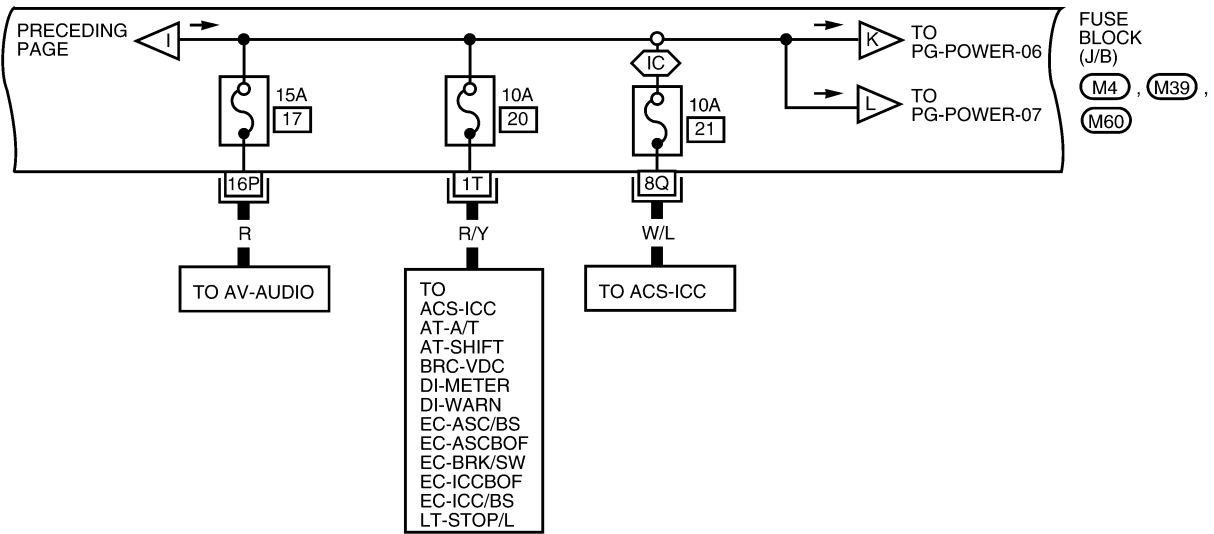
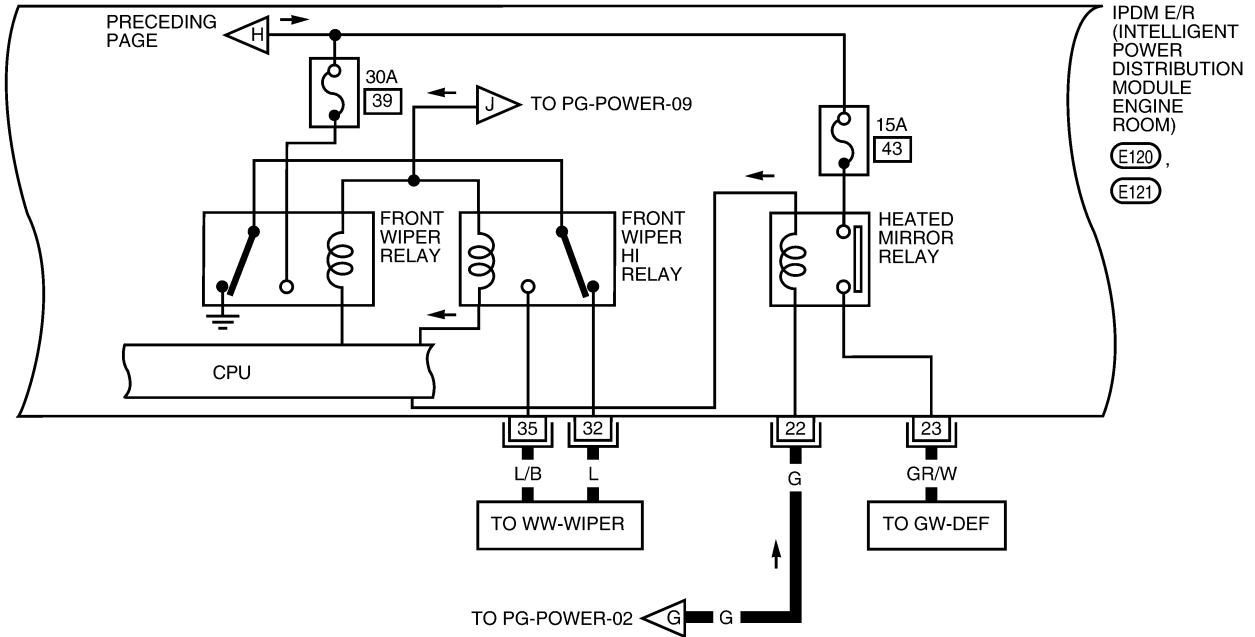
(M31) - SUPER MULTIPLE JUNCTION (SMJ)



POWER SUPPLY ROUTING CIRCUIT

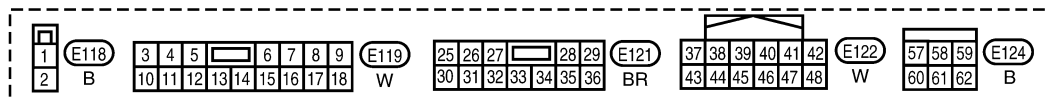
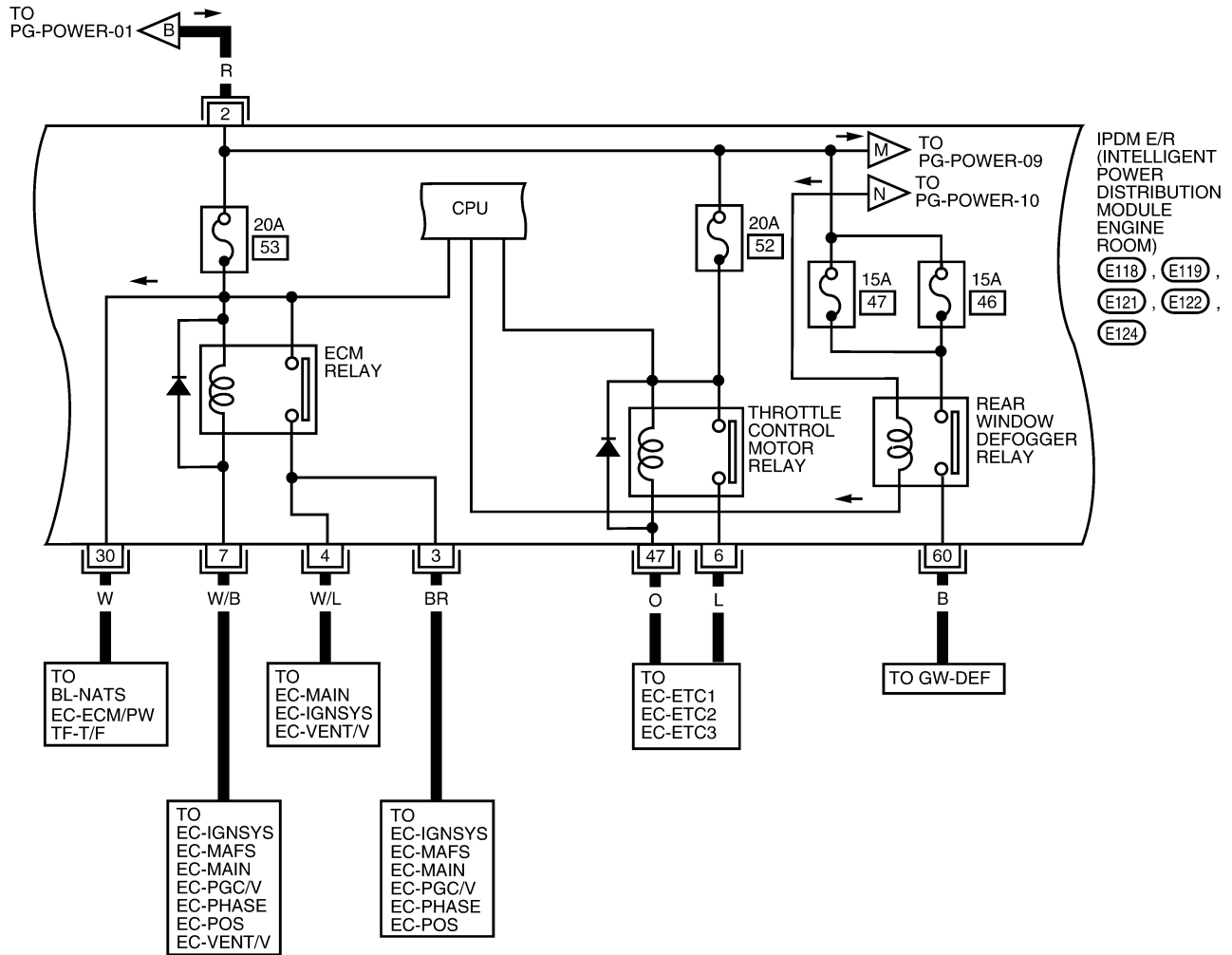
PG-POWER-04

⬡ : WITH ICC



POWER SUPPLY ROUTING CIRCUIT

PG-POWER-05

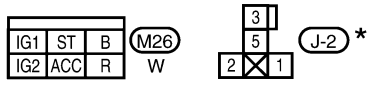
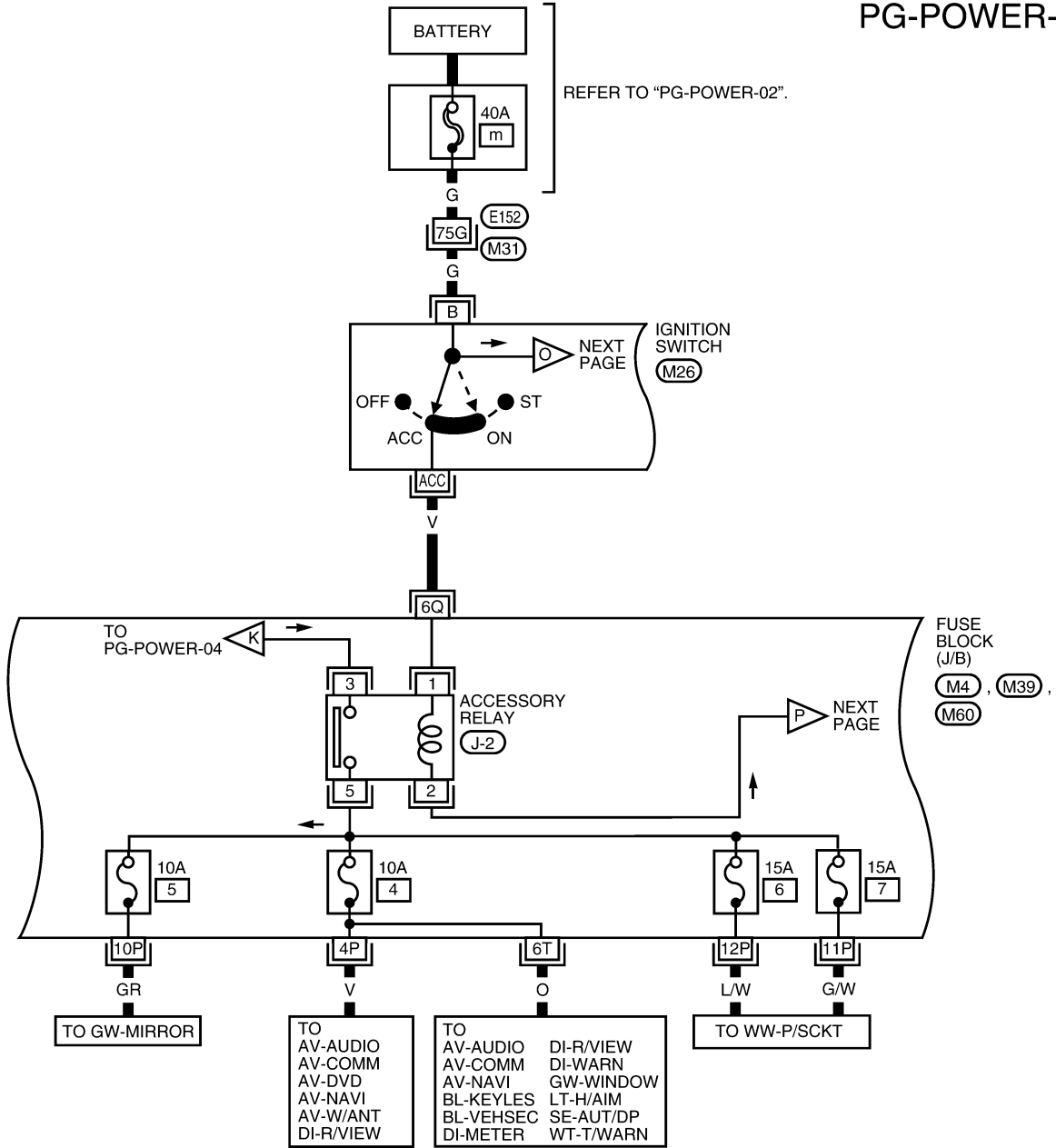


WKWA2509E

POWER SUPPLY ROUTING CIRCUIT

ACCESSORY POWER SUPPLY — IGNITION SW. IN ACC OR ON

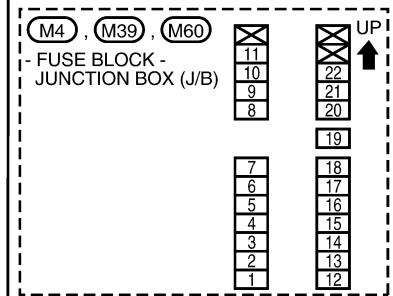
PG-POWER-06



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

REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

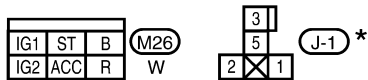
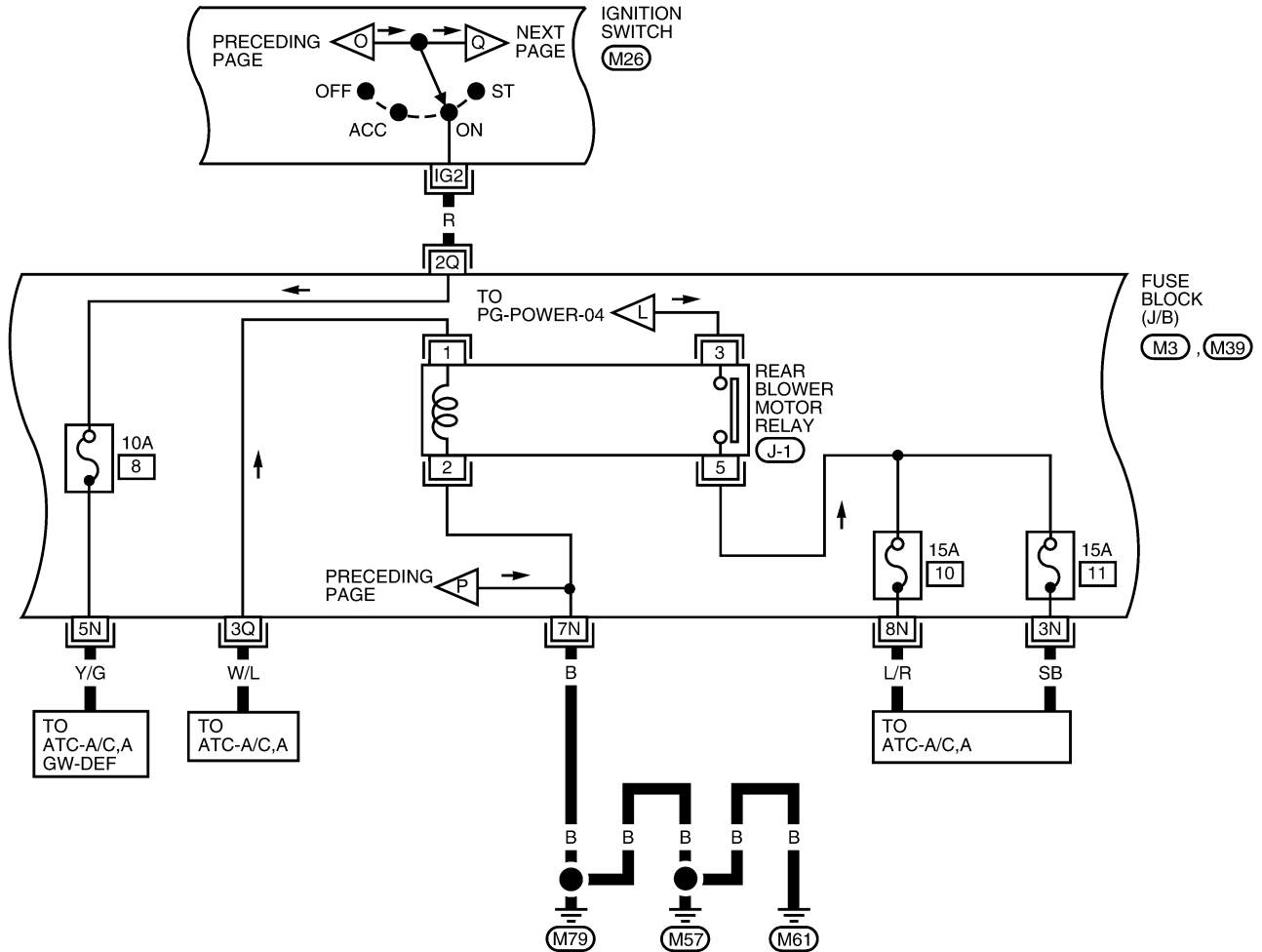


WKWA2510E

POWER SUPPLY ROUTING CIRCUIT

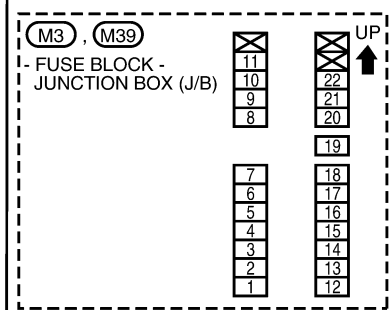
IGNITION POWER SUPPLY — IGNITION SW. IN ON

PG-POWER-07



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

REFER TO THE FOLLOWING.



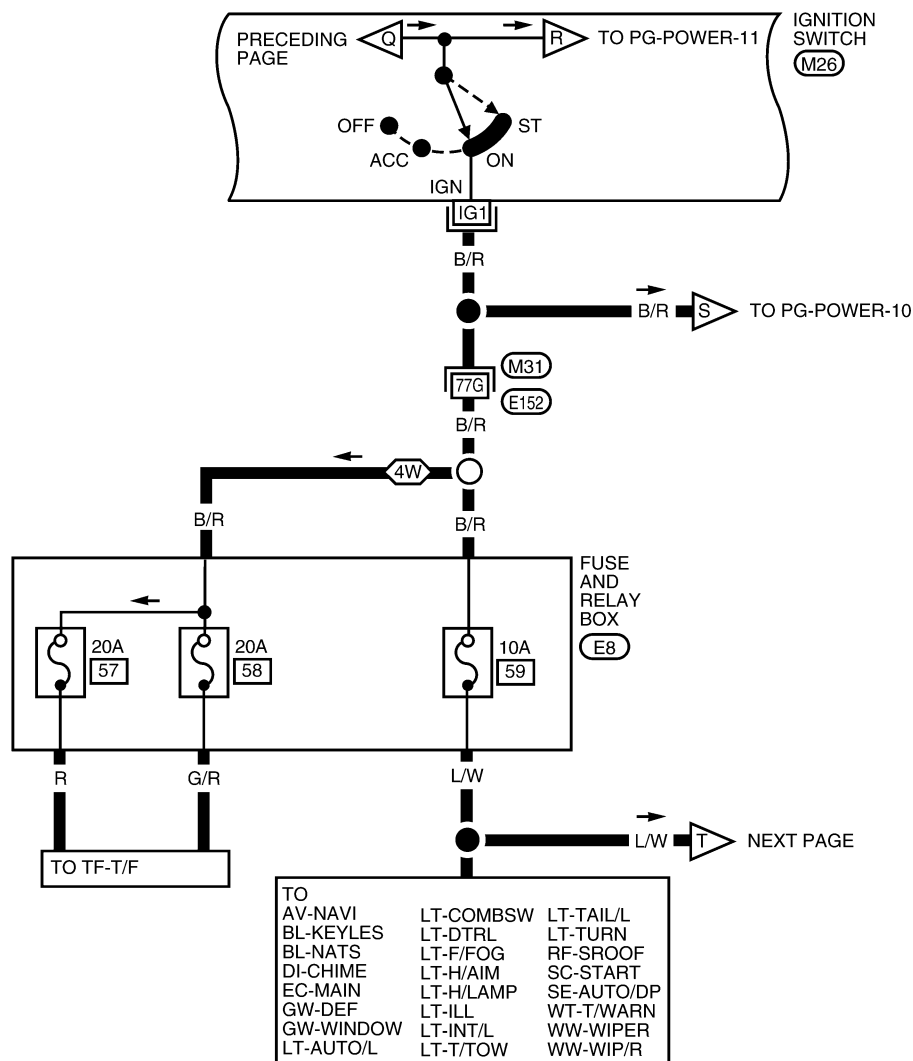
WKWA2511E

POWER SUPPLY ROUTING CIRCUIT

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

PG-POWER-08

4W : WITH 4-WHEEL DRIVE



| | | | |
|-----|-----|---|-------|
| IG1 | ST | B | (M26) |
| IG2 | ACC | R | |
| | | | W |

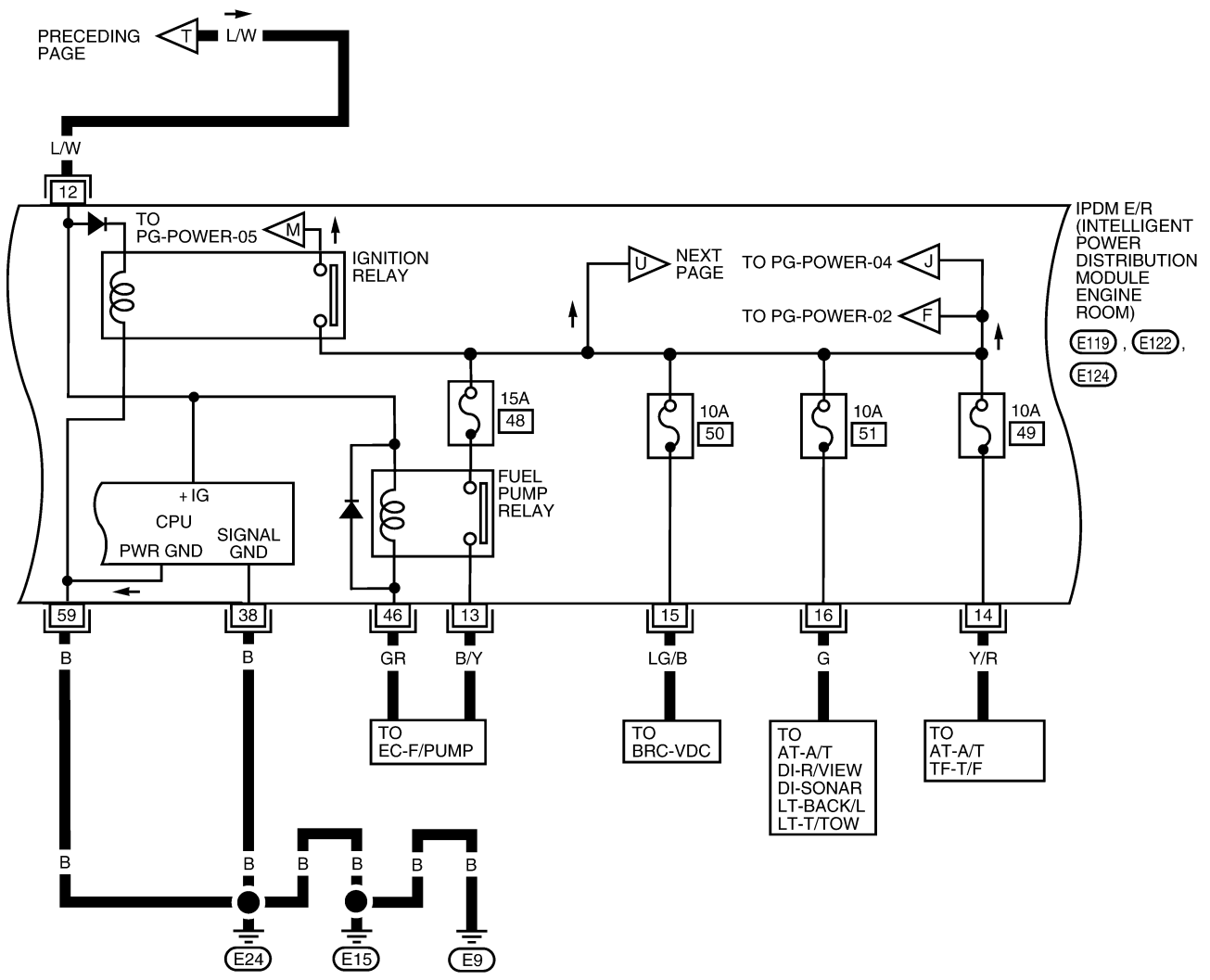
REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

WKWA2512E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-09

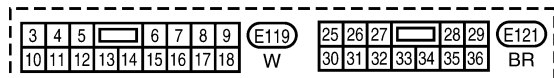
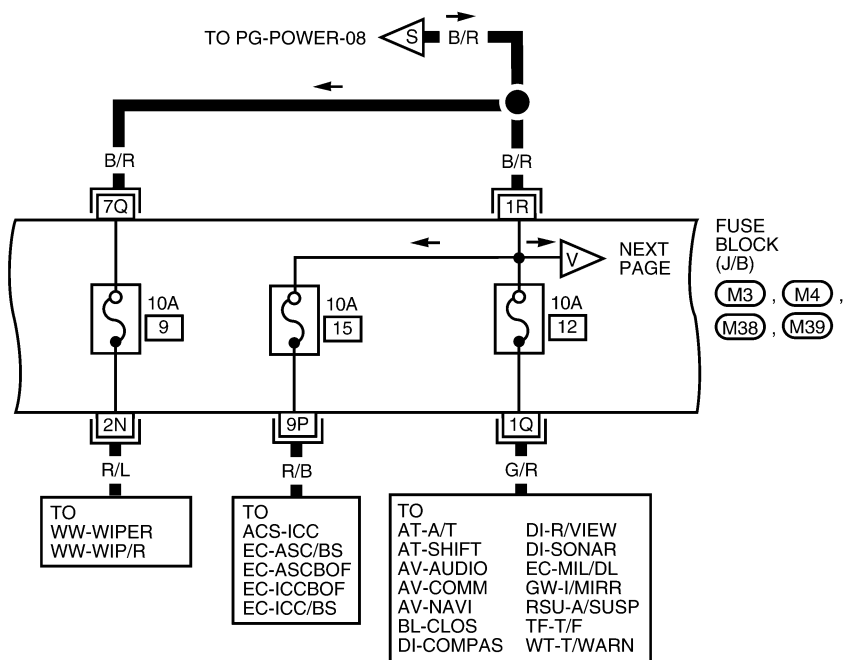
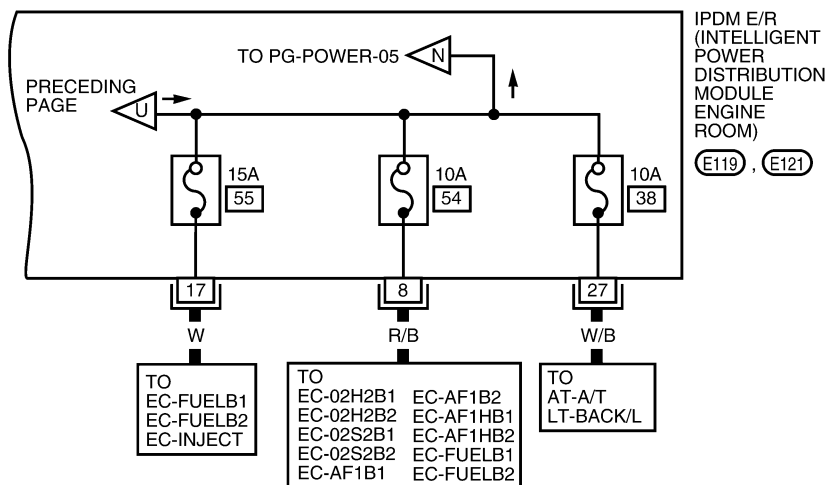


| | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|------|----|----|----|----|----|----|------|----|----|----|------|----|---|
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | E119 | 37 | 38 | 39 | 40 | 41 | 42 | E122 | 57 | 58 | 59 | E124 | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | W | 43 | 44 | 45 | 46 | 47 | 48 | W | 60 | 61 | 62 | B |

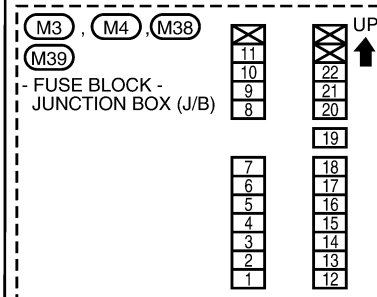
WKWA2513E

POWER SUPPLY ROUTING CIRCUIT

PG-POWER-10



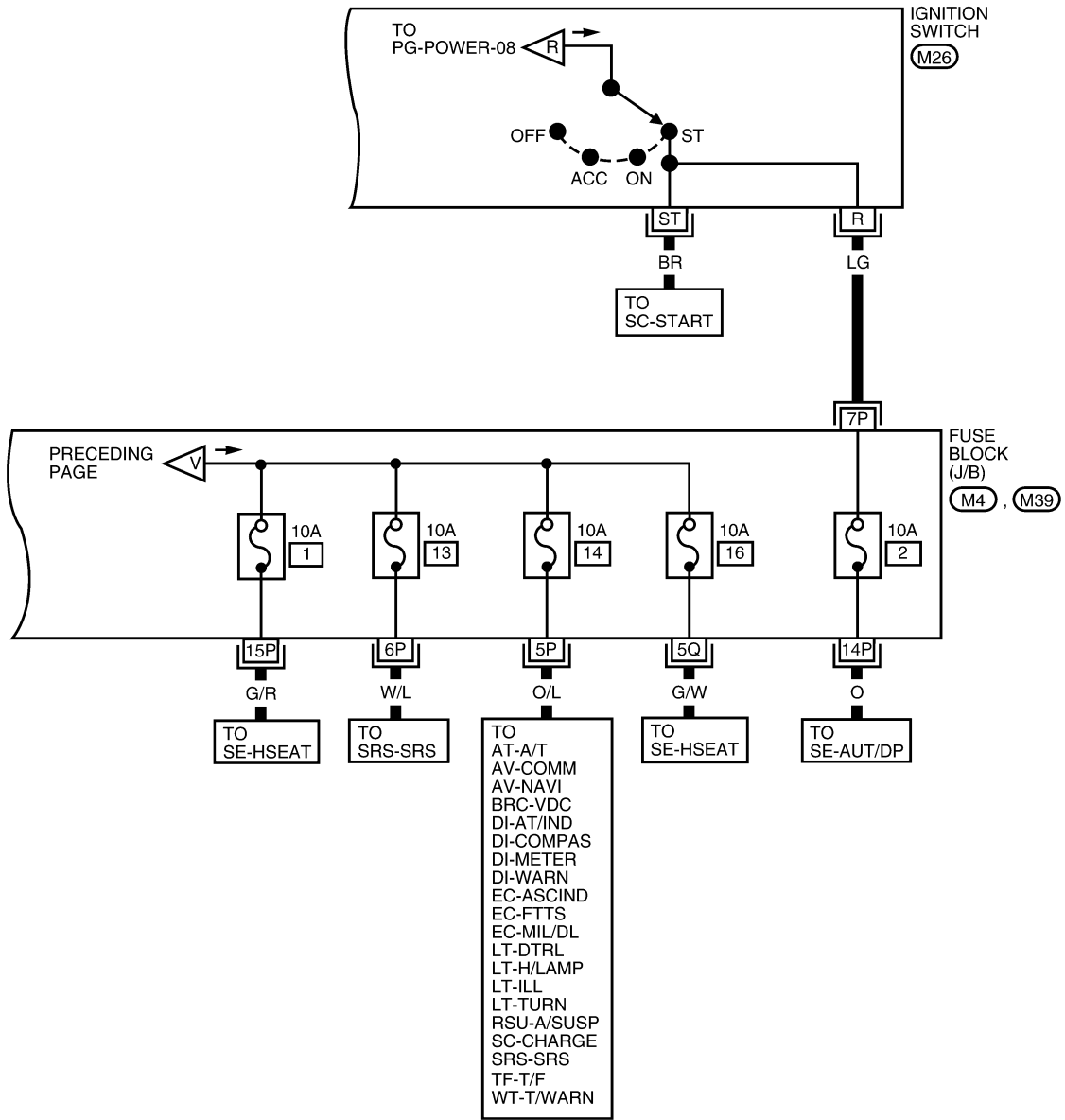
REFER TO THE FOLLOWING.



WKWA2514E

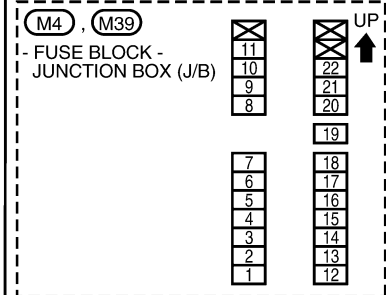
POWER SUPPLY ROUTING CIRCUIT

PG-POWER-11



| | | | |
|-----|-----|---|------------|
| IG1 | ST | B | (M26) W |
| IG2 | ACC | R | |

REFER TO THE FOLLOWING.



WKWA2515E

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

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

PFP:284B7

System Description

EKS007NN

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

CAUTION:

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

SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control
Using CAN communication lines, it receives signals from the BCM and controls the following lamps:
 - Headlamps (Hi, Lo)
 - Parking lamps
 - Tail lamps
 - Front fog lamps
2. Wiper control
Using CAN communication lines, it receives signals from the BCM and controls the front wipers.
3. Rear window defogger relay control
Using CAN communication lines, it receives signals from the BCM and controls the rear window defogger relay.
4. A/C compressor control
Using CAN communication lines, it receives signals from the ECM and controls the A/C compressor (magnetic clutch).
5. Starter control
Using CAN communication lines, it receives signals from the ECM and controls the starter relay.
6. Cooling fan control
Using CAN communication lines, it receives signals from the ECM and controls the cooling fan relays.
7. Horn control
Using CAN communication lines, it receives signals from the BCM and controls the horn relay.

CAN COMMUNICATION LINE CONTROL

With CAN communication, by connecting each control unit using two communication lines (CAN L-line, CAN H-line), it is possible to transmit a maximum amount of information with minimum wiring. Each control unit can transmit and receive data, and reads necessary information only.

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

| Controlled system | Fail-safe mode |
|------------------------|--|
| Headlamp | <ul style="list-style-type: none"> ● With the ignition switch ON, the headlamp (low) is ON. ● With the ignition switch OFF, the headlamp (low) is OFF. |
| Tail and parking lamps | <ul style="list-style-type: none"> ● With the ignition switch ON, the tail and parking lamps are ON. ● With the ignition switch OFF, the tail and parking lamps are OFF. |
| Cooling fan | <ul style="list-style-type: none"> ● With the ignition switch ON, the cooling fan HI operates. ● With the ignition switch OFF, the cooling fan stops. |
| Front wiper | Until the ignition switch is turned off, the front wiper LO and HI remains in the same status it was in just before fail-safe control was initiated. |
| Rear window defogger | Rear window defogger relay OFF |

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

| Controlled system | Fail-safe mode |
|-------------------|--------------------------|
| A/C compressor | A/C compressor OFF |
| Front fog lamps | Front fog lamp relay OFF |

IPDM E/R STATUS CONTROL

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

1. CAN communication status
 - CAN communication is normally performed with other control units.
 - Individual unit control by IPDM E/R is normally performed.
 - When sleep request signal is received from BCM, mode is switched to sleep waiting status.
2. Sleep waiting status
 - Process to stop CAN communication is activated.
 - All systems controlled by IPDM E/R are stopped. When 1 second has elapsed after CAN communication with other control units is stopped, mode switches to sleep status.
3. Sleep status
 - IPDM E/R operates in low current-consumption mode.
 - CAN communication is stopped.
 - When a change in CAN communication signal is detected, mode switches to CAN communication status.
 - When a change in ignition switch signal is detected, mode switches to CAN communication status.

CAN Communication System Description

EKS007NO

Refer to [LAN-5, "CAN COMMUNICATION"](#) .

Function of Detecting Ignition Relay Malfunction

EKS007NP

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

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

NOTE:

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

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

CONSULT-II Function (IPDM E/R)

EKS007N0

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

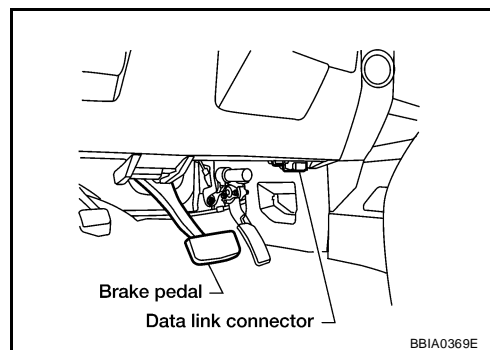
| IPDM E/R diagnostic mode | Description |
|--------------------------|---|
| SELF-DIAG RESULTS | Displays IPDM E/R self-diagnosis results. |
| DATA MONITOR | Displays IPDM E/R input/output data in real time. |
| CAN DIAG SUPPORT MNTR | The result of transmit/receive diagnosis of CAN communication can be read. |
| ACTIVE TEST | Operation of electrical loads can be checked by sending drive signal to them. |

CONSULT-II BASIC OPERATION

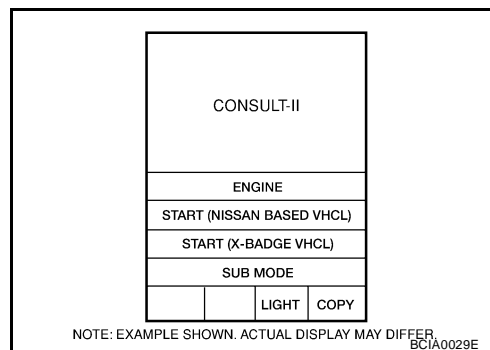
CAUTION:

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

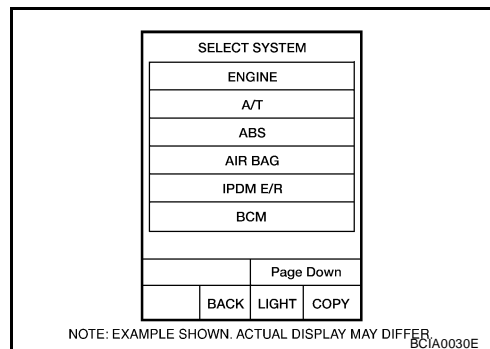
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



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

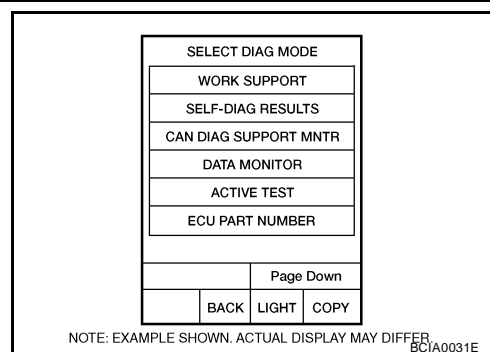


3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
 - If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-39. "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



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

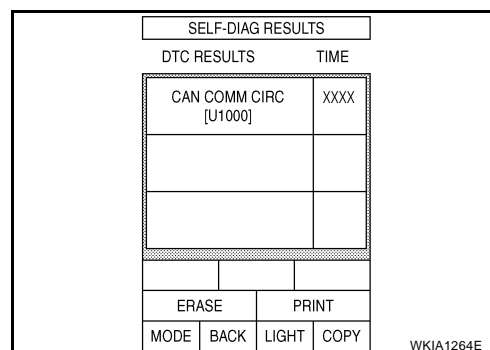
- Select the desired part to be diagnosed on the "SELECT DIAG MODE" screen.



SELF-DIAGNOSTIC RESULTS

Operation Procedure

- Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
- Self-diagnosis results are displayed.



Display Item List

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

NOTE:

The details for display of the period are as follows:

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

DATA MONITOR

Operation Procedure

- Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
- Touch "ALL SIGNALS", "MAIN SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

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

- Touch "START".
- Touch the required monitoring item on "SELECTION FROM MENU".

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

5. Touch "RECORD" while monitoring to record the status of the item being monitored. To stop recording, touch "STOP".

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

All Signals, Main Signals, Selection From Menu

| Item name | CONSULT-II screen display | Display or unit | Monitor item selection | | | Description |
|------------------------------|---------------------------|------------------|------------------------|--------------|---------------------|---|
| | | | ALL SIGNALS | MAIN SIGNALS | SELECTION FROM MENU | |
| Motor fan request | MOTOR FAN REQ | 1/2/3/4 | X | X | X | Signal status input from ECM |
| Compressor request | AC COMP REQ | ON/OFF | X | X | X | Signal status input from ECM |
| Position lights request | TAIL & CLR REQ | ON/OFF | X | X | X | Signal status input from BCM |
| Headlamp low beam request | HL LO REQ | ON/OFF | X | X | X | Signal status input from BCM |
| Headlamp high beam request | HL HI REQ | ON/OFF | X | X | X | Signal status input from BCM |
| Front fog lights request | FR FOG REQ | ON/OFF | X | X | X | Signal status input from BCM |
| Front wiper request | FR WIP REQ | STOP/1LOW/LOW/HI | X | X | X | Signal status input from BCM |
| Wiper auto stop | WIP AUTO STOP | ACT P/STOP P | X | X | X | Output status of IPDM E/R |
| Wiper protection | WIP PROT | OFF/Block | X | X | X | Control status of IPDM E/R |
| Starter request | ST RLY REQ | ON/OFF | X | | X | Status of input signal ^{NOTE} |
| Ignition relay status | IGN RLY | ON/OFF | X | X | X | Ignition relay status monitored with IPDM E/R |
| Rear defogger request | RR DEF REQ | ON/OFF | X | X | X | Signal status input from BCM |
| Oil pressure switch | OIL P SW | OPEN/CLOSE | X | | X | Signal status input from IPDM E/R (function is not enabled) |
| Hood switch | HOOD SW | OFF | X | | | Signal status input from IPDM E/R (function is not enabled) |
| Theft warning horn request | THFT HRN REQ | ON/OFF | X | | X | Signal status input from BCM |
| Horn chirp | HORN CHIRP | ON/OFF | X | | X | Output status of IPDM E/R |
| Daytime running lamp request | DTRL REQ | ON/OFF | X | | X | Signal status input from BCM |

NOTE:

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

ACTIVE TEST

Operation Procedure

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

| Test name | CONSULT-II screen display | Description |
|---------------------------------|---------------------------|---|
| Rear defogger output | REAR DEFOGGER | With a certain ON-OFF operation, the rear defogger relay can be operated. |
| Front wiper (HI, LO) output | FRONT WIPER | With a certain operation (OFF, HI, LO), the front wiper relay (Lo, Hi) can be operated. |
| Cooling fan output | MOTOR FAN | With a certain operation (1, 2, 3, 4), the cooling fan can be operated. |
| Lamp (HI, LO, TAIL, FOG) output | EXTERNAL LAMPS | With a certain operation (OFF, TAIL, LO, HI, FOG), the lamp relay (Low, High, Tail, Fog) can be operated. |

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

| Test name | CONSULT-II screen display | Description |
|-----------------------|---------------------------|--|
| Cornering lamp output | CORNERING LAMP | — |
| Horn output | HORN | With a certain ON-OFF operation, the horn relay can be operated. |

Auto Active Test DESCRIPTION

EKS007NR

- In auto active test mode, operation inspection can be performed when IPDM E/R sends a drive signal to the following systems:
 - Rear window defogger
 - Front wipers
 - Tail and parking lamps
 - Front fog lamps
 - Headlamps (Hi, Lo)
 - A/C compressor (magnet clutch)
 - Cooling fan

OPERATION PROCEDURE

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

NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

2. Turn ignition switch OFF.
3. Turn ignition switch ON and, within 20 seconds, press front door switch LH 10 times. Then turn ignition switch OFF.
4. Turn ignition switch ON within 10 seconds after ignition switch OFF.
5. When auto active test mode is actuated, horn chirps once.
6. After a series of operations is repeated three times, auto active test is completed.

NOTE:

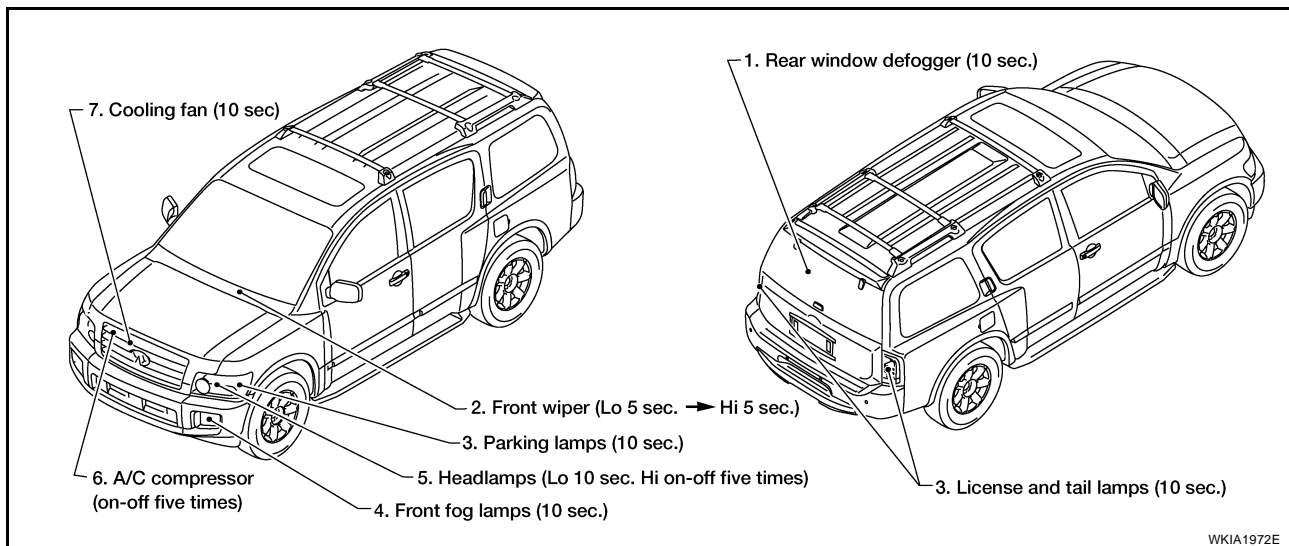
When auto active test mode has to be cancelled halfway, turn ignition switch OFF.

CAUTION:

Be sure to perform [BL-93, "Door Switch Check"](#) when the auto active test cannot be performed.

INSPECTION IN AUTO ACTIVE TEST MODE

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



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

Concept of Auto Active Test

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

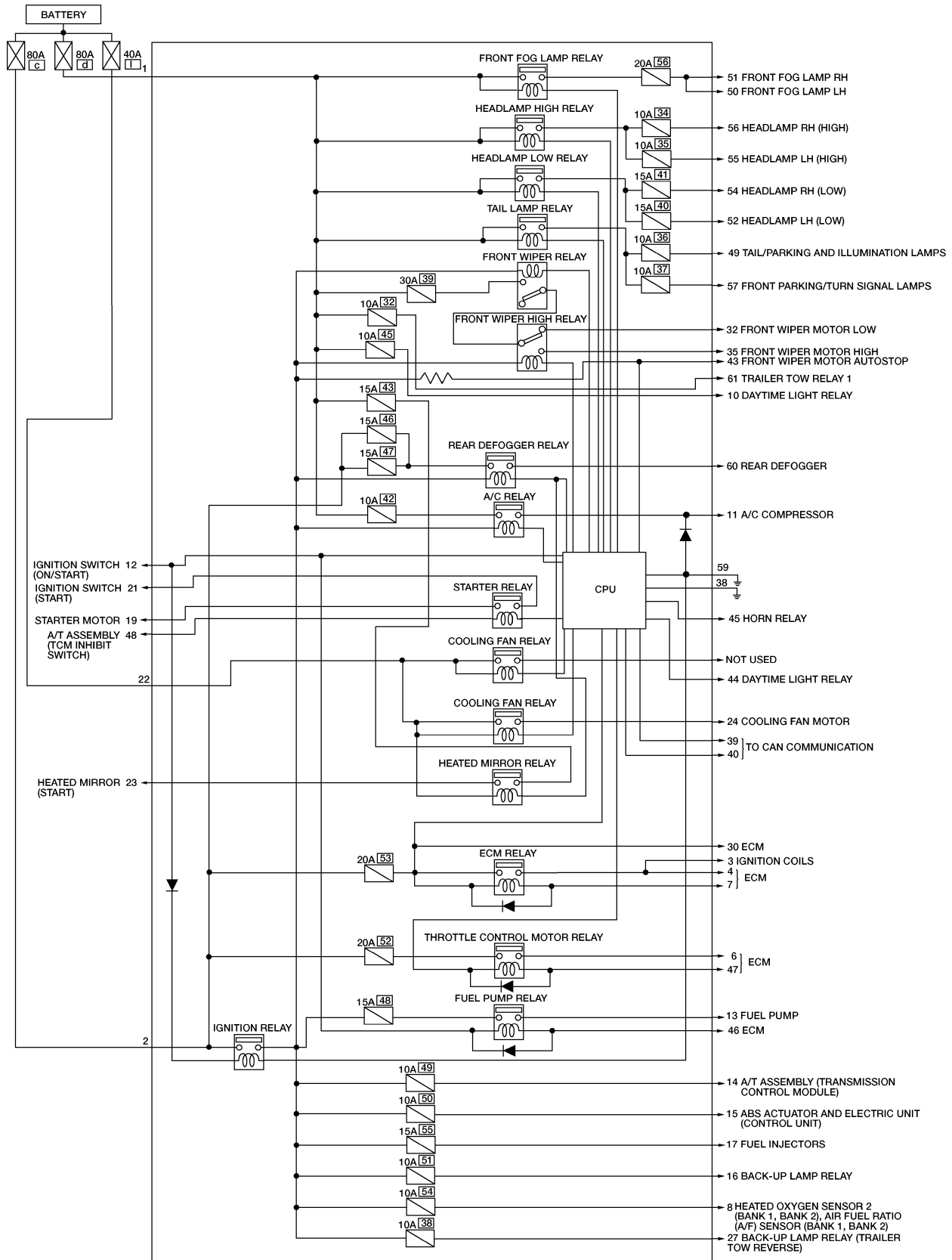
Diagnosis chart in auto active test mode

| Symptom | Inspection contents | Possible cause | |
|--|--|----------------|---|
| Rear window defogger does not operate. | Perform auto active test. Does rear window defogger operate? | YES | ● BCM signal input circuit |
| | | NO | <ul style="list-style-type: none"> ● Rear window defogger relay ● Open circuit of rear window defogger ● IPDM E/R malfunction ● Harness or connector malfunction between IPDM E/R and rear window defogger |
| Any of front wipers, tail and parking lamps, front fog lamps, and headlamps (Hi, Lo) do not operate. | Perform auto active test. Does system in question operate? | YES | ● BCM signal input system |
| | | NO | <ul style="list-style-type: none"> ● Lamp/wiper motor malfunction ● Lamp/wiper motor ground circuit malfunction ● Harness/connector malfunction between IPDM E/R and system in question ● IPDM E/R (integrated relay) malfunction |
| A/C compressor does not operate. | Perform auto active test. Does magnet clutch operate? | YES | <ul style="list-style-type: none"> ● BCM signal input circuit ● CAN communication signal between BCM and ECM ● CAN communication signal between ECM and IPDM E/R |
| | | NO | <ul style="list-style-type: none"> ● Magnet clutch malfunction ● Harness/connector malfunction between IPDM E/R and magnet clutch ● IPDM E/R (integrated relay) malfunction |
| Cooling fan does not operate. | Perform auto active test. Does cooling fan operate? | YES | <ul style="list-style-type: none"> ● ECM signal input circuit ● CAN communication signal between ECM and IPDM E/R |
| | | NO | <ul style="list-style-type: none"> ● Cooling fan motor malfunction ● Harness/connector malfunction between IPDM E/R and cooling fan motor ● IPDM E/R (integrated relay) malfunction |

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

Schematic

EKS007NS

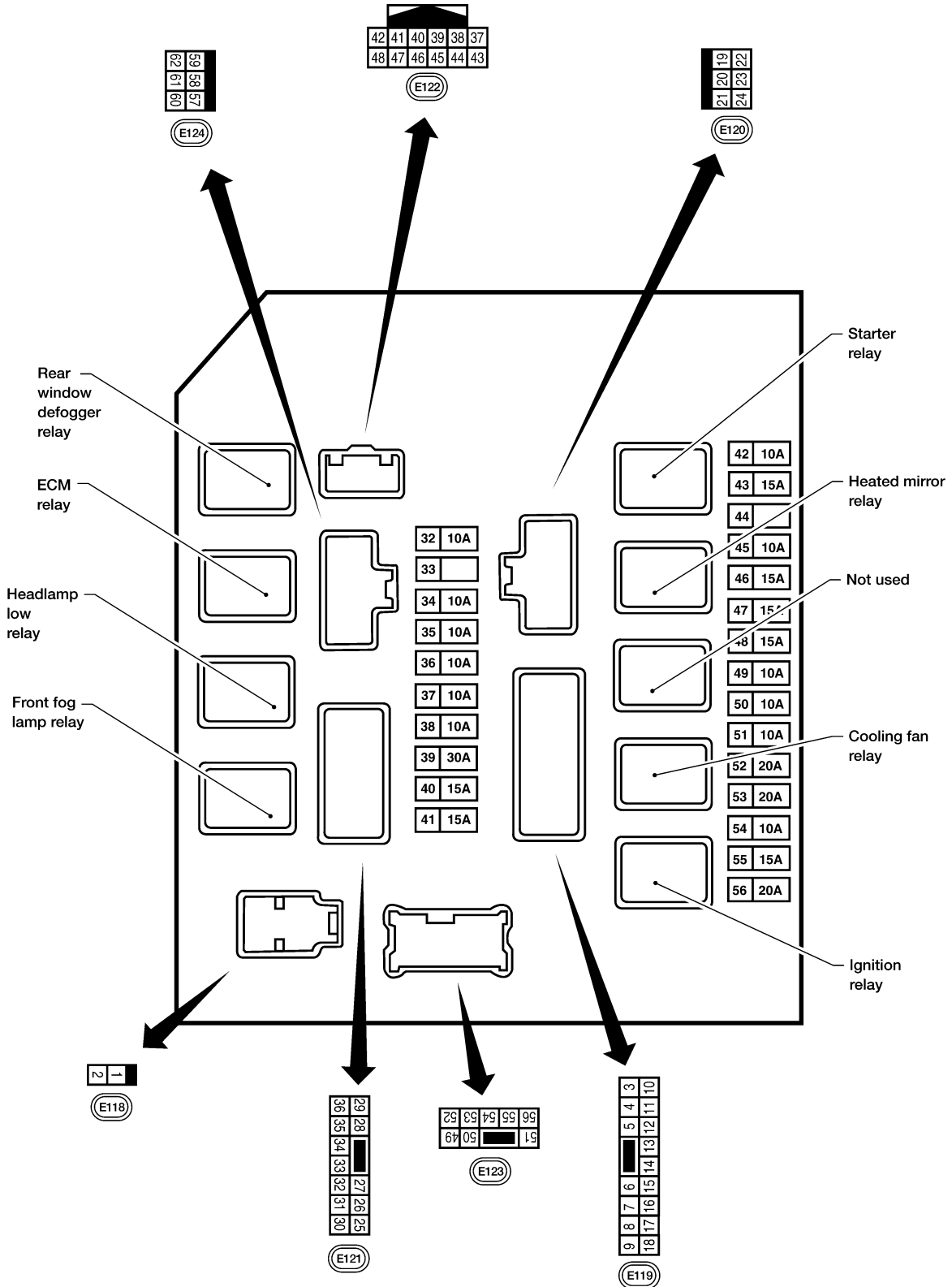


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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

IPDM E/R Terminal Arrangement

EKS007NT



WKIA4231E

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

IPDM E/R Power/Ground Circuit Inspection

EKS007NU

1. FUSE AND FUSIBLE LINK INSPECTION

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

| Terminal No. | Signal name | Fuse, fusible link No. |
|--------------|---------------|------------------------|
| 1, 2 | Battery power | a, c, d |

OK or NG

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

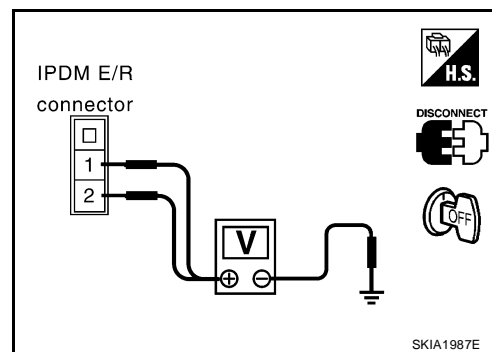
2. POWER CIRCUIT INSPECTION

- Disconnect IPDM E/R harness connector E118.
- Check voltage between IPDM E/R harness connector E118 terminals 1 (B/Y), 2 (R) and ground.

Battery voltage should exist.

OK or NG

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



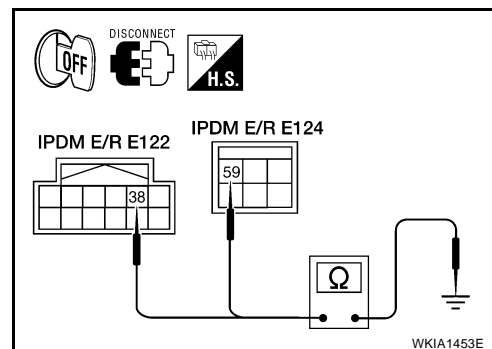
3. GROUND CIRCUIT INSPECTION

- Disconnect IPDM E/R harness connectors E122 and E124.
- Check continuity between IPDM E/R harness connector E122 terminal 38 (B), and E124 terminal 59 (B) and ground.

Continuity should exist.

OK or NG

- OK >> Inspection End.
- NG >> Repair or replace ground circuit harness of IPDM E/R.



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

Inspection with CONSULT-II (Self-Diagnosis)

EKS007NV

CAUTION:

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

1. SELF-DIAGNOSIS RESULT CHECK

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

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

NOTE:

The Details for Display for the Period are as follows:

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

Contents displayed

NO DTC DETECTED. FURTHER TESTING MAY BE REQUIRED.>>Inspection End.

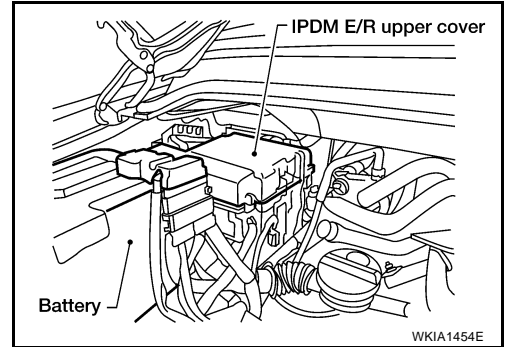
CAN COMM CIRC>>Print out the self-diagnosis result and refer to [LAN-5, "CAN COMMUNICATION"](#) .

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

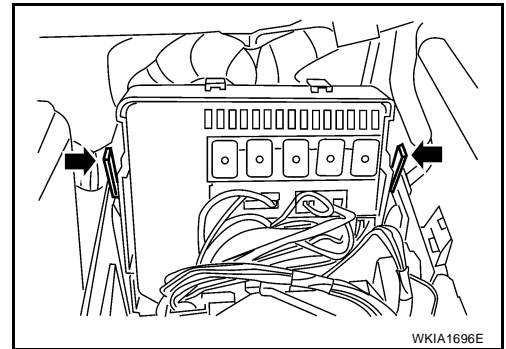
EKS007NW

Removal and Installation of IPDM E/R REMOVAL

1. Disconnect negative battery cable.
2. Remove IPDM E/R upper cover.



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



INSTALLATION

Installation is in the reverse order of removal.

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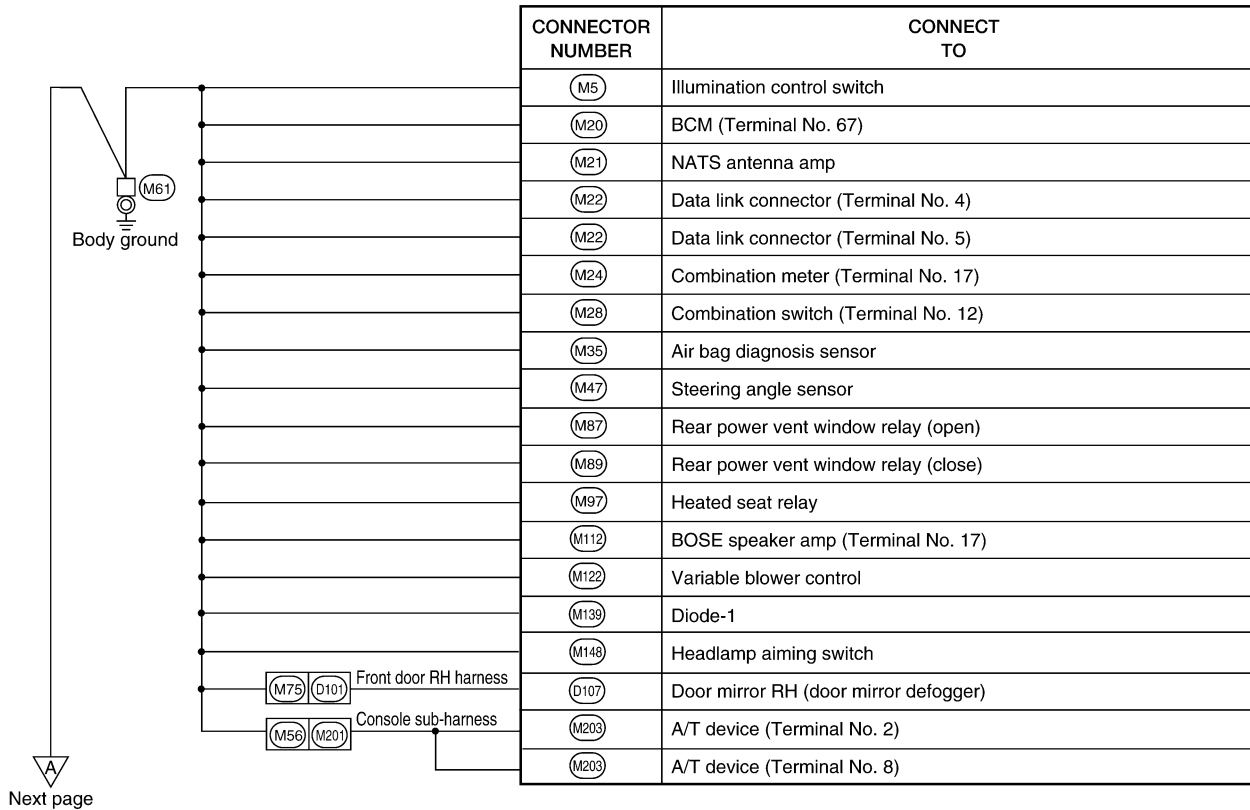
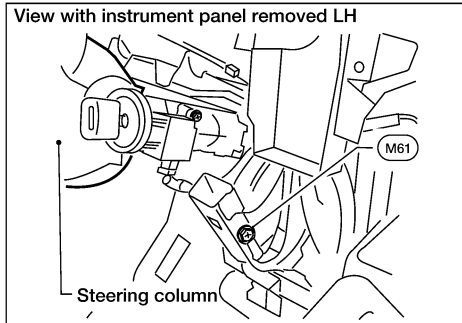
GROUND CIRCUIT

PFP:24080

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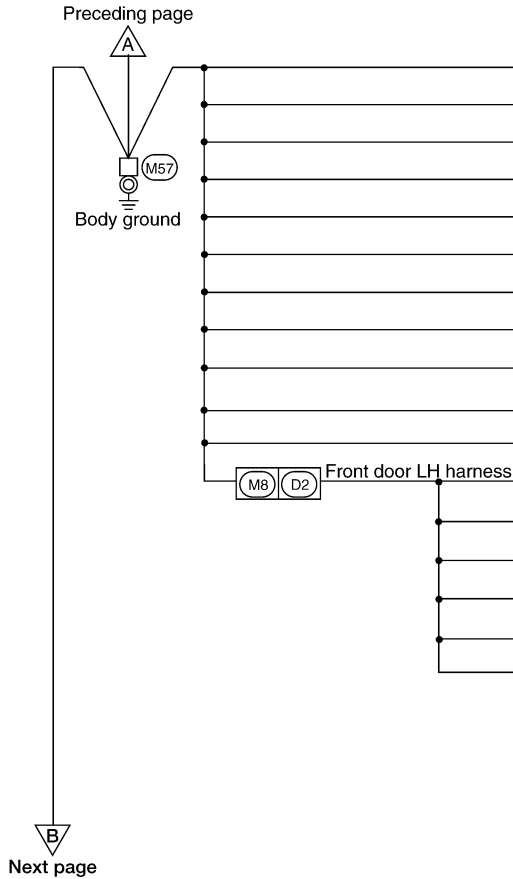
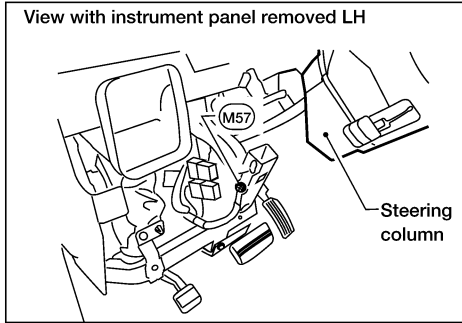
GROUND CIRCUIT

Ground Distribution MAIN HARNESS



WKIA3525E

GROUND CIRCUIT

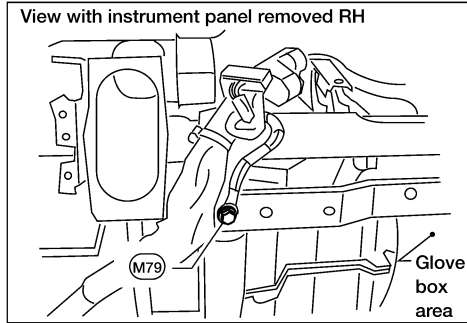


| CONNECTOR NUMBER | CONNECT TO |
|------------------|---|
| M16 | ADP steering switch |
| M34 | Automatic drive positioner control unit (Terminal No. 40) |
| M34 | Automatic drive positioner control unit (Terminal No. 48) |
| M76 | Electric brake (pre-wiring) |
| M92 | Power liftgate switch |
| M93 | Display unit (Terminal No. 1) |
| M94 | Display control unit (Terminal No. 3) |
| M94 | Display control unit (Terminal No. 13) |
| M96 | Pedal adjusting switch |
| M116 | Rear sonar system OFF switch (Terminal No. 6) |
| M116 | Rear sonar system OFF switch (Terminal No. 2) |
| D4 | Door mirror LH (door mirror defogger) |
| D5 | Seat memory switch |
| D7 | Main power window and door lock/unlock switch (Terminal No. 15) |
| D8 | Main power window and door lock/unlock switch (Terminal No. 17) |
| D10 | Door mirror switch |
| D14 | Front door lock assembly LH |

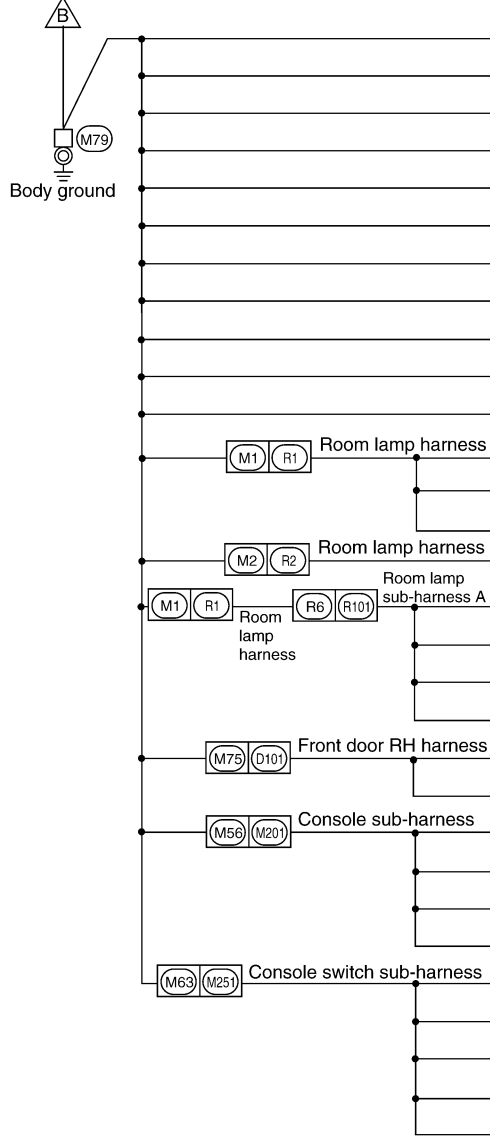
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GROUND CIRCUIT



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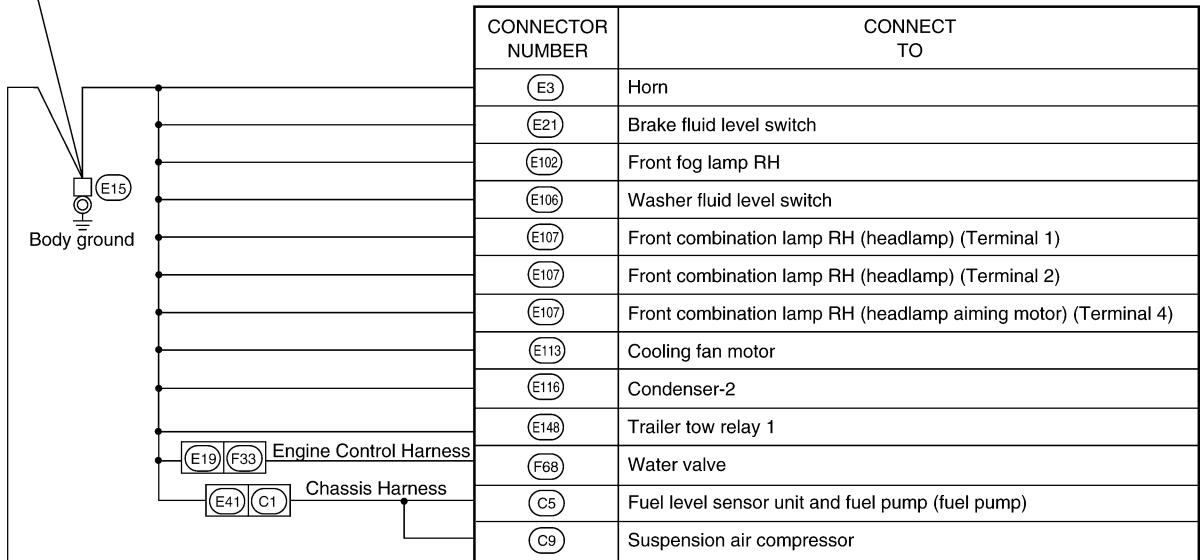
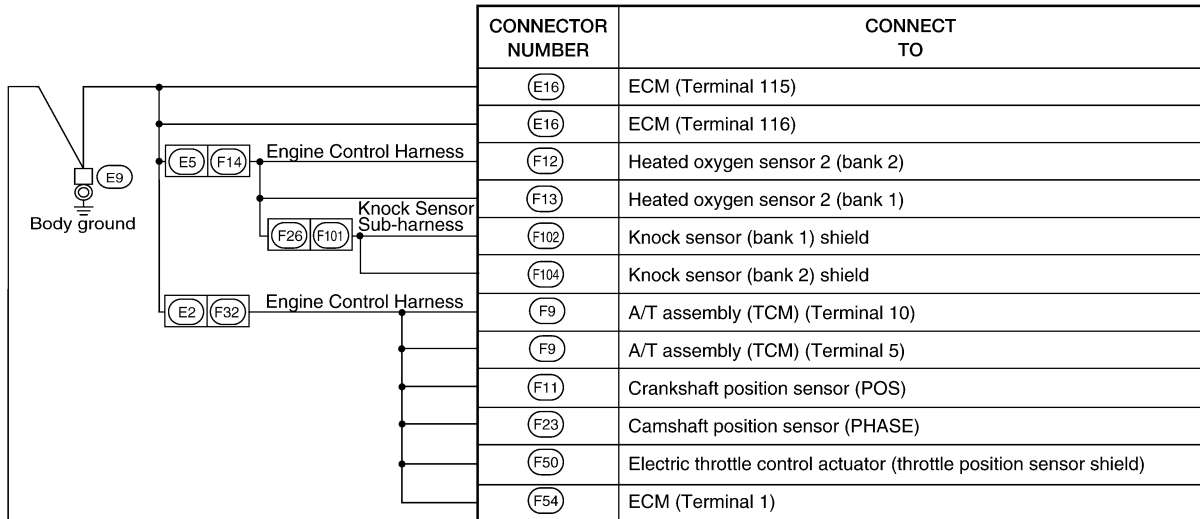
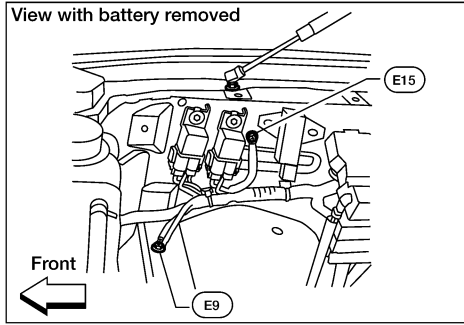


| CONNECTOR NUMBER | CONNECT TO |
|------------------|---|
| (M3) | Fuse block J/B |
| (M13) | Front passenger air bag off indicator |
| (M49) | Front air control (Terminal No. 1) |
| (M52) | Rear blower switch (front) |
| (M53) | Front power socket LH |
| (M54) | Front power socket RH (for cigarette lighter) |
| (M55) | Hazard switch |
| (M59) | Glove box lamp |
| (M81) | Shift lock control unit |
| (M98) | AV switch |
| (M149) | Clock |
| (R3) | Vanity lamp LH |
| (R7) | Auto anti-dazzling inside mirror |
| (R8) | Vanity lamp RH |
| (R4) | Sunroof motor |
| (R102) | Front room/map lamp assembly |
| (R103) | Rear power vent window switch |
| (R105) | Compass and thermometer |
| (R106) | HOMELINK universal transceiver |
| (D105) | Power window and door lock/unlock switch RH |
| (D107) | Door mirror RH (door mirror defogger) |
| (M206) | DVD player (Terminal No. 22) |
| (M207) | Console power socket |
| (M208) | Rear heated seat switch LH |
| (M209) | Rear heated seat switch RH |
| (M252) | Front heated seat switch RH |
| (M253) | VDC OFF switch |
| (M254) | Tow mode switch (Terminal No. 2) |
| (M254) | Tow mode switch (Terminal No. 6) |
| (M255) | Front heated seat switch LH |

WKIA3527E

GROUND CIRCUIT

ENGINE ROOM HARNESS



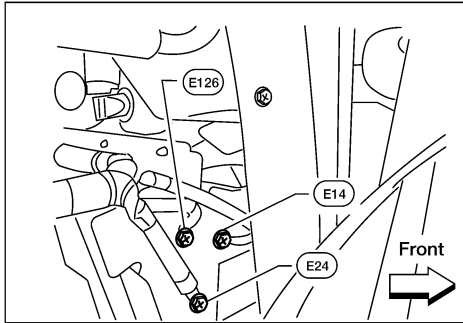
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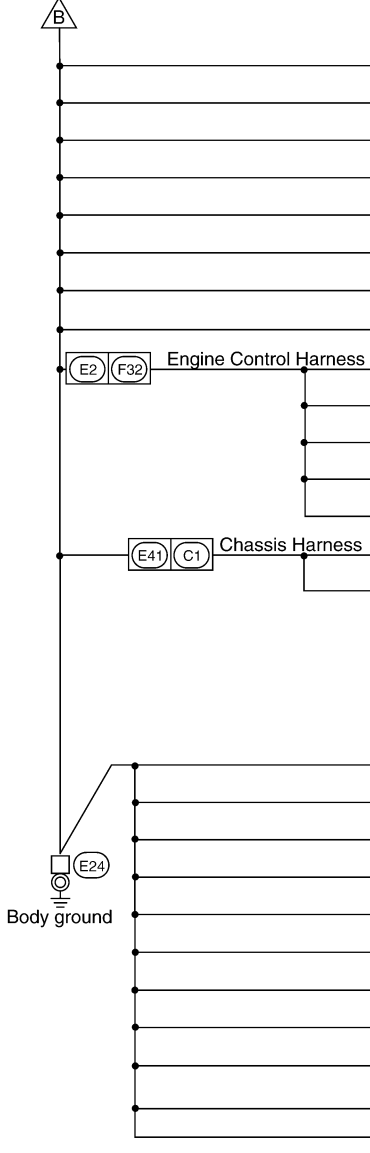
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WKIA4232E

GROUND CIRCUIT



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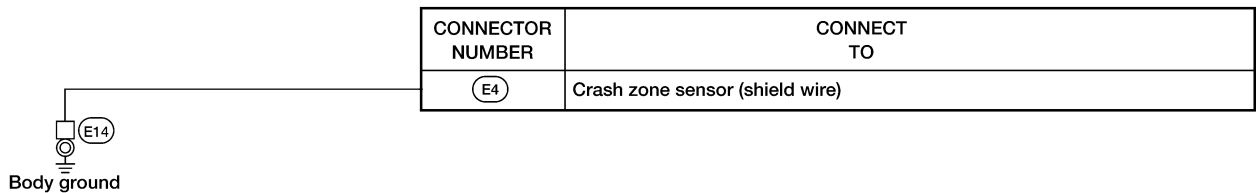
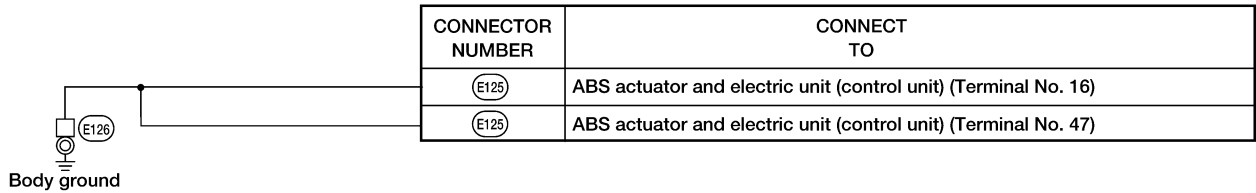
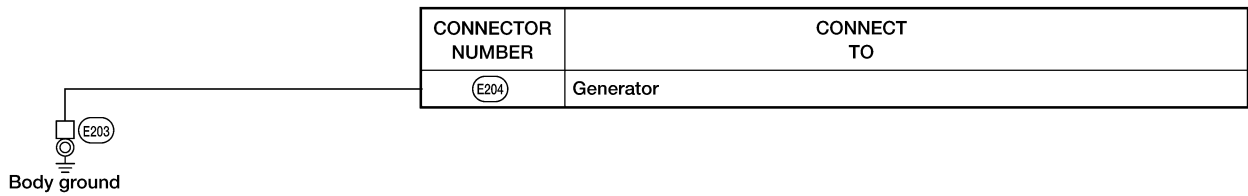
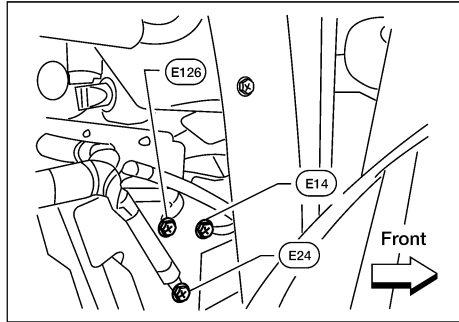
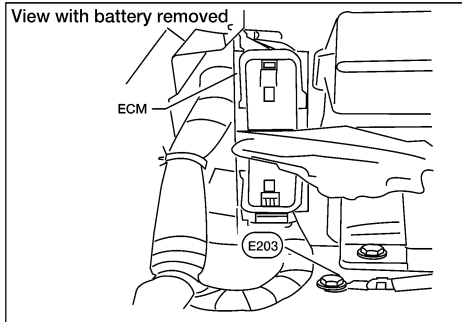


| CONNECTOR NUMBER | CONNECT TO |
|------------------|--|
| (E46) | Transfer shift high relay (Terminal No. 2) |
| (E46) | Transfer shift high relay (Terminal No. 4) |
| (E47) | Transfer shift low relay (Terminal No. 2) |
| (E47) | Transfer shift low relay (Terminal No. 4) |
| (E130) | Compressor motor relay |
| (E140) | Trailer tow relay 2 |
| (E148) | Trailer tow relay 1 |
| (E142) | Transfer control unit |
| (F55) | ATP switch |
| (F57) | Transfer motor |
| (F58) | Transfer control device (actuator position switch) (Terminal No. 22) |
| (F59) | Wait detection switch |
| (F60) | Neutral-4LO switch |
| (C2) | Trailer |
| (C9) | Suspension air compressor |

| CONNECTOR NUMBER | CONNECT TO |
|------------------|--|
| (E6) | Hood switch |
| (E11) | Front combination lamp LH (headlamp) (Terminal No. 1) |
| (E11) | Front combination lamp LH (headlamp) (Terminal No. 2) |
| (E11) | Front combination lamp LH (headlamp aiming motor) (Terminal No. 4) |
| (E23) | Front wiper motor |
| (E42) | ICC sensor |
| (E46) | Front fog lamp LH |
| (E46) | Daytime light relay |
| (E47) | IPDM E/R (Terminal No. 38) |
| (E47) | IPDM E/R (Terminal No. 59) |
| (E101) | ICC brake hold relay |

WKIA3528E

GROUND CIRCUIT



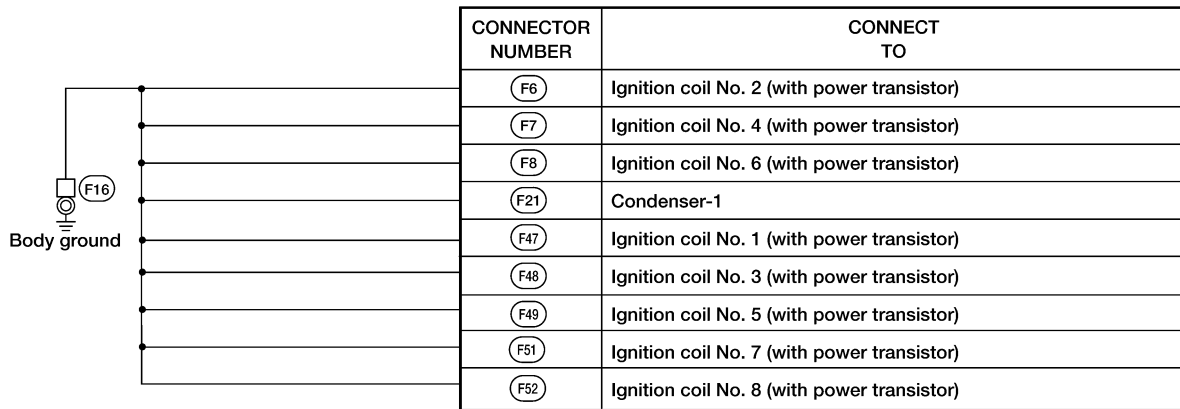
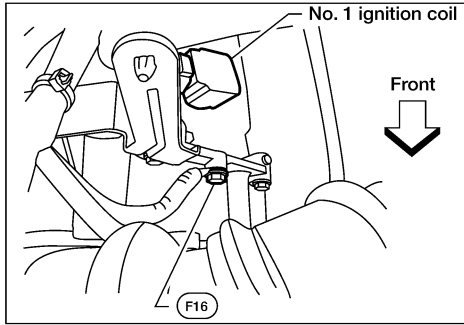
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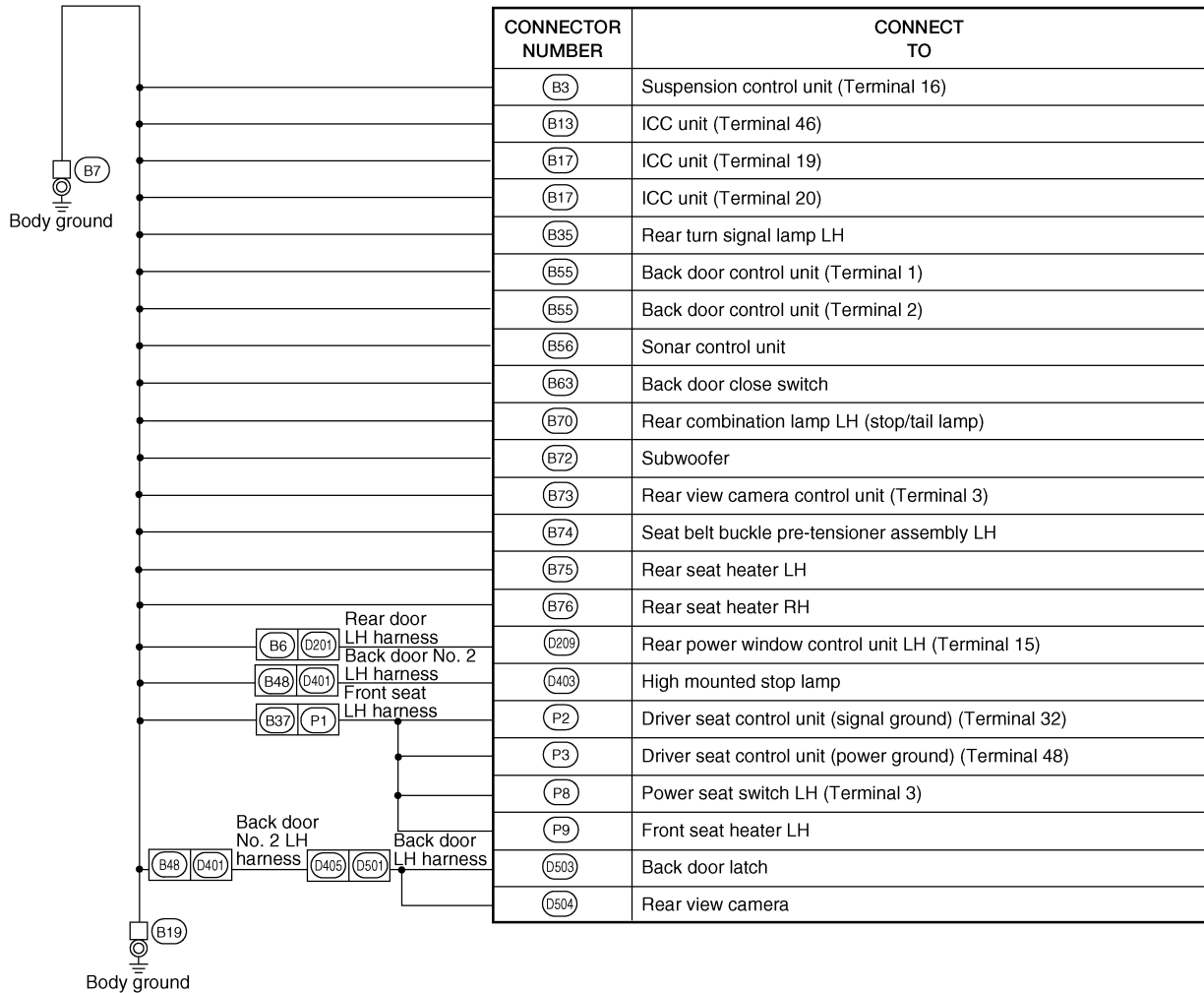
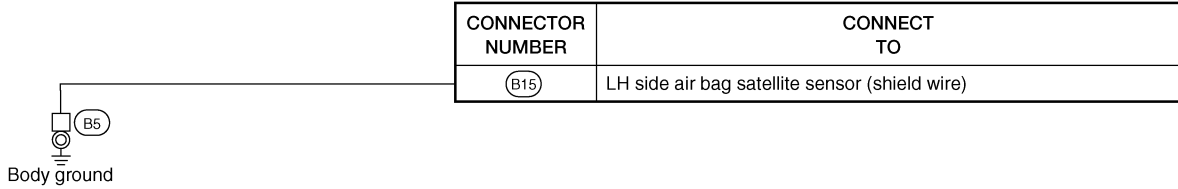
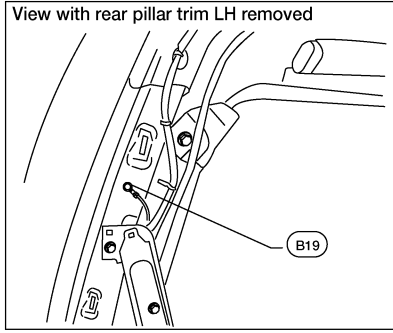
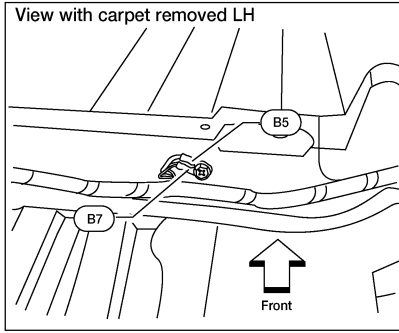
GROUND CIRCUIT

ENGINE CONTROL HARNESS



GROUND CIRCUIT

BODY HARNESS



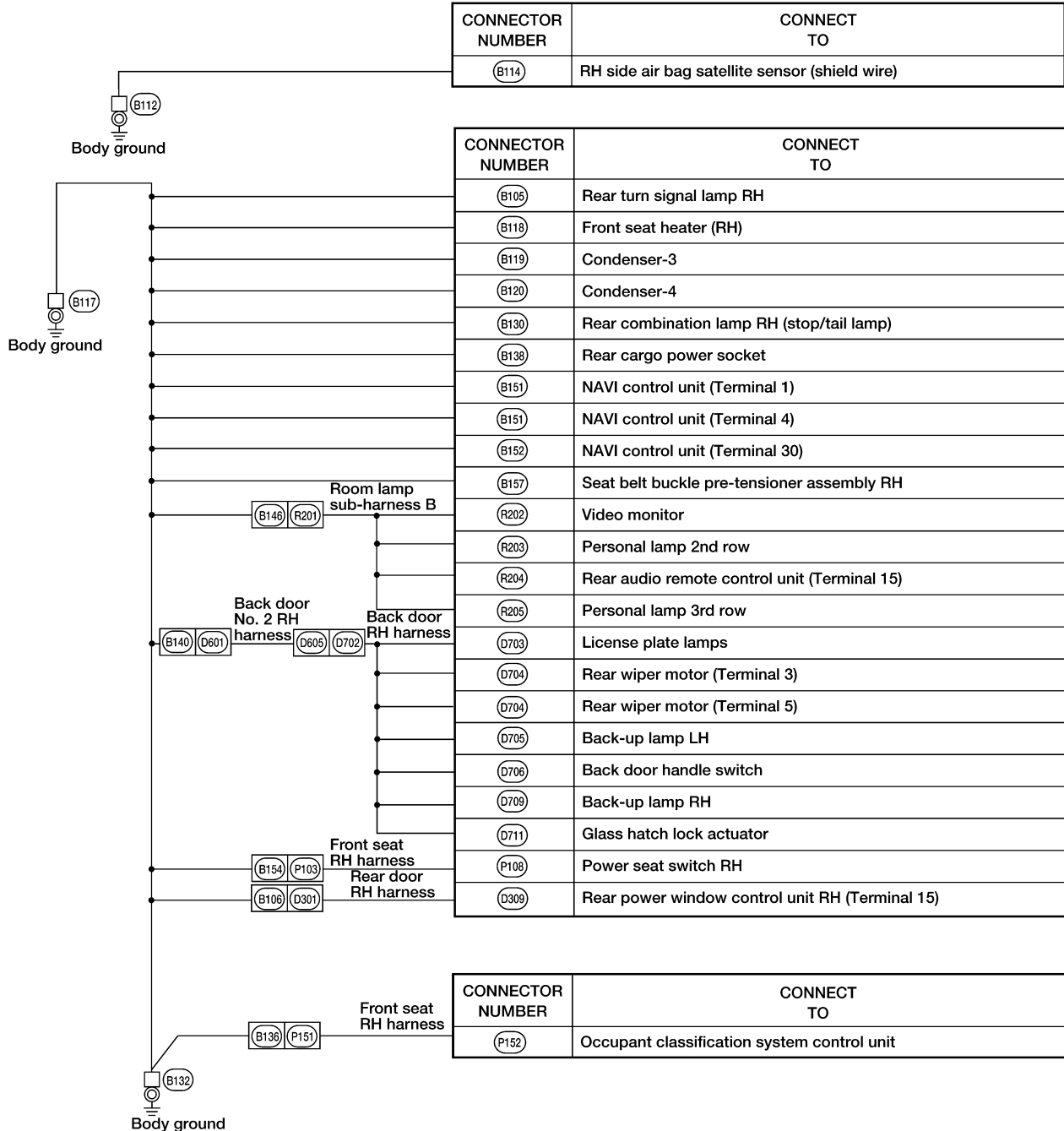
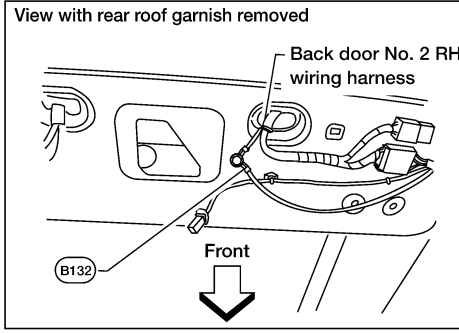
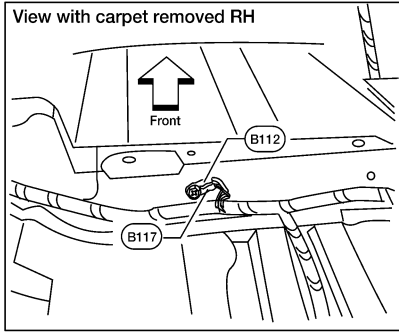
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GROUND CIRCUIT

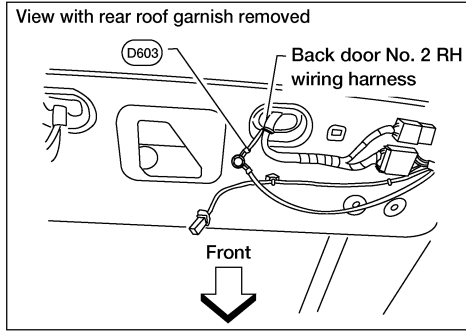
BODY NO. 2 HARNESS



WKIA4250E

GROUND CIRCUIT

BACK DOOR NO. 2 RH HARNESS



| CONNECTOR NUMBER | CONNECT TO |
|------------------|----------------------|
| D604 | Rear window defogger |



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HARNESS

PFP:24010

HARNESS

Harness Layout

HOW TO READ HARNESS LAYOUT

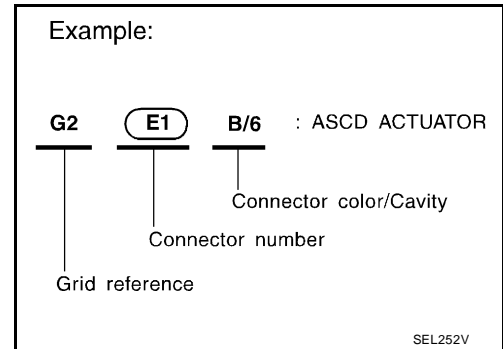
EKS007NY

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

- Main Harness
- Engine Room Harness LH View (Engine Compartment)
- Engine Room Harness RH View (Engine Compartment)
- Engine Control Harness
- Chassis Harness
- 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.



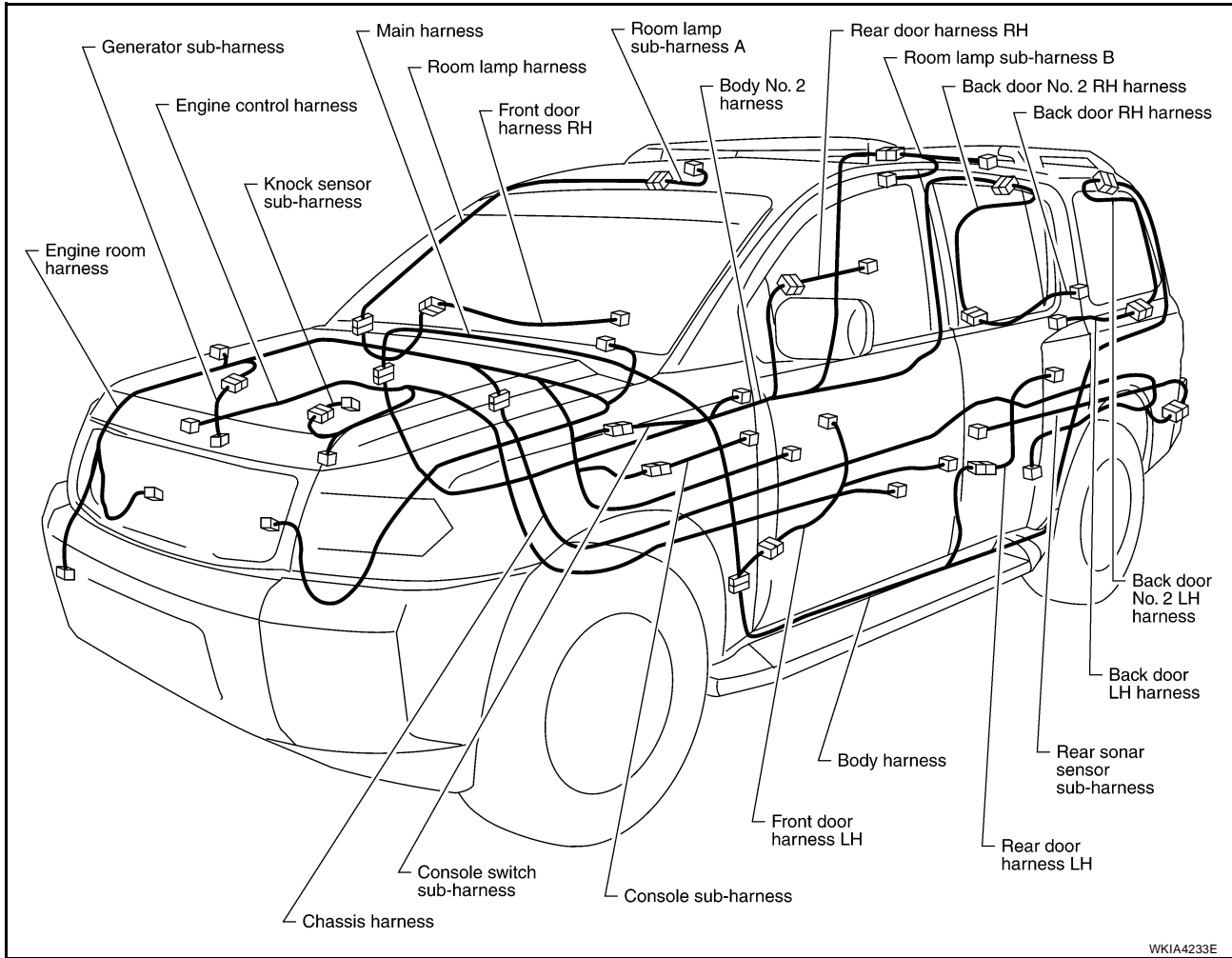
CONNECTOR SYMBOL

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

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

HARNESSES

OUTLINE



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HARNESS

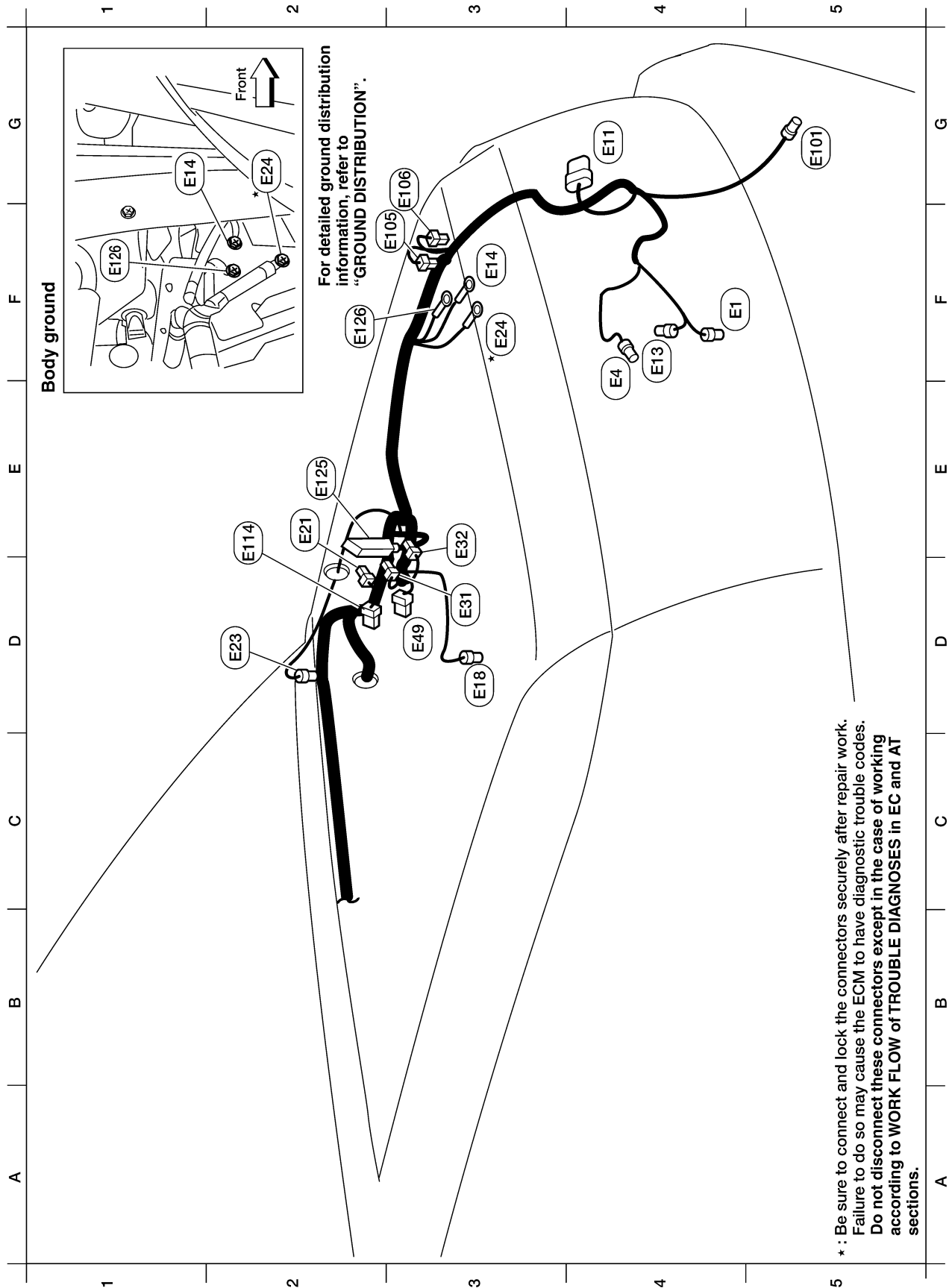
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|-----------|-------|---|-----------|-------|--|----------------------------|-------|---|
| E4 (M1) | W/16 | : To (R1) | D3 (M50) | W/18 | : Front air control | E3 (M107) | BR/6 | : Front blower motor relay |
| F3 (M2) | W/12 | : To (R2) | E3 (M52) | W/8 | : Rear blower switch (front) | F5 (M108) | B/6 | : Yaw rate/side decel G-sensor |
| E3 (M3) | W/8 | : Fuse block (J/B) | D4 (M53) | B/2 | : Front power socket LH | A2 (M109) | BR/2 | : Front tweeter LH |
| E3 (M4) | W/16 | : Fuse block (J/B) | E3 (M54) | B/2 | : Front power socket RH | D2 (M110) | BR/2 | : Center speaker |
| C3 (M5) | W/3 | : Illumination control switch | D4 (M55) | W/8 | : Hazard switch | E2 (M111) | BR/2 | : Front tweeter RH |
| B4 (M6) | W/10 | : To (E10) | D4 (M56) | W/16 | : To (M201) | C2 (M112) | W/8 | : BOSE speaker amp. |
| B4 (M7) | L/5 | : Water valve relay | B3 (M57) | - | : Body ground | C2 (M113) | L/24 | : BOSE speaker amp. |
| A4 (M8) | W/16 | : To (D2) | E2 (M58) | B/6 | : Intake door motor | B4 (M116) | GR/8 | : Rear sonar system OFF switch |
| A3 (M9) | BR/24 | : To (D1) | E2 (M59) | BR/2 | : Glove box lamp | B3 (M117) | B/2 | : Sonar buzzer |
| A4 (M10) | Y/4 | : To (E29) | E3 (M60) | W/6 | : Fuse block (J/B) | E2 (M120) | W/4 | : Remote keyless entry receiver |
| B3 (M11) | B/1 | : Parking brake switch | D3 (M61) | - | : Body ground | E3 (M122) | B/4 | : Variable blower control |
| E3 (M13) | W/3 | : Front passenger air bag off indicator | E3 (M62) | B/2 | : Front blower motor | C4 (M123) | W/2 | : Tire pressure warning check connector |
| B3 (M16) | GR/6 | : ADP steering switch | E4 (M63) | BR/20 | : To (M25) | C2 (M133) | B/2 | : Diode-1 |
| C3 (M18) | W/40 | : BCM (body control module) | D4 (M64) | BR/24 | : To (M202) | C2 (M140) | B/2 | : Diode-2 |
| C4 (M19) | W/15 | : BCM (body control module) | D2 (M65) | W/4 | : To (M401) | D3 (M141) | W/8 | : 4WD shift switch |
| C4 (M20) | B/15 | : BCM (body control module) | F3* (M66) | B/1 | : To (E33) | C4 (M142) | B/6 | : Mode door motor |
| D3 (M21) | W/4 | : NATS antenna amplifier | B4 (M68) | W/2 | : Tilt motor | E3 (M143) | B/6 | : Air mix door motor (passenger) |
| C4 (M22) | W/16 | : Data link connector | B4 (M69) | W/3 | : Tilt motor | C2 (M144) | B/6 | : Defroster door motor |
| C2* (M24) | W/40 | : Combination meter | F2 (M74) | BR/20 | : To (D102) | E2 (M146) | W/2 | : Intake sensor |
| C3 (M26) | W/6 | : Ignition switch | F2 (M75) | W/8 | : To (D101) | D2 (M147) | B/6 | : Air mix door motor (driver) |
| C3 (M27) | W/4 | : Key switch and key lock solenoid | B3 (M76) | W/6 | : Electric brake (pre-wiring) | B4 (M149) | W/4 | : Headlamp aiming switch |
| C3 (M29) | Y/6 | : Combination switch | D2 (M77) | Y/4 | : Front passenger air bag module (service replacement) | E4 (M149) | W/4 | : Clock |
| C3 (M30) | GR/8 | : Combination switch (spiral cable) | E2 (M79) | - | : Body ground | B3 (M150) | BR/2 | : Ignition keyhole illumination |
| F3* (M31) | SMJ | : To (E15) | E3 (M81) | GR/12 | : Shift lock control unit | Console sub-harness | | |
| D4 (M32) | W/4 | : In-vehicle sensor | D3 (M82) | W/2 | : Circuit breaker-2 | D4 (M201) | W/16 | : To (M55) |
| B3 (M33) | W/32 | : Auto. drive positioner control unit | E4 (M84) | W/16 | : To (G10) | E4 (M202) | BR/24 | : To (M64) |
| B3 (M34) | W/16 | : Auto. drive positioner control unit | B3 (M87) | W/5 | : Rear power vent window relay (open) | D4 (M203) | W/12 | : AT device |
| F5 (M35) | Y/28 | : Air bag diagnosis sensor unit | B3 (M89) | W/5 | : Rear power vent window relay (close) | E4 (M205) | GR/16 | : DVD player |
| E4 (M36) | SMJ | : To (G149) | B4 (M91) | W/16 | : To (E26) | E4 (M206) | L/16 | : DVD player |
| F2 (M37) | B/1 | : Fuse block (J/B) | B4 (M92) | GR/6 | : Power liftgate switch | F4 (M207) | B/2 | : Console power socket |
| F3 (M38) | B/2 | : Fuse block (J/B) | D2 (M93) | W/24 | : Display unit | E5 (M208) | BR/6 | : Rear heated seat switch LH |
| E3 (M39) | W/8 | : Fuse block (J/B) | D2 (M94) | W/24 | : Display control unit | E4 (M209) | BR/6 | : Rear heated seat switch RH |
| A4 (M40) | SMJ | : To (E69) | D2 (M95) | W/32 | : Display control unit | Console switch sub-harness | | |
| C4 (M41) | W/16 | : Satellite radio tuner (pre-wiring) | A4 (M96) | BR/6 | : Pedal adjusting switch | E4 (M251) | BR/20 | : To (M63) |
| D3 (M42) | W/12 | : Audio unit | C4 (M97) | BR/7 | : Heated seat relay | E4 (M252) | BR/6 | : Front heated seat switch RH |
| D3 (M43) | W/10 | : Audio unit | D3 (M98) | W/24 | : AV switch | D5 (M253) | GR/6 | : VDC OFF switch |
| D3 (M44) | W/6 | : Audio unit | C4 (M99) | BR/2 | : Foot lamp LH | D4 (M254) | GR/8 | : Tow mode switch |
| D3 (M45) | W/16 | : Audio unit | E3 (M100) | BR/2 | : Foot lamp RH | D4 (M255) | BR/6 | : Front heated seat switch LH |
| D3 (M46) | W/20 | : Audio unit | E2 (M103) | Y/2 | : Front passenger air bag module | D5 (M256) | B/2 | : AT device illumination |
| C3 (M47) | W/8 | : Steering angle sensor | E2 (M106) | O/2 | : Front passenger air bag module | Optical sensor sub-harness | | |
| D3 (M49) | B/26 | : Front air control | | | | D2 (M401) | W/4 | : To (M65) * : Refer to previous page |
| | | | | | | E2 (M402) | B/4 | : Optical sensor |

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HARNESS

ENGINE ROOM HARNESS (LH VIEW)

Engine Compartment



Refer to [PG-47, "ENGINE ROOM HARNESS \(RH VIEW\)"](#) for continuation of engine room harness.

WKIA3530E

| | | | |
|----|--------|------|---|
| F4 | (E1) | B/2 | : Ambient sensor 1 |
| E4 | (E4) | Y/2 | : Crash zone sensor |
| G4 | (E11) | B/8 | : Front combination lamp LH |
| F4 | (E13) | GR/2 | : Ambient sensor 2 |
| F3 | (E14) | - | : Body ground |
| D3 | (E18) | GR/2 | : Front wheel sensor LH |
| E2 | (E21) | GR/2 | : Brake fluid level switch |
| D2 | (E23) | GR/6 | : Front wiper motor |
| F3 | (E24) | * | : Body ground |
| D3 | (E31) | B/3 | : Front pressure sensor |
| E3 | (E32) | B/3 | : Rear pressure sensor |
| D3 | (E49) | B/6 | : Active booster |
| G5 | (E101) | B/2 | : Front fog lamp LH |
| F3 | (E105) | GR/2 | : Front and rear washer motor |
| G3 | (E106) | BR/2 | : Washer fluid level switch |
| E2 | (E114) | B/6 | : Delta stroke sensor |
| E2 | (E125) | B/47 | : ABS actuator and electric unit (control unit) |
| F2 | (E126) | - | : Body ground |

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

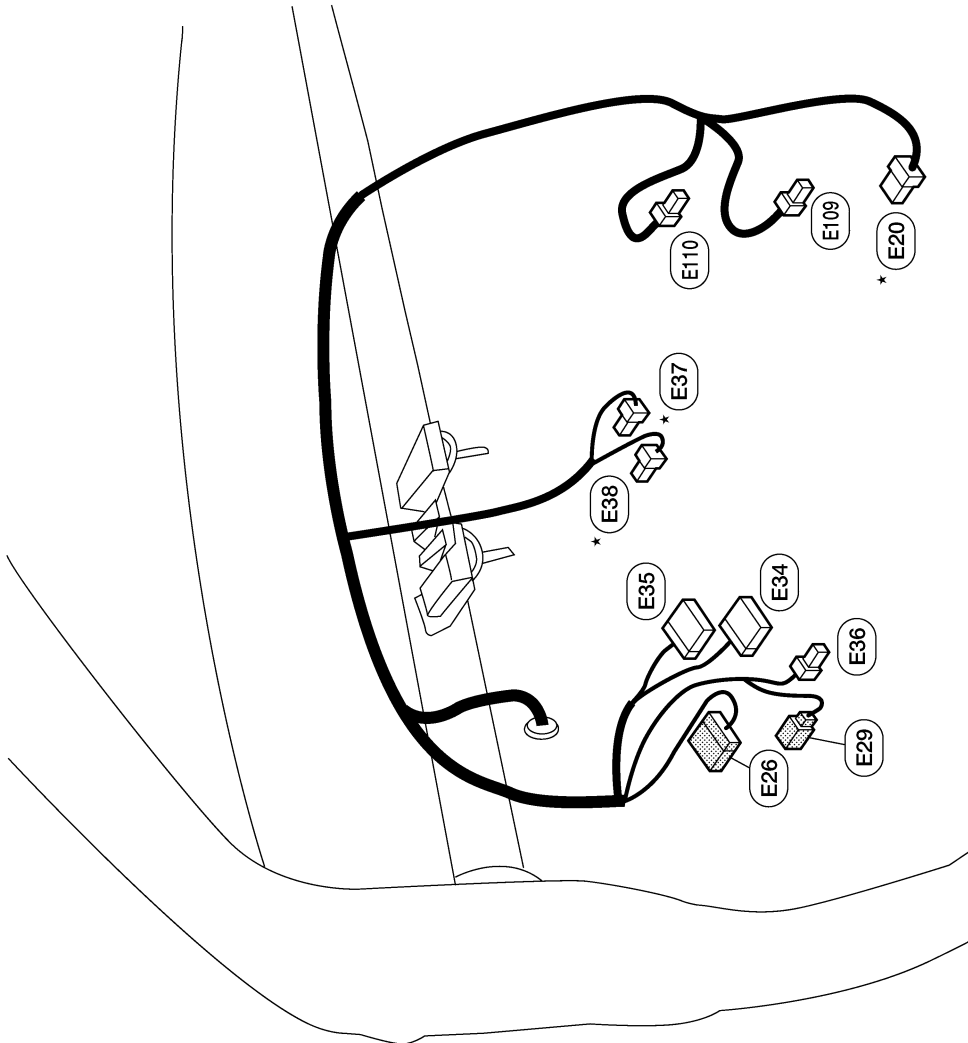
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HARNESS

Passenger Compartment

- * (E20) B/8 : Accelerator pedal position (APP) sensor
- (E26) W/16 : To (M91)
- (E29) Y/4 : To (M10)
- (E34) W/24 : To (B40)
- (E35) W/12 : To (B41)
- (E36) W/2 : To (B42)
- * (E37) BR/2 : ASCD brake switch (with ASCD)
- * (E37) BR/2 : ICC brake switch (with ICC)
- * (E38) B/2 : Stop lamp switch
- (E09) W/2 : Pedal adjusting motor
- (E10) W/3 : Pedal adjusting motor

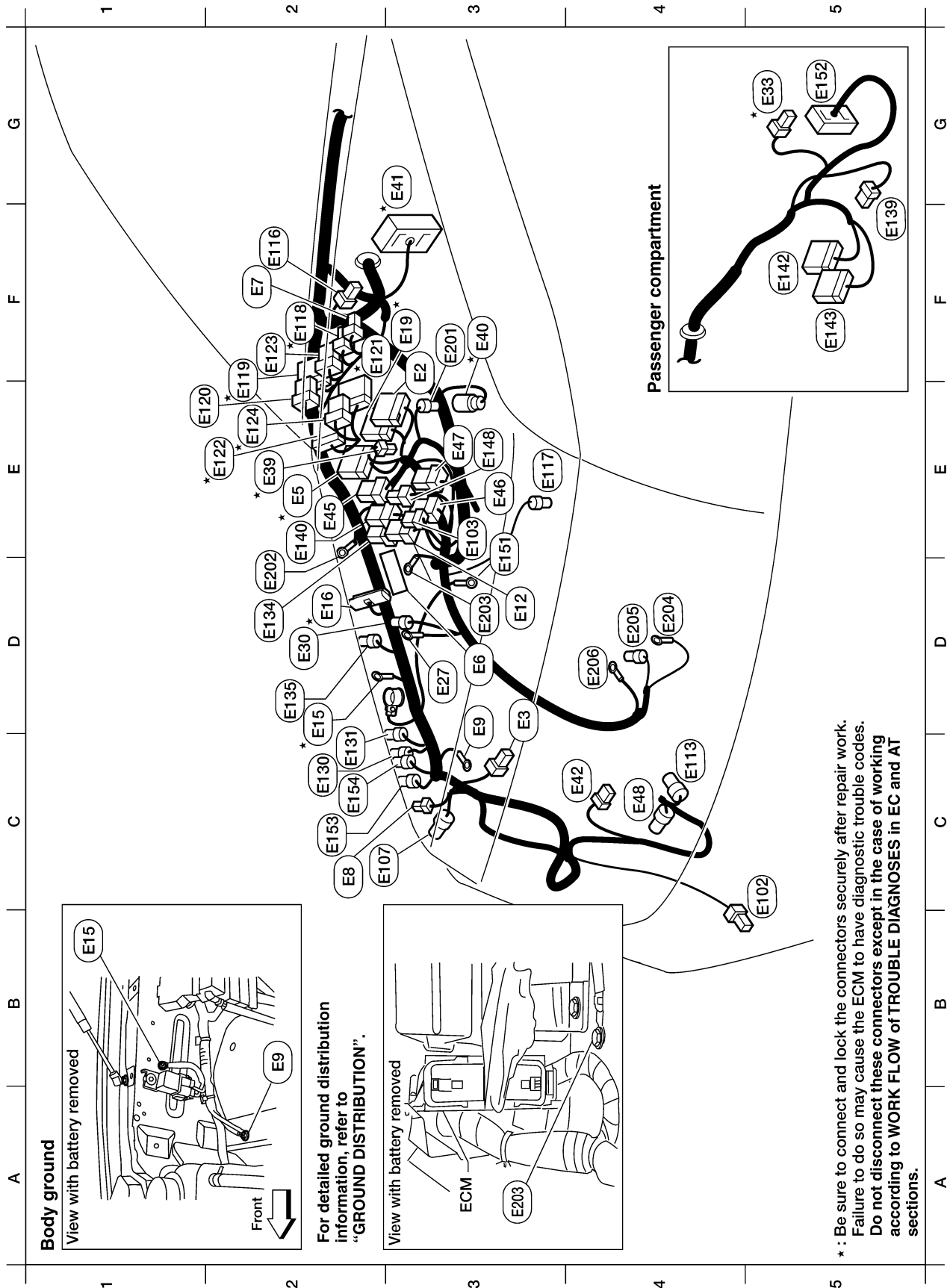


* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
 Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

WKIA2706E

HARNESS

ENGINE ROOM HARNESS (RH VIEW) Engine Compartment



Refer to [PG-44, "ENGINE ROOM HARNESS \(LH VIEW\)"](#) for continuation of engine room harness.

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|-------|--------|------|--|
| E2 * | (E122) | W/12 | : IPDM E/R (intelligent power distribution module engine room) |
| F2 | (E123) | BR/8 | : IPDM E/R (intelligent power distribution module engine room) |
| E2 * | (E124) | B/6 | : IPDM E/R (intelligent power distribution module engine room) |
| C2 | (E130) | W/2 | : Compressor motor relay |
| C2 | (E131) | W/2 | : Compressor motor relay |
| D2 | (E134) | GR/7 | : ICC brake hold relay |
| D2 | (E135) | GR/2 | : Transfer dropping resistor |
| F5 | (E139) | W/8 | : To (E107) |
| E2 | (E140) | BR/6 | : Trailer tow relay 2 |
| F5 | (E142) | L/24 | : Transfer control unit |
| F5 | (E143) | G/24 | : Transfer control unit |
| E3 | (E148) | L/4 | : Trailer tow relay 1 |
| D3 | (E151) | - | : Battery ground |
| G5 | (E152) | SMJ | : To (M31) |
| C2 | (E153) | GR/2 | : Transfer motor relay |
| C2 | (E154) | GR/2 | : Transfer motor relay |
| (H-1) | - | - | : Horn relay |

Generator sub-harness

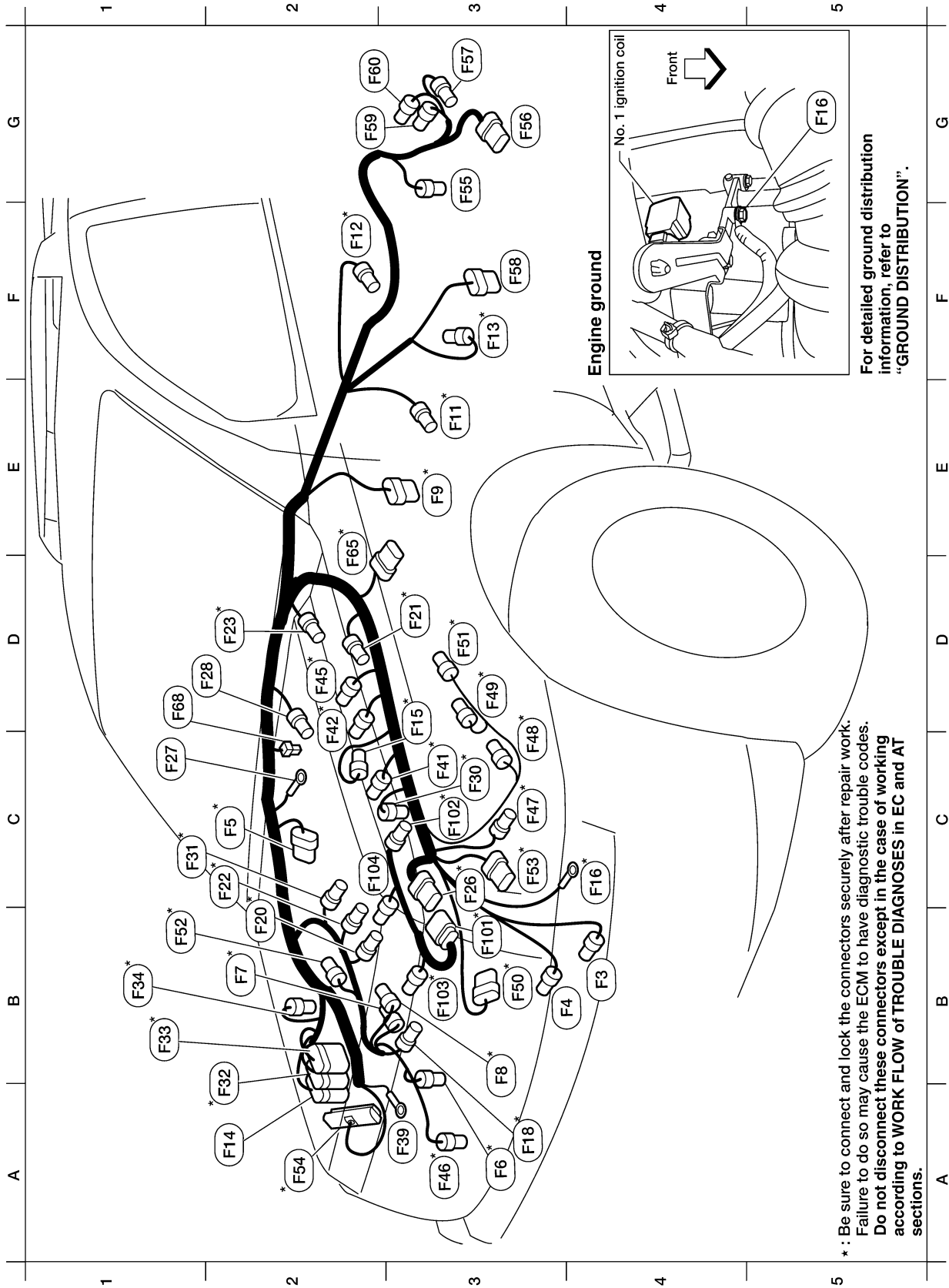
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|----|--------|------|------------------------------|
| F3 | (E201) | GR/2 | : To (E40) |
| D2 | (E202) | B/1 | : Fusible link box (battery) |
| D3 | (E203) | - | : Body ground |
| D4 | (E204) | - | : Generator |
| D4 | (E205) | GR/2 | : Generator |
| D4 | (E206) | - | : Generator |

* : 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.

| | | | |
|------|--------|-------|--|
| F3 | (E2) | W/16 | : To (F32) |
| D3 | (E3) | B/2 | : Horn |
| E2 * | (E5) | W/24 | : To (F14) |
| D3 | (E6) | - | : Fuse and fusible link box |
| F2 | (E7) | GR/2 | : Fusible link box (battery) |
| C2 | (E8) | W/2 | : Hood switch |
| C3 | (E9) | - | : Body ground |
| D3 | (E12) | B/5 | : Stop lamp relay |
| C2 * | (E15) | - | : Body ground |
| D2 * | (E16) | B/32 | : ECM |
| F3 * | (E19) | W/16 | : To (F33) |
| D3 | (E27) | BR/2 | : Fusible link box (battery) |
| D2 | (E30) | - | : Fusible link box (battery) |
| G5 * | (E33) | B/1 | : To (M66) |
| E2 * | (E39) | W/2 | : To (F34) |
| F3 * | (E40) | GR/2 | : To (E201) |
| G3 * | (E41) | SMJ | : To (C1) (located RH rear of engine compartment) |
| C4 | (E42) | B/6 | : ICC sensor |
| E2 | (E45) | BR/6 | : Back-up lamp relay |
| E3 | (E46) | B/5 | : Transfer shift high relay |
| E3 | (E47) | B/5 | : Transfer shift low relay |
| C4 | (E48) | B/3 | : Refrigerant pressure sensor |
| C5 | (E102) | B/2 | : Front fog lamp RH |
| E3 | (E103) | B/5 | : Daytime light relay |
| C2 | (E107) | B/8 | : Front combination lamp RH |
| C4 | (E113) | GR/2 | : Cooling fan motor |
| F2 | (E116) | W/2 | : Condenser-2 |
| E3 | (E117) | GR/2 | : Front wheel sensor RH |
| F2 * | (E118) | B/2 | : IPDM E/R (intelligent power distribution module engine room) |
| E2 * | (E119) | W/16 | : IPDM E/R (intelligent power distribution module engine room) |
| E2 | (E120) | W/6 | : IPDM E/R (intelligent power distribution module engine room) |
| F3 * | (E121) | BR/12 | : IPDM E/R (intelligent power distribution module engine room) |

HARNESS

ENGINE CONTROL HARNESS



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|----|---------|------|---|
| C3 | * (F48) | GR/3 | : Ignition coil No. 3 (with power transistor) |
| D3 | * (F49) | GR/3 | : Ignition coil No. 5 (with power transistor) |
| B3 | * (F50) | B/6 | : Electric throttle control actuator |
| D3 | * (F51) | GR/3 | : Ignition coil No. 7 (with power transistor) |
| B1 | * (F52) | GR/3 | : Ignition coil No. 8 (with power transistor) |
| C3 | * (F53) | B/6 | : Mass air flow sensor |
| A2 | * (F54) | B/81 | : ECM |
| G3 | (F55) | B/2 | : ATP switch (4WD only) |
| G3 | (F56) | B/8 | : Terminal cord assembly (4WD only) |
| G3 | (F57) | B/2 | : Transfer motor (4WD only) |
| F3 | (F58) | GR/6 | : Transfer control device (4WD only) |
| G2 | (F59) | B/2 | : Wait detection switch (4WD only) |
| G2 | (F60) | GR/2 | : Neutral-4LO switch (4WD only) |
| D2 | * (F65) | B/6 | : Air fuel ratio (A/F) sensor 1 (bank 1) |
| D1 | (F68) | B/2 | : Water valve |

Knock sensor sub-harness

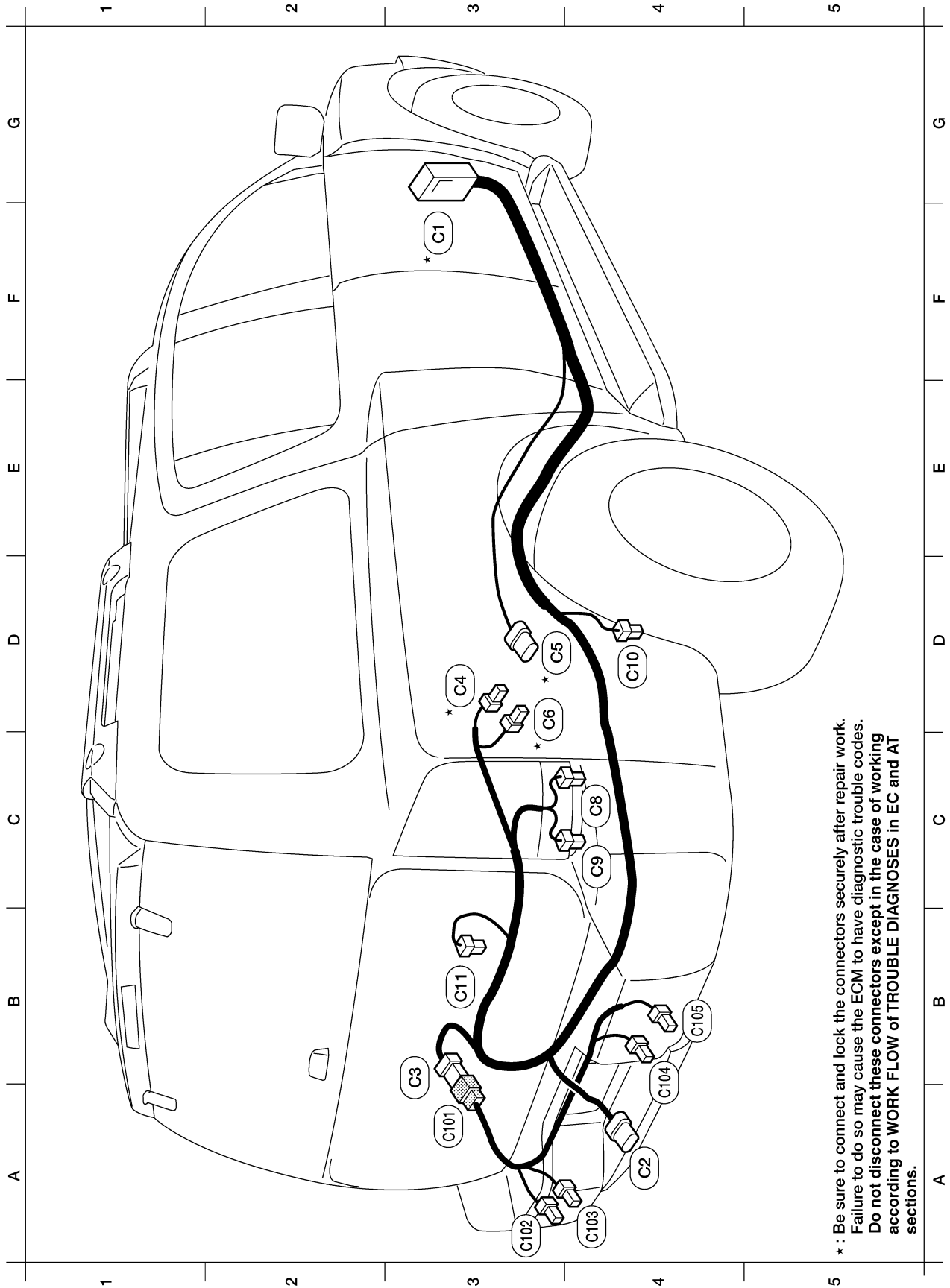
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| B3 | * (F101) | B/6 | : To (F26) |
| C3 | * (F102) | GR/2 | : Knock sensor (bank 1) |
| B3 | * (F103) | GR/2 | : Engine coolant temperature sensor |
| C2 | (F104) | GR/2 | : Knock sensor (bank 2) |

* : 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.

| | | | |
|----|---------|------|---|
| B4 | (F3) | B/1 | : A/C Compressor |
| B4 | (F4) | B/3 | : Oil pressure sensor |
| C2 | * (F5) | B/6 | : Air fuel ratio (A/F) sensor 1 (bank 2) |
| A3 | * (F6) | GR/3 | : Ignition coil No. 2 (with power transistor) |
| B2 | * (F7) | GR/3 | : Ignition coil No. 4 (with power transistor) |
| B3 | * (F8) | GR/3 | : Ignition coil No. 6 (with power transistor) |
| E3 | * (F9) | G/10 | : A/T assembly |
| E3 | * (F11) | B/3 | : Crankshaft position sensor (POS) |
| F2 | * (F12) | G/4 | : Heated oxygen sensor 2 (bank 2) |
| F3 | * (F13) | G/4 | : Heated oxygen sensor 2 (bank 1) |
| A2 | (F14) | W/24 | : To (E5) |
| C3 | * (F15) | L/2 | : EVAP canister purge volume control solenoid valve |
| C4 | * (F16) | - | : Engine ground |
| A3 | * (F18) | GR/2 | : Injector No. 2 |
| B2 | * (F20) | GR/2 | : Injector No. 4 |
| D3 | * (F21) | GR/2 | : Condenser-1 |
| C2 | * (F22) | GR/2 | : Injector No. 6 |
| D2 | * (F23) | B/3 | : Camshaft position sensor (PHASE) |
| C3 | * (F26) | B/6 | : To (F101) |
| C1 | (F27) | B/1 | : Starter motor |
| D2 | (F28) | GR/1 | : Starter motor |
| C3 | * (F30) | GR/2 | : Injector No. 1 |
| C1 | * (F31) | GR/2 | : Injector No. 8 |
| A2 | * (F32) | W/16 | : To (E2) |
| B1 | * (F33) | W/16 | : To (E19) |
| B1 | * (F34) | W/2 | : To (E39) |
| A3 | (F39) | - | : Fusible link box (battery) |
| C3 | * (F41) | GR/2 | : Injector No. 3 |
| C2 | * (F42) | GR/2 | : Injector No. 5 |
| D2 | * (F45) | GR/2 | : Injector No. 7 |
| A3 | * (F46) | B/3 | : Power steering pressure sensor |
| C3 | * (F47) | GR/3 | : Ignition coil No. 1 (with power transistor) |

HARNESSES

CHASSIS HARNESS



* : 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.

WKIA2710E

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F3 * (C1) SMJ : To (E4) (located RH rear of engine compartment)
 A4 (C2) B/7 : Trailer
 B3 (C3) GR/6 : To (C10)
 D3 * (C4) GR/3 : EVAP control system pressure sensor
 D4 * (C5) GR/5 : Fuel level sensor unit and fuel pump
 C3 * (C6) B/2 : EVAP canister vent control valve
 C4 (C8) B/3 : Height sensor
 C4 (C9) B/4 : Suspension air compressor
 D4 (C10) BR/2 : Rear wheel sensor RH
 B3 (C11) BR/2 : Rear wheel sensor LH

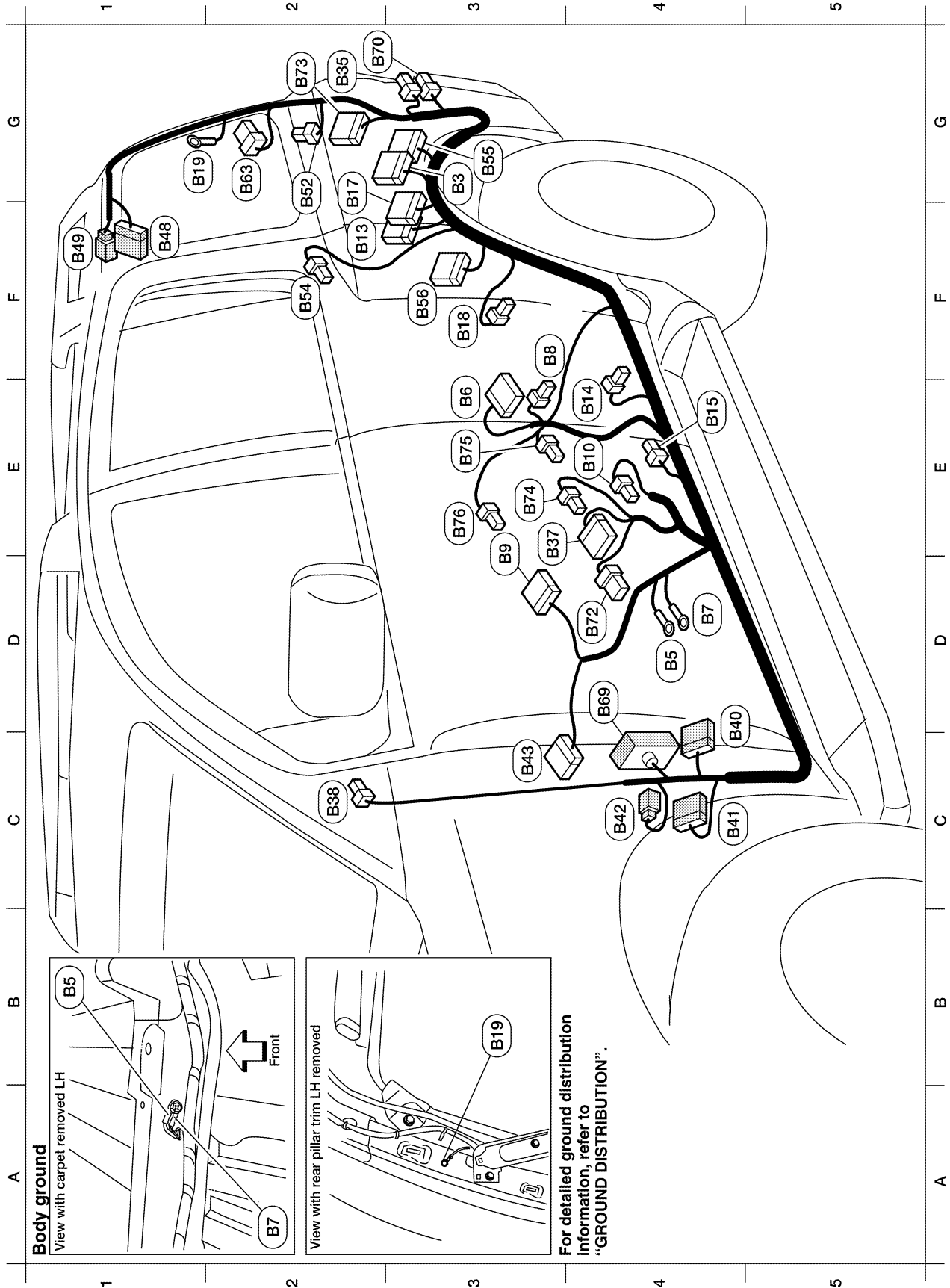
Rear sonar sensor sub-harness

A3 (C101) GR/6 : To (C3)
 A3 (C102) B/3 : Rear sonar sensor LH outer
 A4 (C103) B/3 : Rear sonar sensor LH inner
 B4 (C104) B/3 : Rear sonar sensor RH inner
 B4 (C105) B/3 : Rear sonar sensor RH outer

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

HARNESS

BODY HARNESS



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HARNESS

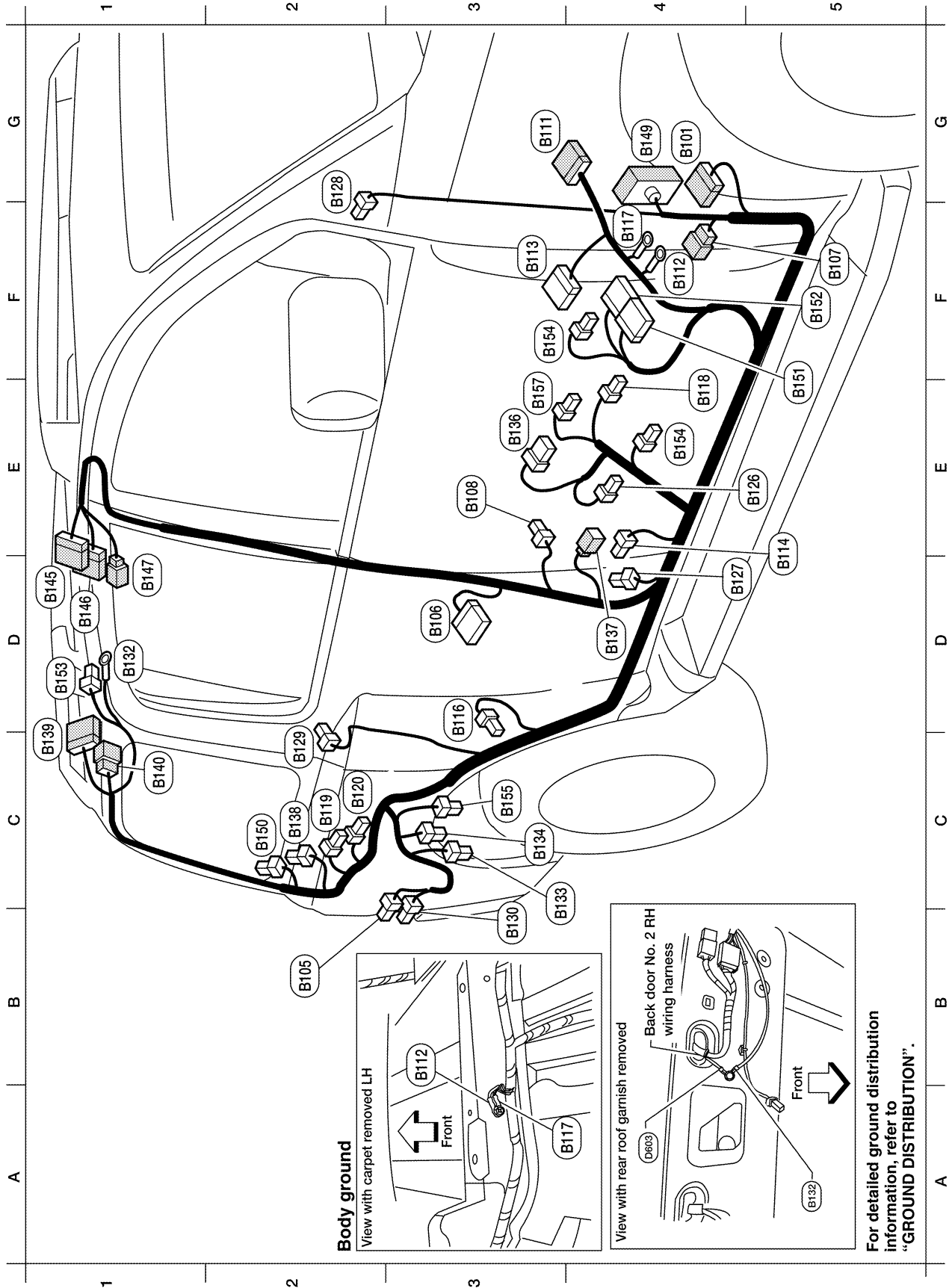
G2 (E73) W/16 : Rear view camera control unit
 E3 (E74) Y/4 : Seat belt buckle pre-tensioner assembly
 E3 (E75) W/3 : Rear seat heater LH
 E3 (E76) W/3 : Rear seat heater RH

G3 (E3) W/16 : Suspension control unit
 D4 (E6) - : Body ground
 E3 (E6) W/18 : To (D201)
 D4 (E7) - : Body ground
 F3 (E8) W/3 : Front door switch LH
 E3 (E9) Y/12 : Air bag diagnosis sensor unit
 E4 (E10) Y/2 : Front LH side air bag module
 F2 (E13) W/24 : ICC unit
 E4 (E14) Y/2 : Front LH seat belt pre-tensioner
 E4 (E15) Y/2 : LH side air bag (satellite) sensor
 G2 (E17) GR/24 : ICC unit
 F3 (E18) W/3 : Rear door switch LH
 G1 (E19) - : Body ground
 G2 (E35) B/3 : Rear turn signal lamp LH
 E4 (E37) W/16 : To (F1)
 C2 (E38) Y/2 : LH side curtain air bag module
 C4 (E40) W/24 : To (E34)
 C4 (E41) W/12 : To (E35)
 C4 (E42) W/2 : To (E36)
 C3 (E43) W/12 : To (E11)
 F1 (E48) W/16 : To (D401)
 F1 (E49) W/2 : To (D402)
 F2 (E52) W/2 : Rear power vent window motor LH
 F2 (E54) Y/2 : LH side curtain air bag module
 G3 (E55) W/26 : Back door control unit
 F3 (E56) W/16 : Sonar control unit
 G2 (E63) W/6 : Back door close switch
 D4 (E69) SMJ : To (N40)
 G3 (E70) B/3 : Rear combination lamp LH (stop/tail)
 D4 (E72) BR/6 : Subwoofer

WKIA2713E

HARNESS

BODY NO. 2 HARNESS



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

WKIA3538E

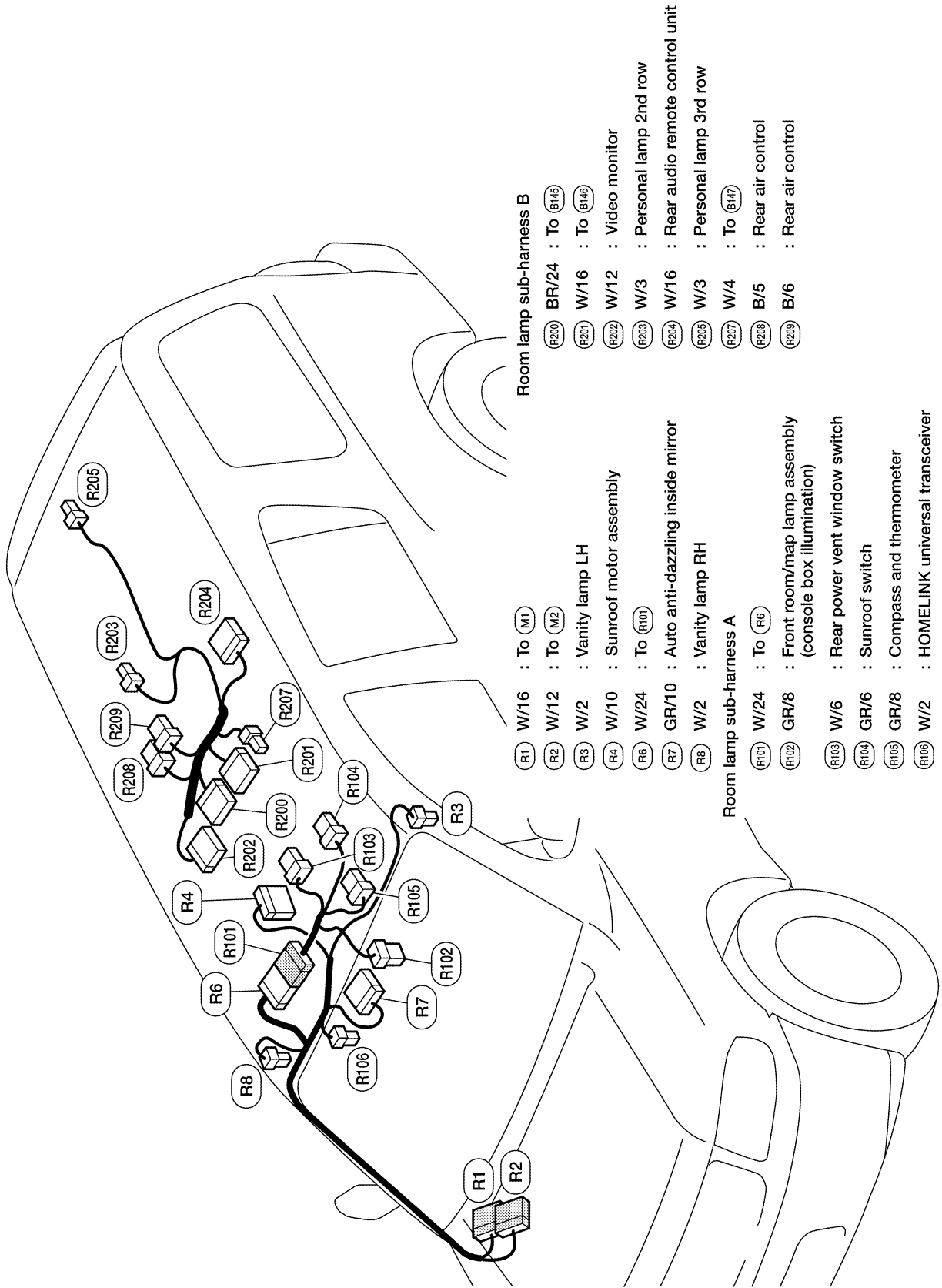
HARNESSES

| | | | | | |
|-----------|-------|--|-----------|-------|---|
| G4 (B107) | W/16 | : To (M84) | G4 (B149) | SMJ | : To (M36) |
| B2 (B105) | B/3 | : Rear turn signal lamp RH | C2 (B150) | W/2 | : Rear power vent window motor RH |
| D3 (B106) | W/18 | : To (O307) | F5 (B151) | W/24 | : NAVI control unit |
| F5 (B107) | W/8 | : To (E139) | F5 (B152) | GR/24 | : NAVI control unit |
| E3 (B108) | W/3 | : Front door switch RH | D1 (B153) | W/2 | : Cargo lamp |
| G3 (B111) | W/12 | : To (B43) | F3 (B154) | GR/2 | : NAVI control unit |
| F4 (B112) | - | : Body ground (RH satellite sensor) | C3 (B155) | B/6 | : Air mix door motor (rear) |
| F3 (B113) | Y/12 | : Air bag diagnosis sensor unit | E3 (B157) | Y/4 | : Seat belt buckle pre-tensioner assembly |
| D5 (B114) | Y/2 | : RH side air bag (satellite) sensor | | | |
| D3 (B116) | GR/2 | : Rear door switch RH | | | |
| F4 (B117) | - | : Body ground | | | |
| E4 (B118) | W/3 | : Front seat heater RH | | | |
| C2 (B119) | W/2 | : Condenser-3 | | | |
| C2 (B120) | W/2 | : Condenser-4 | | | |
| E5 (B126) | Y/2 | : Front RH side air bag module | | | |
| D4 (B127) | Y/2 | : Front RH seat belt pre-tensioner | | | |
| G2 (B128) | Y/2 | : RH side rear curtain air bag module | | | |
| C2 (B129) | Y/2 | : RH side front curtain air bag module | | | |
| B3 (B130) | B/3 | : Rear combination lamp RH (stop/tail) | | | |
| D1 (B132) | - | : Body ground | | | |
| C3 (B133) | W/4 | : Rear blower motor resistor | | | |
| C3 (B134) | W/2 | : Rear blower motor | | | |
| E3 (B136) | W/8 | : To (F151) | | | |
| D4 (B137) | B/3 | : Belt tension sensor | | | |
| C2 (B138) | B/2 | : Rear cargo power socket | | | |
| C1 (B139) | W/20 | : To (R602) | | | |
| C1 (B140) | W/6 | : To (R601) | | | |
| D1 (B145) | BR/24 | : To (R200) | | | |
| D1 (B146) | W/16 | : To (R201) | | | |
| D1 (B147) | W/4 | : To (R207) | | | |

WKIA3562E

HARNESS

ROOM LAMP HARNESS



Room lamp sub-harness B

- R200 BR/24 : To (6145)
- R201 W/16 : To (6146)
- R202 W/12 : Video monitor
- R203 W/3 : Personal lamp 2nd row
- R204 W/16 : Rear audio remote control unit
- R205 W/3 : Personal lamp 3rd row
- R207 W/4 : To (6147)
- R208 B/5 : Rear air control
- R209 B/6 : Rear air control

Room lamp sub-harness A

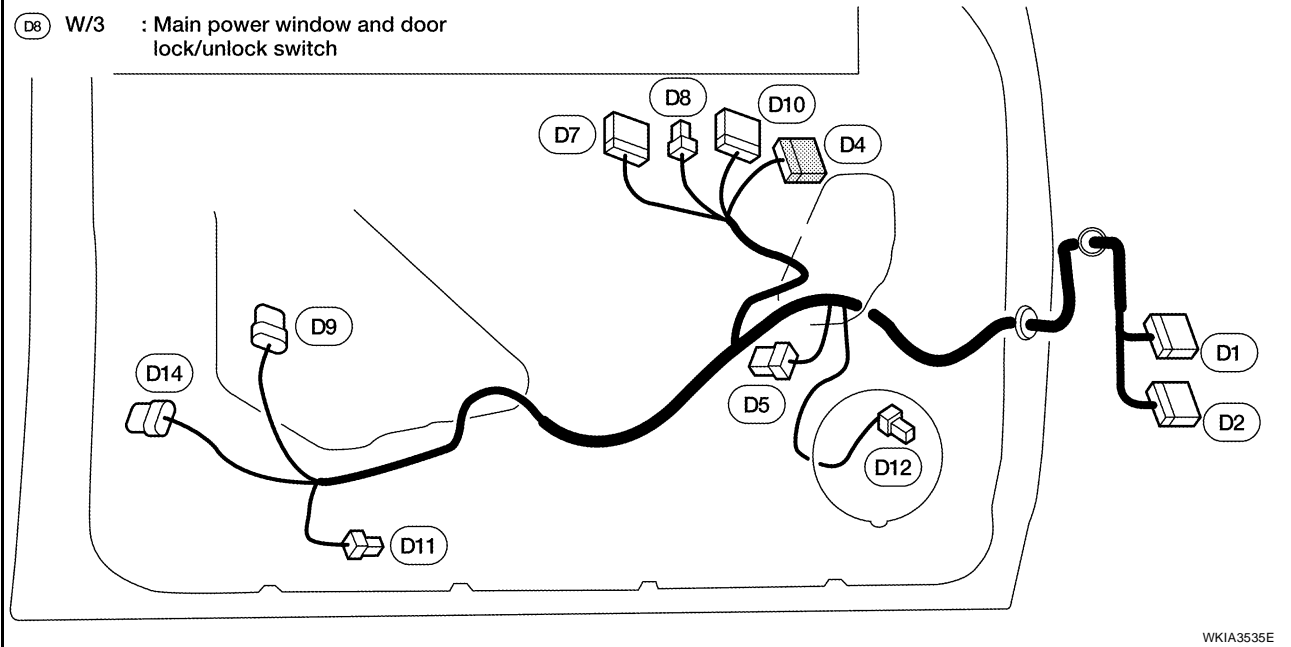
- R1 W/16 : To (M1)
- R2 W/12 : To (M2)
- R3 W/2 : Vanity lamp LH
- R4 W/10 : Sunroof motor assembly
- R6 W/24 : To (6101)
- R7 GR/10 : Auto anti-dazzling inside mirror
- R8 W/2 : Vanity lamp RH
- R101 W/24 : To (R6)
- R102 GR/8 : Front room/map lamp assembly (console box illumination)
- R103 W/6 : Rear power vent window switch
- R104 GR/6 : Sunroof switch
- R105 GR/8 : Compass and thermometer
- R106 W/2 : HOMELINK universal transceiver

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HARNESS

FRONT DOOR LH HARNESS

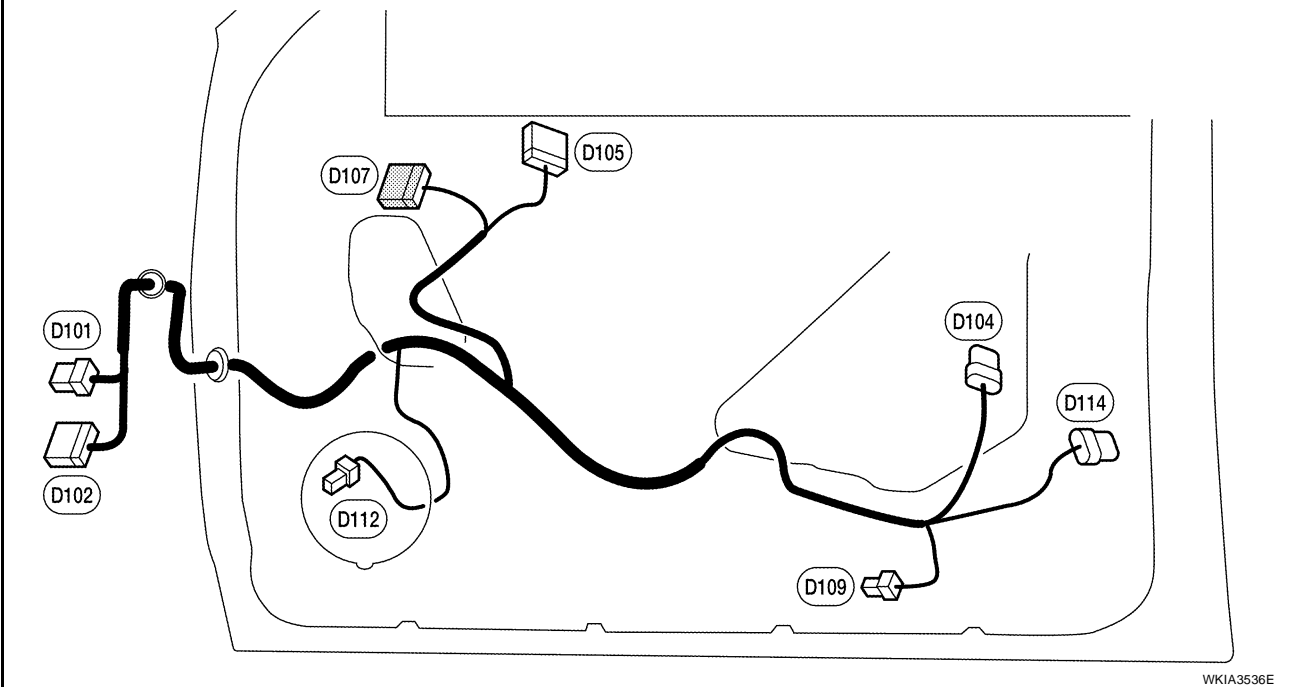
- | | |
|--|---|
| ⓁD1 W/24 : To ⓁM9 | ⓁD9 GR/6 : Front power window motor LH |
| ⓁD2 W/16 : To ⓁMB | ⓁD10 W/10 : Door mirror remote control switch |
| ⓁD4 W/16 : Door mirror LH | ⓁD11 W/2 : Front step lamp LH |
| ⓁD5 W/8 : Seat memory switch | ⓁD12 W/2 : Front door speaker LH |
| ⓁD7 W/16 : Main power window and door lock/unlock switch | ⓁD14 B/6 : Front door lock assembly LH |
| ⓁD8 W/3 : Main power window and door lock/unlock switch | |



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FRONT DOOR RH HARNESS

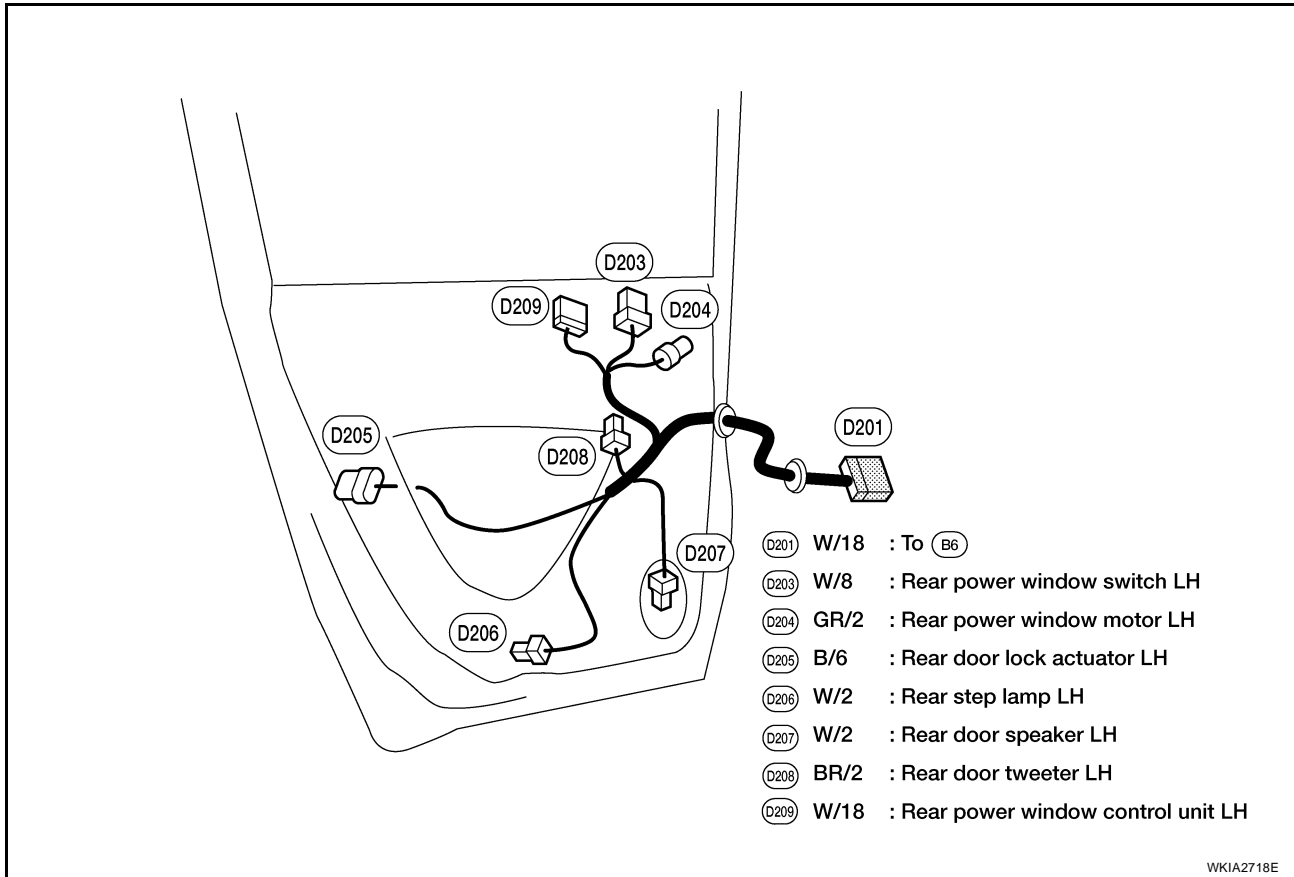
- | | |
|--|---|
| ⓁD101 W/8 : To ⓁM75 | ⓁD107 W/16 : Door mirror RH |
| ⓁD102 W/20 : To ⓁM74 | ⓁD109 W/2 : Front step lamp RH |
| ⓁD104 GR/6 : Front power window motor RH | ⓁD112 W/2 : Front door speaker RH |
| ⓁD105 W/16 : Power window and door lock/unlock switch RH | ⓁD114 B/6 : Front door lock actuator RH |



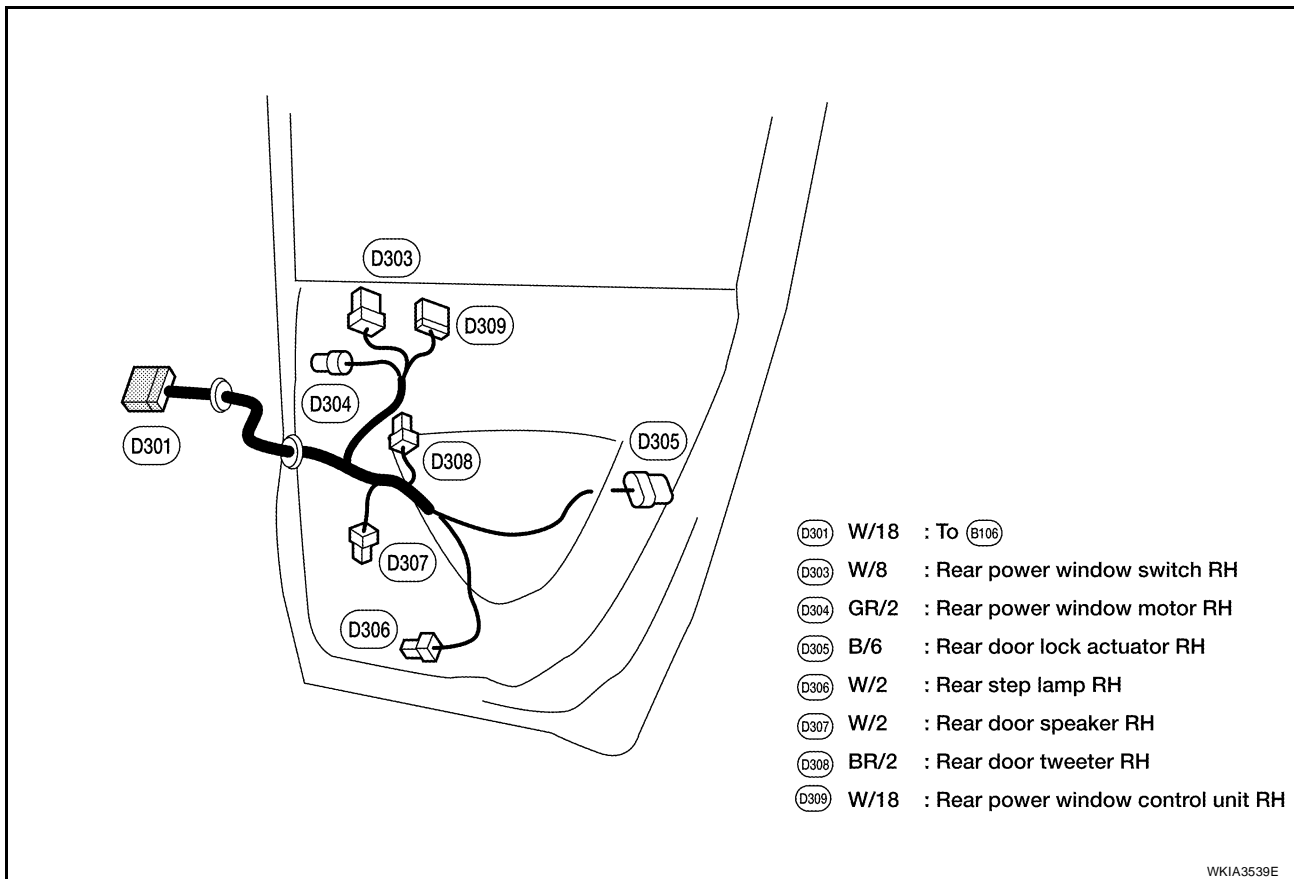
WKIA3536E

HARNESS

REAR DOOR LH HARNESS



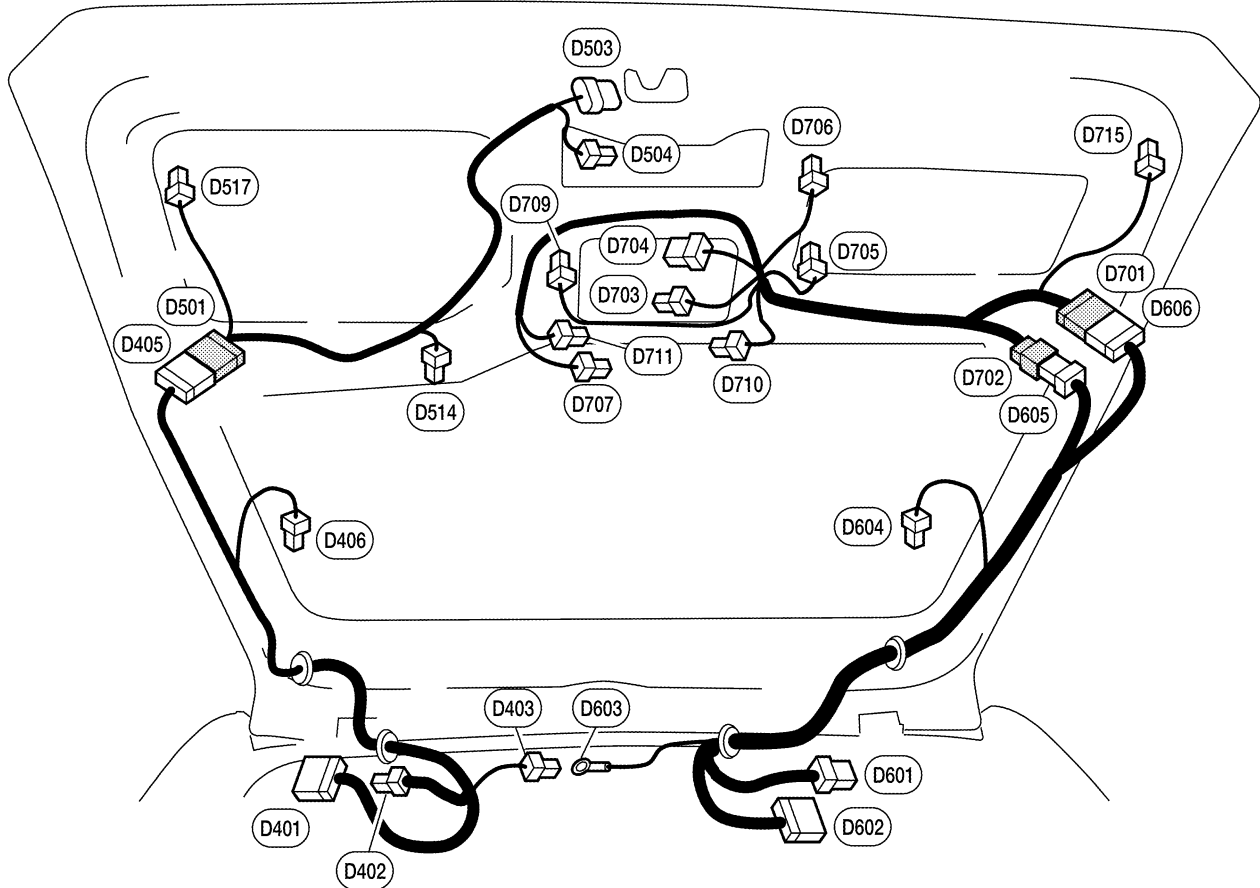
REAR DOOR RH HARNESS



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HARNESS

BACK DOOR HARNESS



Back door No. 2 LH harness

- (D401) W/16 : To (B48)
- (D402) W/2 : To (B49)
- (D403) GR/2 : High-mounted stop lamp
- (D405) W/16 : To (D501)
- (D406) B/1 : Rear window defogger

Back door LH harness

- (D501) W/16 : To (D405)
- (D503) W/26 : Back door latch
- (D504) W/4 : Rear view camera
- (D514) BR/2 : Back door warning chime
- (D517) BR/2 : Pinch strip LH

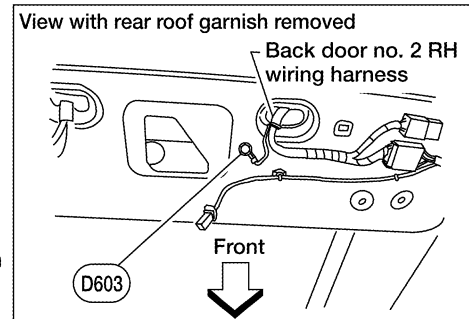
Back door No. 2 RH harness

- (D601) W/6 : To (B140)
- (D602) W/20 : To (B139)
- (D603) - : Body ground
- (D604) B/1 : Rear window defogger (ground)
- (D605) W/8 : To (D702)
- (D606) W/20 : To (D701)

Back door RH harness

- (D701) W/20 : To (D606)
- (D702) W/8 : To (D605)
- (D703) W/2 : License plate lamps
- (D704) W/6 : Rear wiper motor
- (D705) B/2 : Back-up lamp LH
- (D706) GR/2 : Back door handle switch
- (D707) B/1 : Glass hatch ajar switch
- (D709) B/2 : Back-up lamp RH
- (D710) W/4 : Glass hatch switch
- (D711) W/4 : Glass hatch lock actuator
- (D715) BR/2 : Pinch strip RH

Body ground



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

WKIA3540E

HARNESS

EKS007NZ

Wiring Diagram Codes (Cell Codes)

Use the chart below to find out what each wiring diagram code stands for.

Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

| Code | Section | Wiring Diagram Name |
|---------|---------|--------------------------------------|
| A/C,A | ATC | Auto Air Conditioner |
| A/SUSP | RSU | Rear Air Suspension |
| AF1B1 | EC | Air Fuel Ratio Sensor 1 (Bank 1) |
| AF1B2 | EC | Air Fuel Ratio Sensor 1 (Bank 2) |
| AF1HB1 | EC | Air Fuel Ratio Sensor 1 (Bank 1) |
| AF1HB2 | EC | Air Fuel Ratio Sensor 1 (Bank 2) |
| APPS1 | EC | Accelerator Pedal Position Sensor |
| APPS2 | EC | Accelerator Pedal Position Sensor |
| APPS3 | EC | Accelerator Pedal Position Sensor |
| ASC/BS | EC | ASCD Brake Switch |
| ASC/SW | EC | ASCD Steering Switch |
| ASCBOF | EC | ASCD Brake Switch |
| ASCIND | EC | ASCD Indicator |
| A/T | AT | A/T Assembly |
| AT/IND | DI | A/T Indicator Lamp |
| AUDIO | AV | Audio |
| AUTO/DP | SE | Automatic Drive Positioner |
| AUTO/L | LT | Auto Light Control |
| B/CLOS | BL | Back Door Auto Closure System |
| BACK/L | LT | Back-up Lamp |
| BRK/SW | EC | Brake Switch |
| CAN | EC | CAN Communication Line |
| CAN | LAN | CAN System |
| CHARGE | SC | Charging System |
| CHIME | DI | Warning Chime |
| CLOCK | DI | Clock |
| COMBSW | LT | Combination Switch |
| COMM | AV | Audio Visual Communication System |
| COMPAS | DI | Compass and Thermometer |
| COOL/F | EC | Cooling Fan Control |
| D/LOCK | BL | Power Door Lock |
| DEF | GW | Rear Window Defogger |
| DTRL | LT | Headlamp - With Daytime Light System |
| DVD | AV | DVD Entertainment System |
| ECM/PW | EC | ECM Power Supply for Back-Up |
| ECTS | EC | Engine Coolant Temperature Sensor |
| ETC1 | EC | Electric Throttle Control Function |
| ETC2 | EC | Throttle Control Motor Relay |
| ETC3 | EC | Throttle Control Motor |
| F/FOG | LT | Front Fog Lamp |
| F/PUMP | EC | Fuel Pump |
| FSTS | EC | Fuel Tank Temperature Sensor |
| FUELB1 | EC | Fuel Injection System Bank 1 |
| FUELB2 | EC | Fuel Injection System Bank 2 |
| H/AIM | LT | Headlamp Aiming Control |
| H/LAMP | LT | Headlamp |
| HORN | WW | Horn |

HARNESSES

| | | |
|---------|-----|---|
| HSEAT | SE | Heated Seat |
| IATS | EC | Intake Air Temperature Sensor |
| ICC | ACS | Intelligent Cruise Control |
| ICCB OF | EC | ICC Brake Switch |
| ICC/BS | EC | ICC Steering Switch |
| ICC/SW | EC | ICC Brake Switch |
| I/MIRR | GW | Inside Mirror (Auto Anti-Dazzling Mirror) |
| IGNSYS | EC | Ignition System |
| ILL | LT | Illumination |
| INJECT | EC | Injector |
| INT/L | LT | Room/Map, Vanity, Cargo, Personal, Foot, Step, and Puddle Lamps |
| KEYLES | BL | Remote Keyless Entry System |
| KS | EC | Knock Sensor |
| MAFS | EC | Mass Air Flow Sensor |
| MAIN | EC | Main Power Supply and Ground Circuit |
| METER | DI | Speedometer, Tachometer, Temp. and Fuel Gauges |
| MIL/DL | EC | Malfunction Indicator Lamp |
| MIRROR | GW | Door Mirror |
| NATS | BL | Nissan Anti-Theft System |
| NAVI | AV | Navigation System |
| O2H2B1 | EC | Rear Heated Oxygen Sensor 2 Heater Bank 1 |
| O2H2B2 | EC | Rear Heated Oxygen Sensor 2 Heater Bank 2 |
| O2S2B1 | EC | Heated Oxygen Sensor 2 Bank 1 |
| O2S2B2 | EC | Heated Oxygen Sensor 2 Bank 2 |
| P/SCKT | WW | Power Socket |
| PGC/V | EC | EVAP Canister Purge Volume Control Solenoid Valve |
| PHASE | EC | Camshaft Position Sensor (PHASE) (Bank 1) |
| PNP/SW | EC | Park/Neutral Position Switch |
| POS | EC | Crankshaft Position Sensor (POS) |
| POWER | PG | Power Supply Routing |
| PRE/SE | EC | EVAP Control System Pressure Sensor |
| PS/SEN | EC | Power Steering Pressure Sensor |
| R/VIEW | DI | Rear View Monitor |
| RP/SEN | EC | Refrigerant Pressure Sensor |
| SEAT | SE | Power Seat (Without Memory) |
| SEN/PW | EC | Sensor Power Supply |
| SHIFT | AT | A/T Shift Lock System |
| SONAR | DI | Rear Sonar System |
| SROOF | RF | Sunroof |
| SRS | SRS | Supplemental Restraint System |
| START | SC | Starting System |
| STOP/L | LT | Stop Lamp |
| T/TOW | LT | Trailer Tow |
| T/WARN | WT | Low Tire Pressure Warning System |
| TAIL/L | LT | Parking, License and Tail Lamps |
| T/F | TF | Transfer Case |
| TPS1 | EC | Throttle Position Sensor |
| TPS2 | EC | Throttle Position Sensor |
| TPS3 | EC | Throttle Position Sensor |
| TRNSCV | BL | HOMELINK® Universal Transceiver |
| TURN | LT | Turn Signal and Hazard Warning Lamps |
| VDC | BRC | Vehicle Dynamic Control System |

HARNESSES

| | | | |
|--------|----|---|---|
| VEHSEC | BL | Vehicle security (theft warning) system | |
| VENT/V | EC | EVAP Canister Vent Control Valve | A |
| W/ANT | AV | Audio Antenna | |
| WARN | DI | Warning Lamps | |
| WINDOW | GW | Power Window | B |
| WIP/R | WW | Rear Wiper and Washer | |
| WIPER | WW | Front Wiper and Washer | C |

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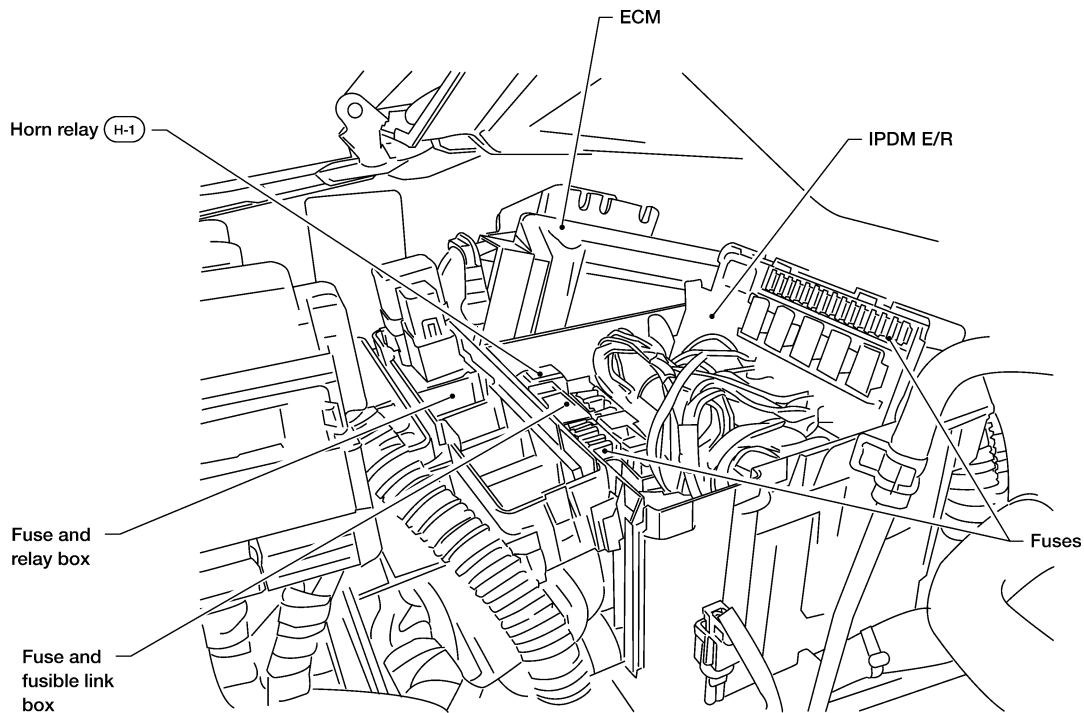
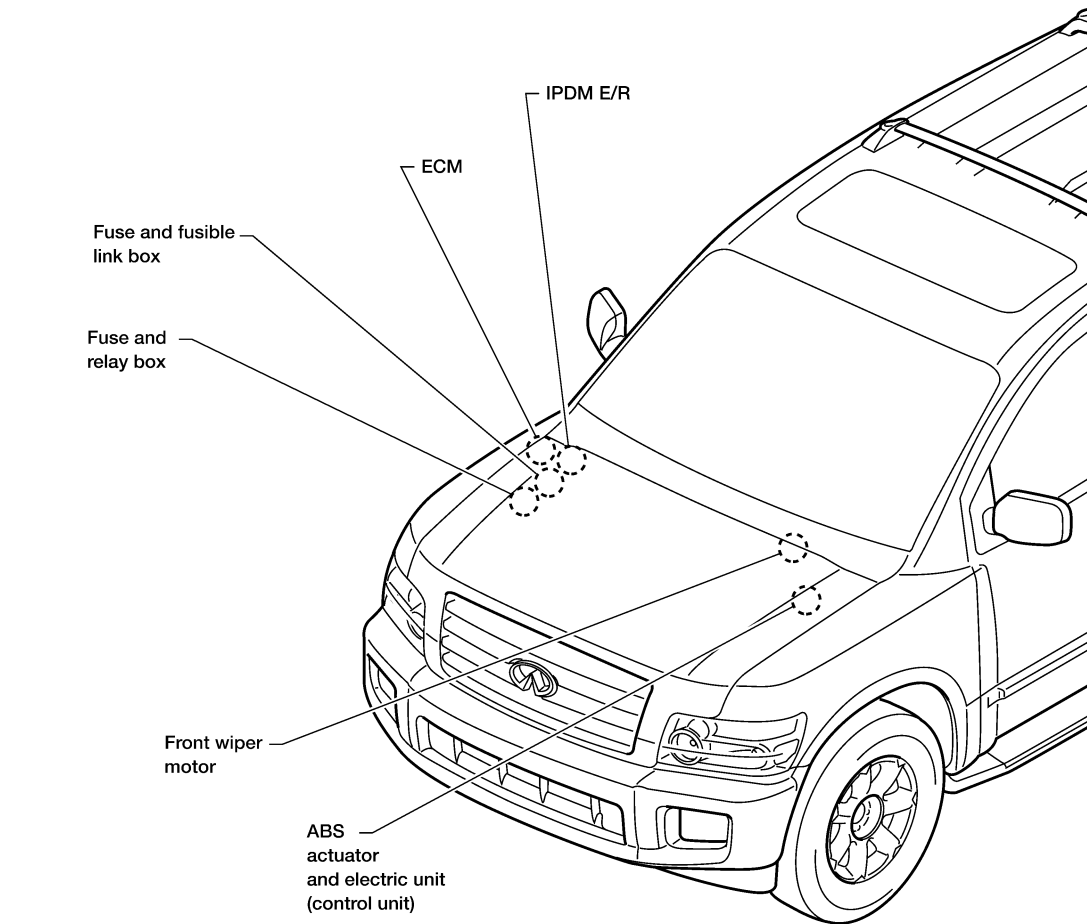
ELECTRICAL UNITS LOCATION

PF2:25230

EKS00700

ELECTRICAL UNITS LOCATION

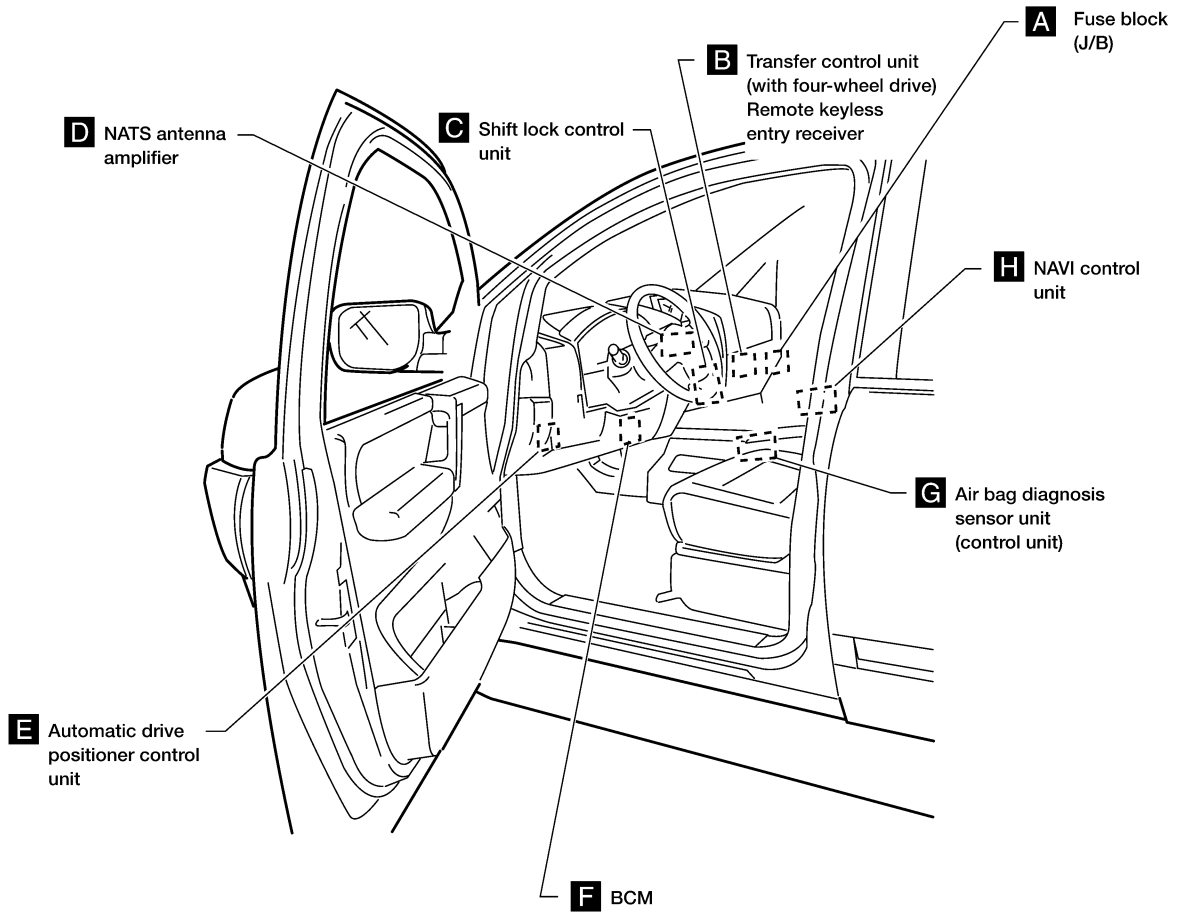
Electrical Units Location ENGINE COMPARTMENT



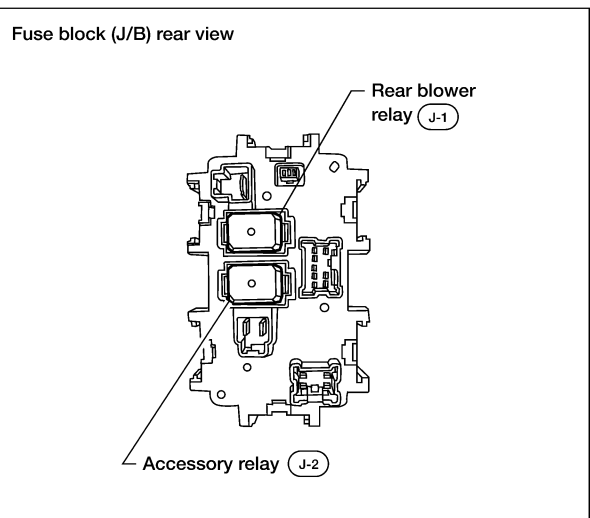
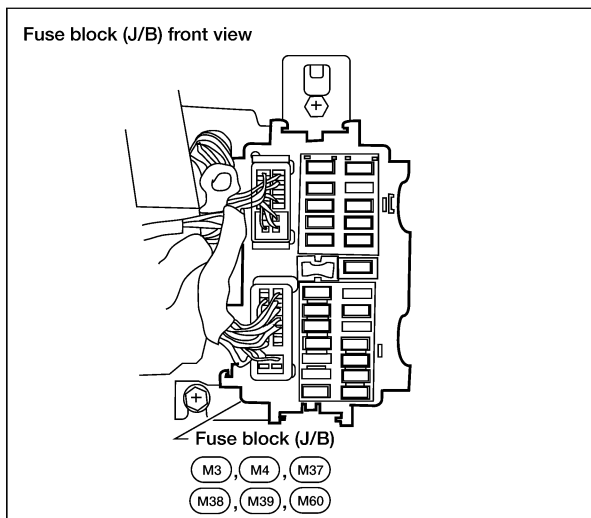
WKIA2014E

ELECTRICAL UNITS LOCATION

PASSENGER COMPARTMENT



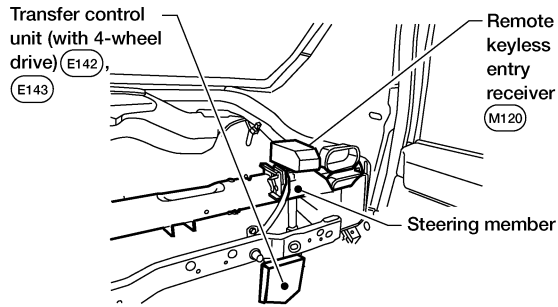
A Instrument panel side RH



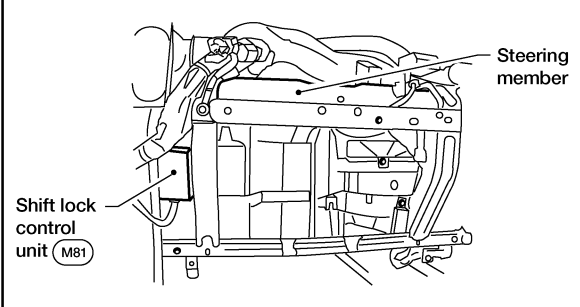
WKIA4240E

ELECTRICAL UNITS LOCATION

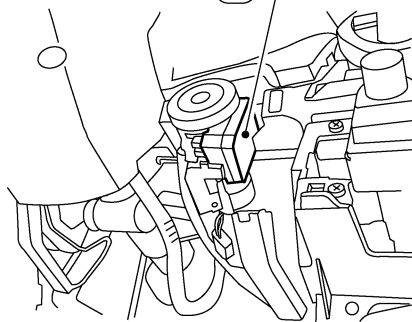
B View with instrument panel removed RH



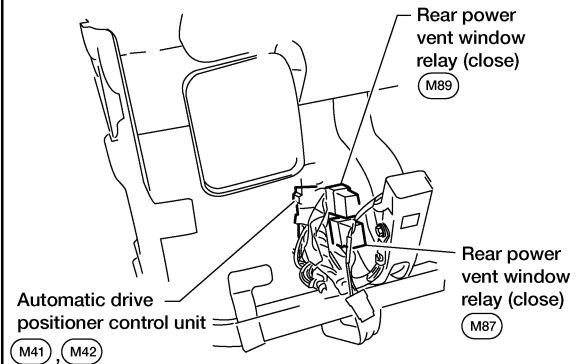
C View with instrument panel removed RH



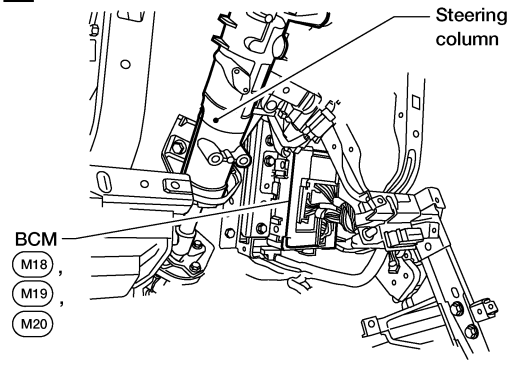
D View with lower driver instrument panel removed
NATS antenna amplifier (M21)



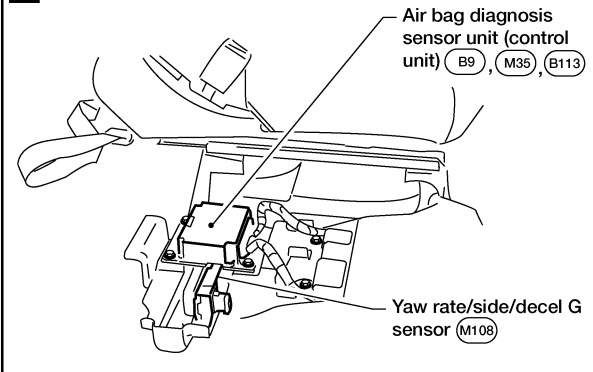
E View with steering member removed LH



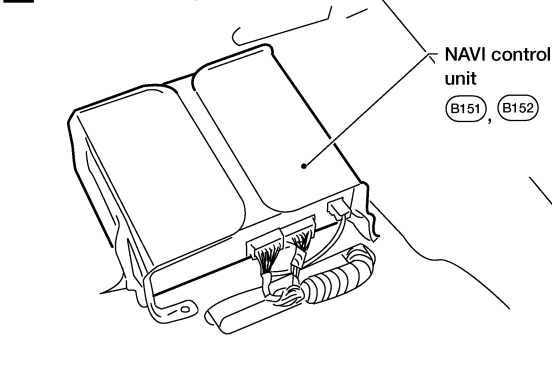
F View with instrument panel removed



G View with center console removed



H View with passenger seat removed



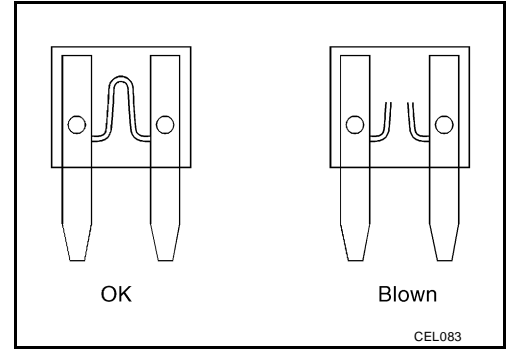
WKIA2015E

ELECTRICAL UNITS LOCATION

Fuse

EKS00701

- 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

EKS00702

A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

CAUTION:

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

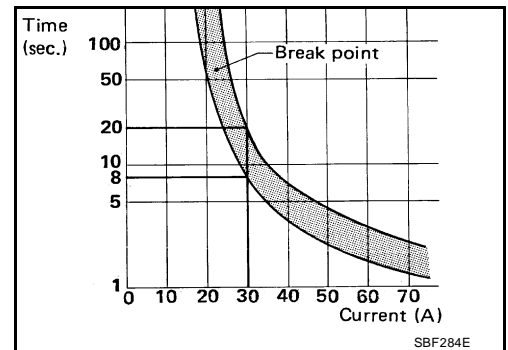
Circuit Breaker (Built Into BCM)

EKS00703

For example, when current is 30A, the circuit is broken within 8 to 20 seconds.

A circuit breaker is used for the following systems:

- Power windows
- Power door locks
- Remote keyless entry system
- Power sunroof
- Rear window wiper



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HARNESS CONNECTOR

HARNESS CONNECTOR

PFP:B4341

Description

HARNESS CONNECTOR (TAB-LOCKING TYPE)

EKS00704

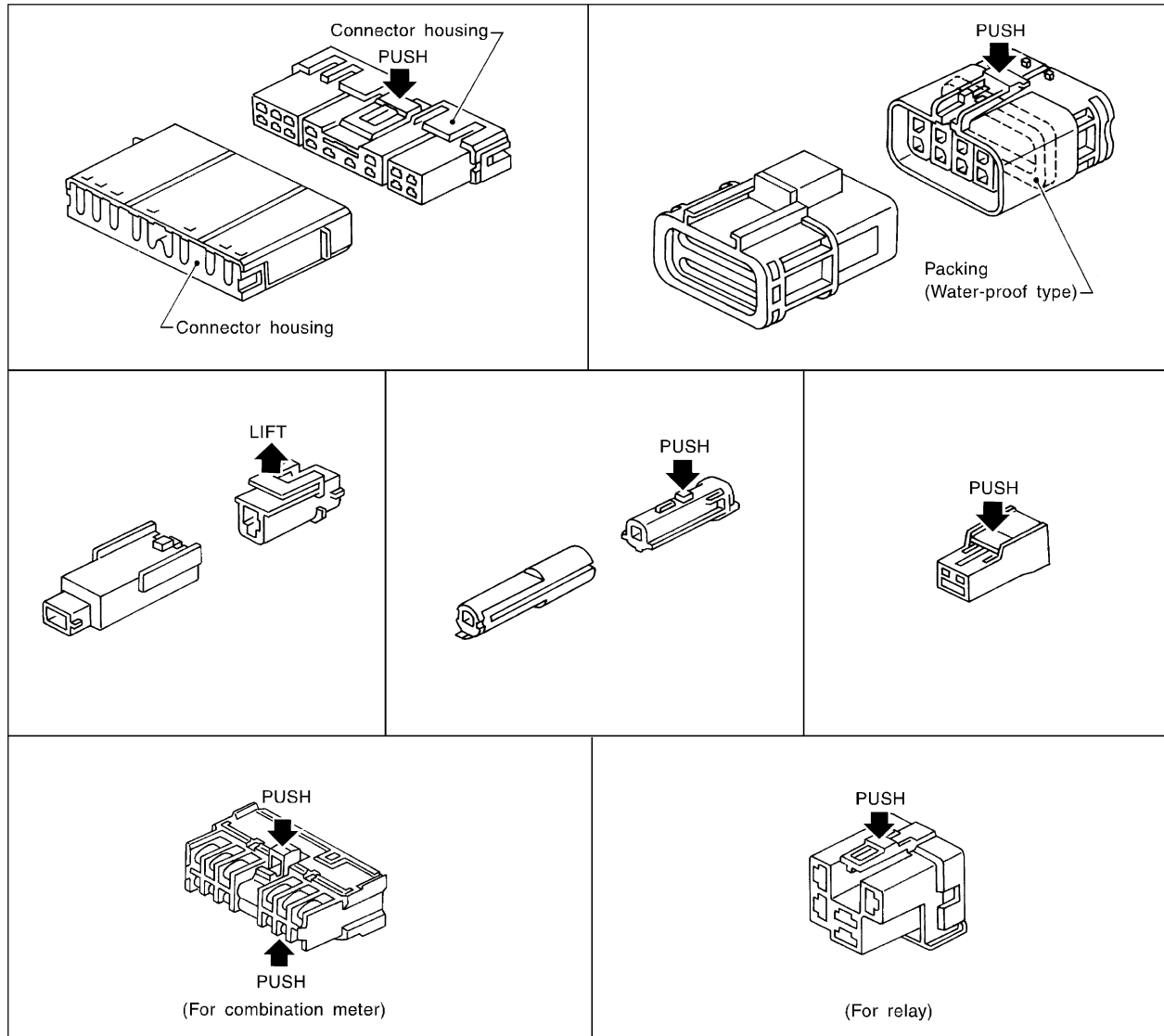
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

CAUTION:

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

[Example]



SEL769DA

HARNESS CONNECTOR

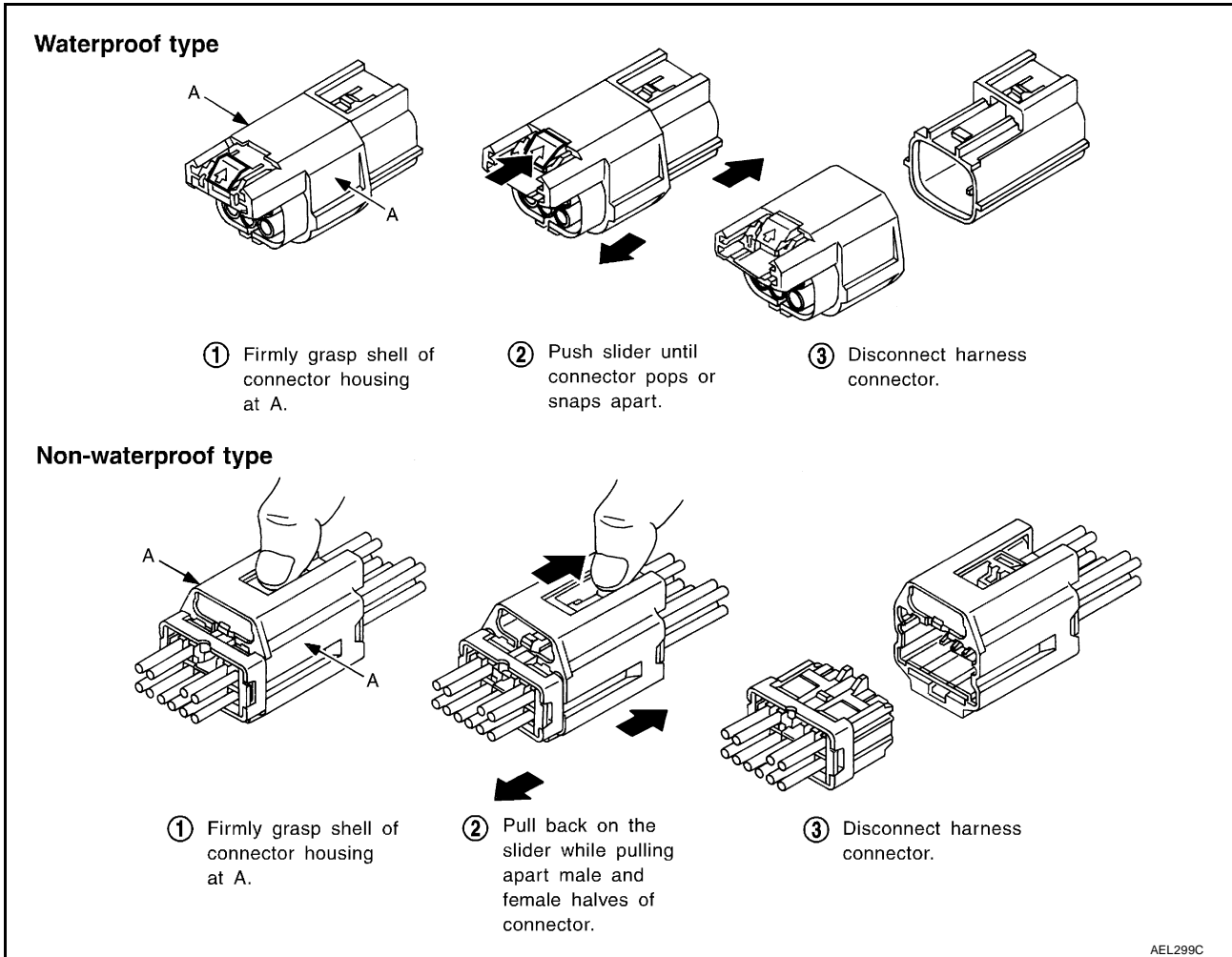
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

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

CAUTION:

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

[Example]



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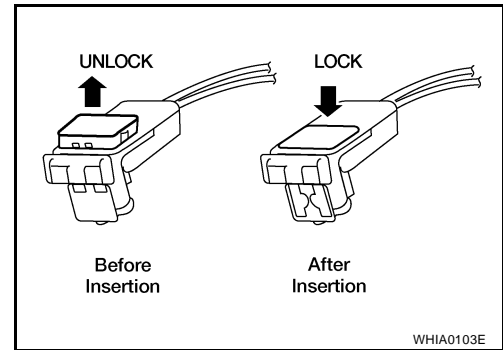
HARNES CONNECTOR

HARNES CONNECTOR (DIRECT-CONNECT SRS COMPONENT TYPE)

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

CAUTION:

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



ELECTRICAL UNITS

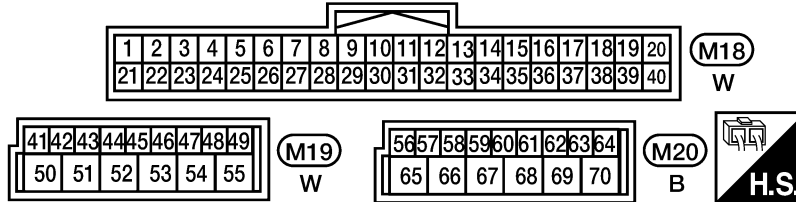
ELECTRICAL UNITS

Terminal Arrangement

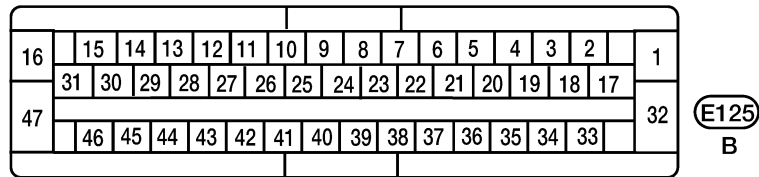
PFP:23710

EKS00705

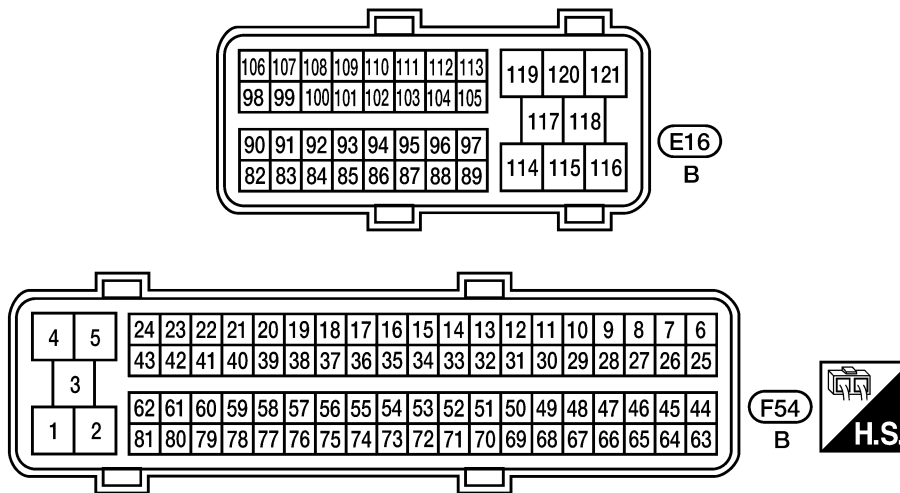
BCM (BODY CONTROL MODULE)



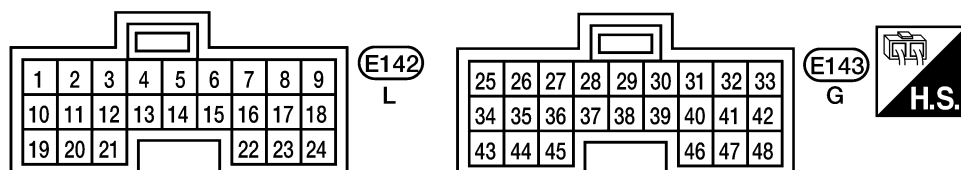
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)



ECM



TRANSFER CONTROL UNIT



WKIA3542E

STANDARDIZED RELAY

PFP:25230

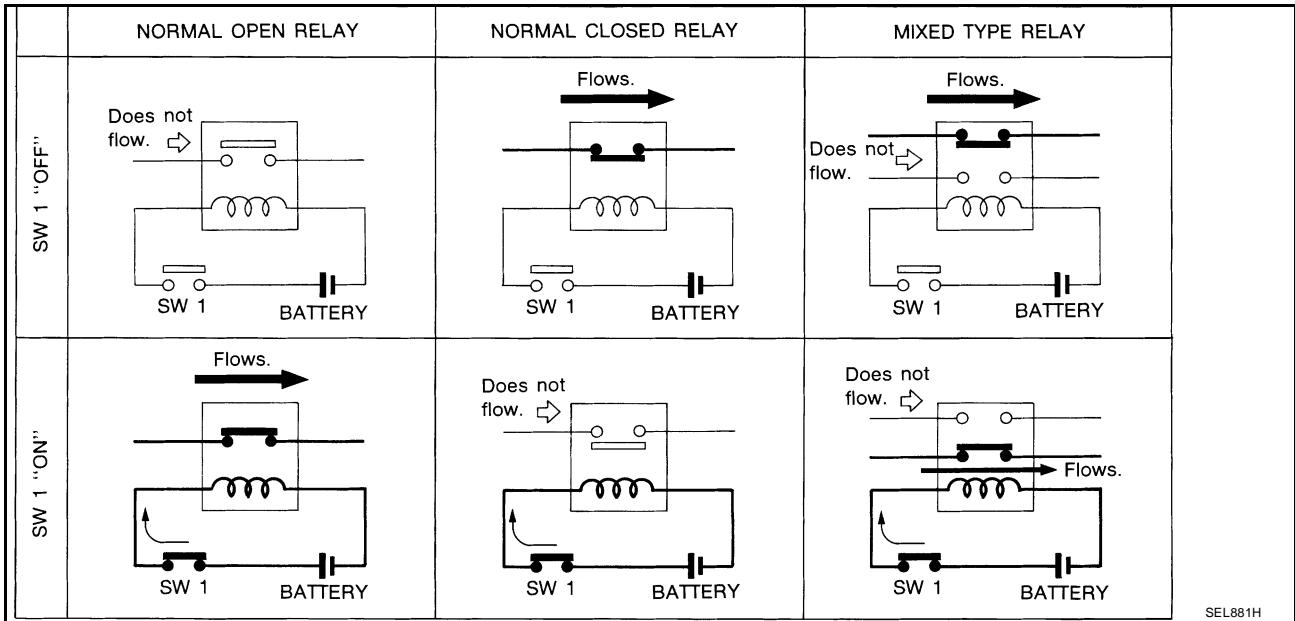
EKS00706

STANDARDIZED RELAY

Description

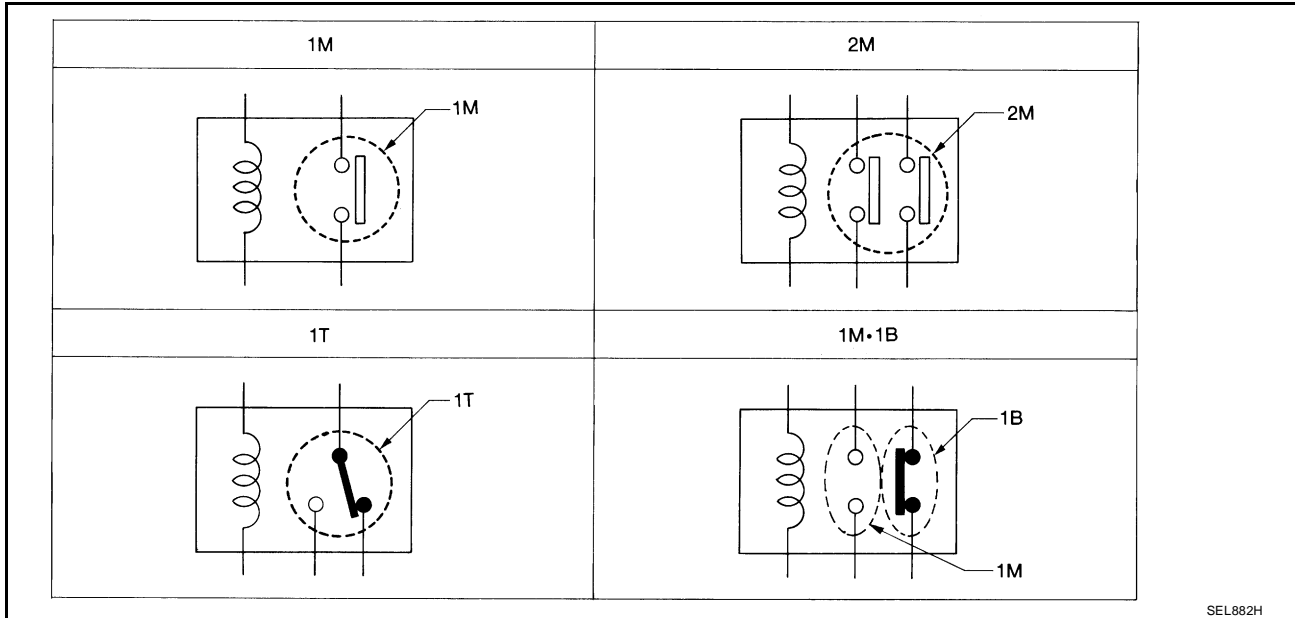
NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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



SEL881H

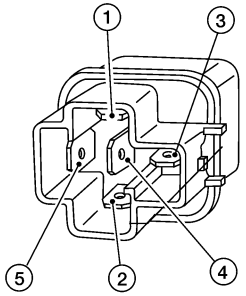
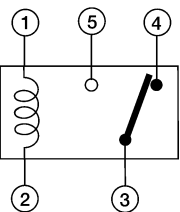
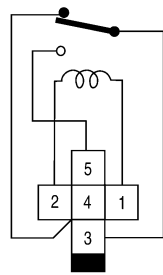
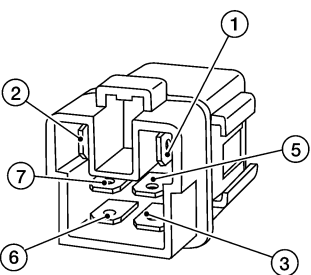
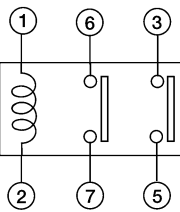
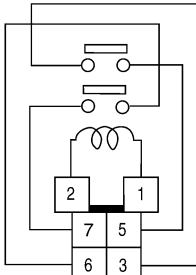
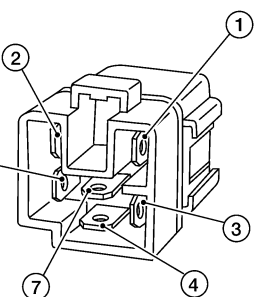
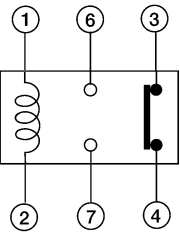
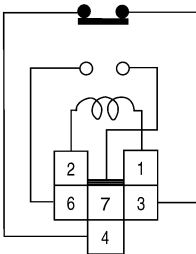
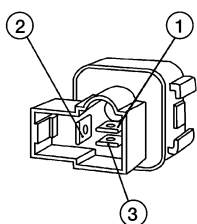
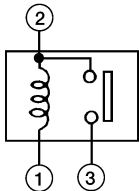
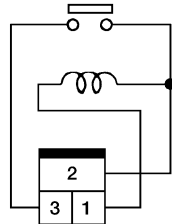
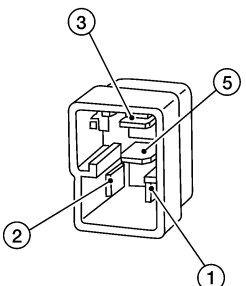
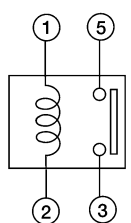
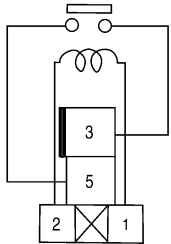
TYPE OF STANDARDIZED RELAYS



SEL882H

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

STANDARDIZED RELAY

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

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

WKIA0253E

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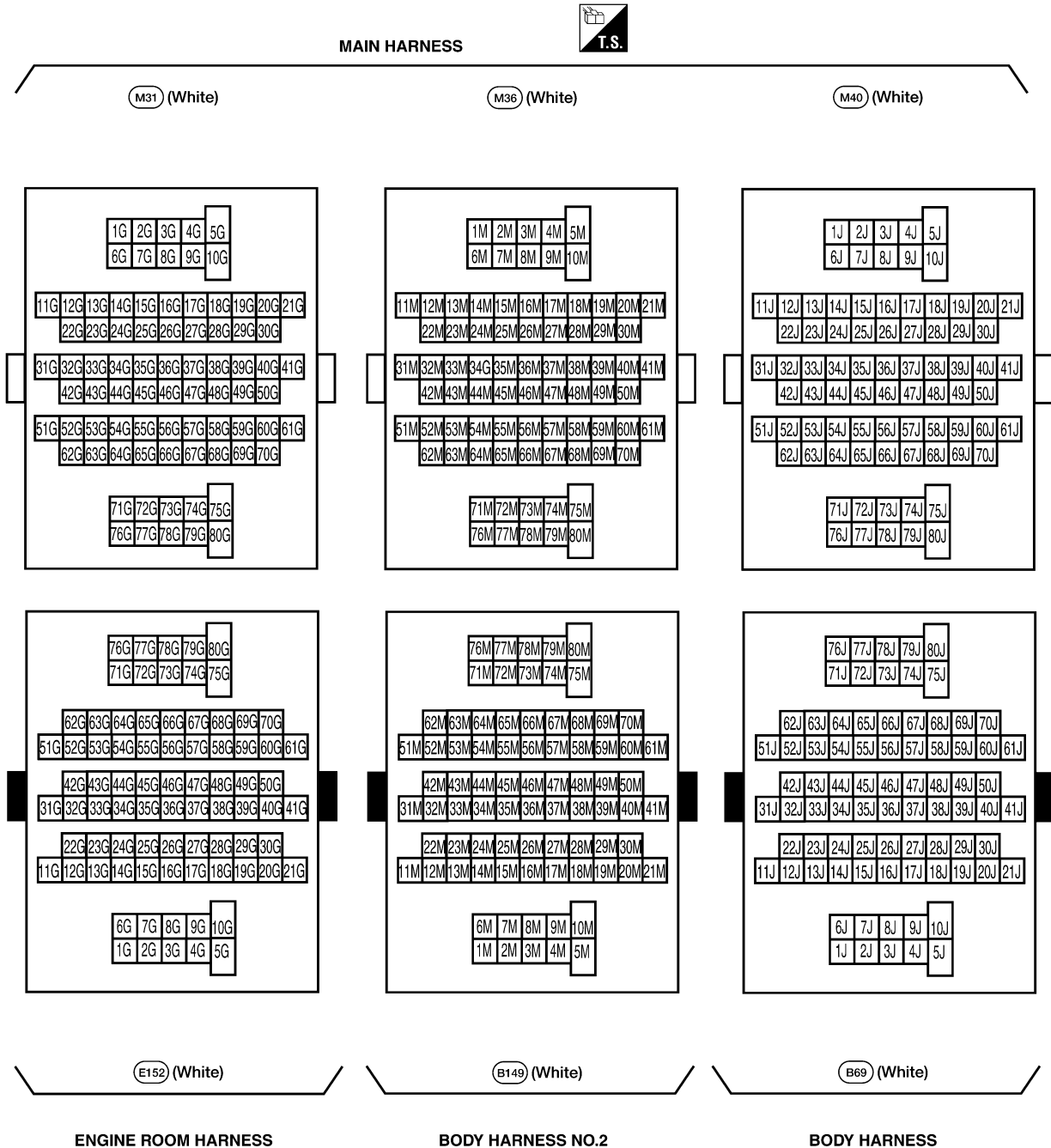
SUPER MULTIPLE JUNCTION (SMJ)

SUPER MULTIPLE JUNCTION (SMJ)

PFJ:84341

Terminal Arrangement

EKS00707



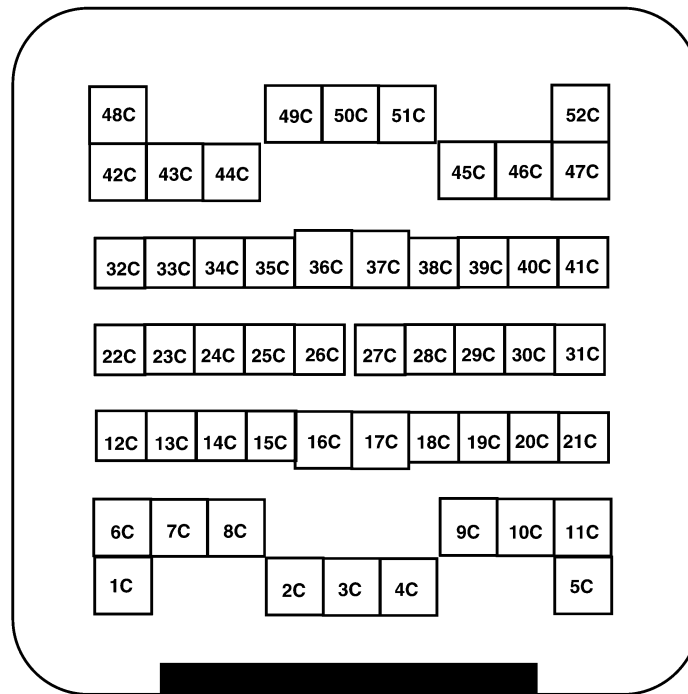
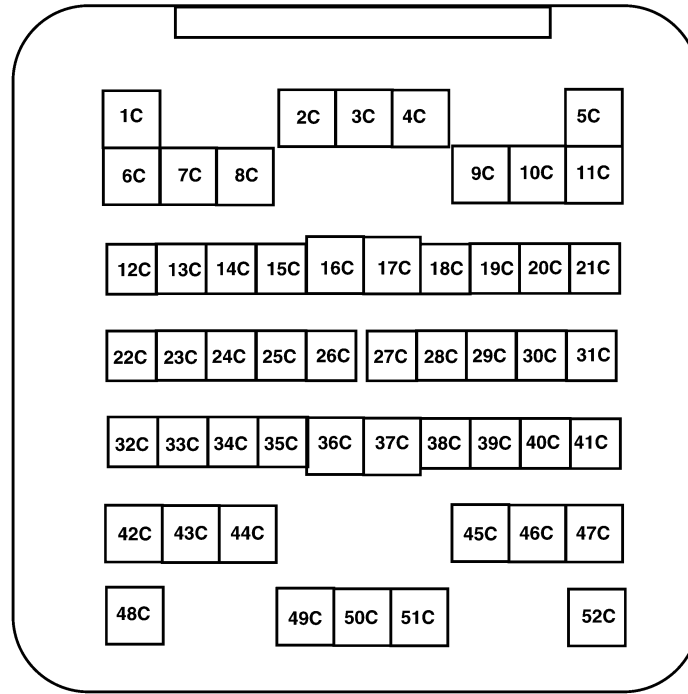
LKIA0385E

SUPER MULTIPLE JUNCTION (SMJ)

CHASSIS HARNESS



(C1) (Gray)



(E41) (Gray)

ENGINE ROOM HARNESS

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WKIA1845E

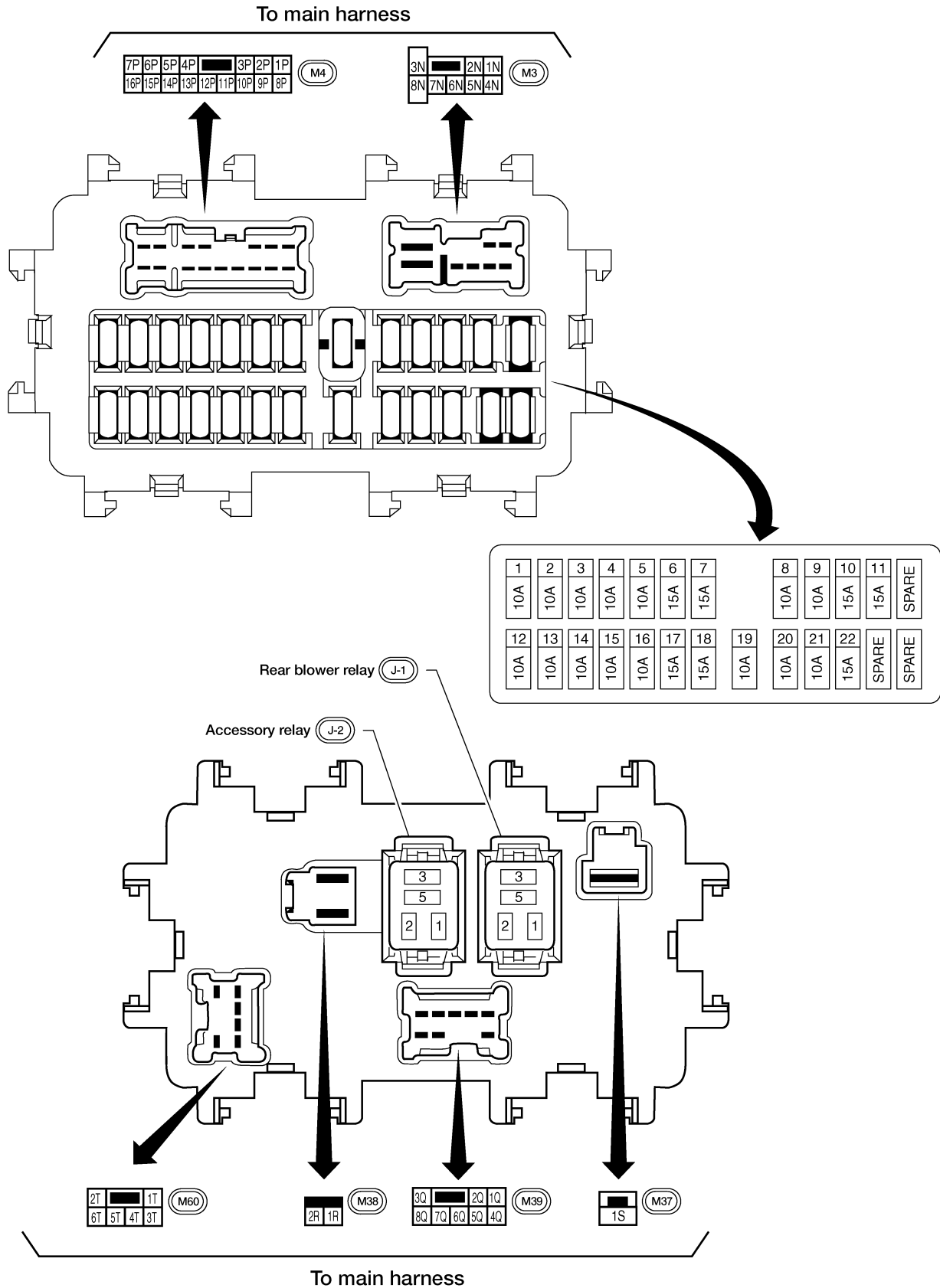
FUSE BLOCK-JUNCTION BOX(J/B)

FUSE BLOCK-JUNCTION BOX(J/B)

PF24350

Terminal Arrangement

EKS00708



WKIA2016E

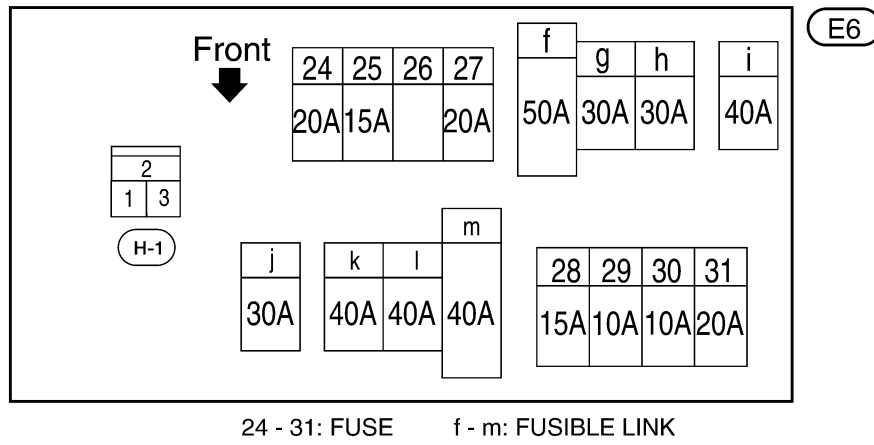
FUSE AND FUSIBLE LINK BOX

FUSE AND FUSIBLE LINK BOX

PFP:24381

Terminal Arrangement

EKS00709



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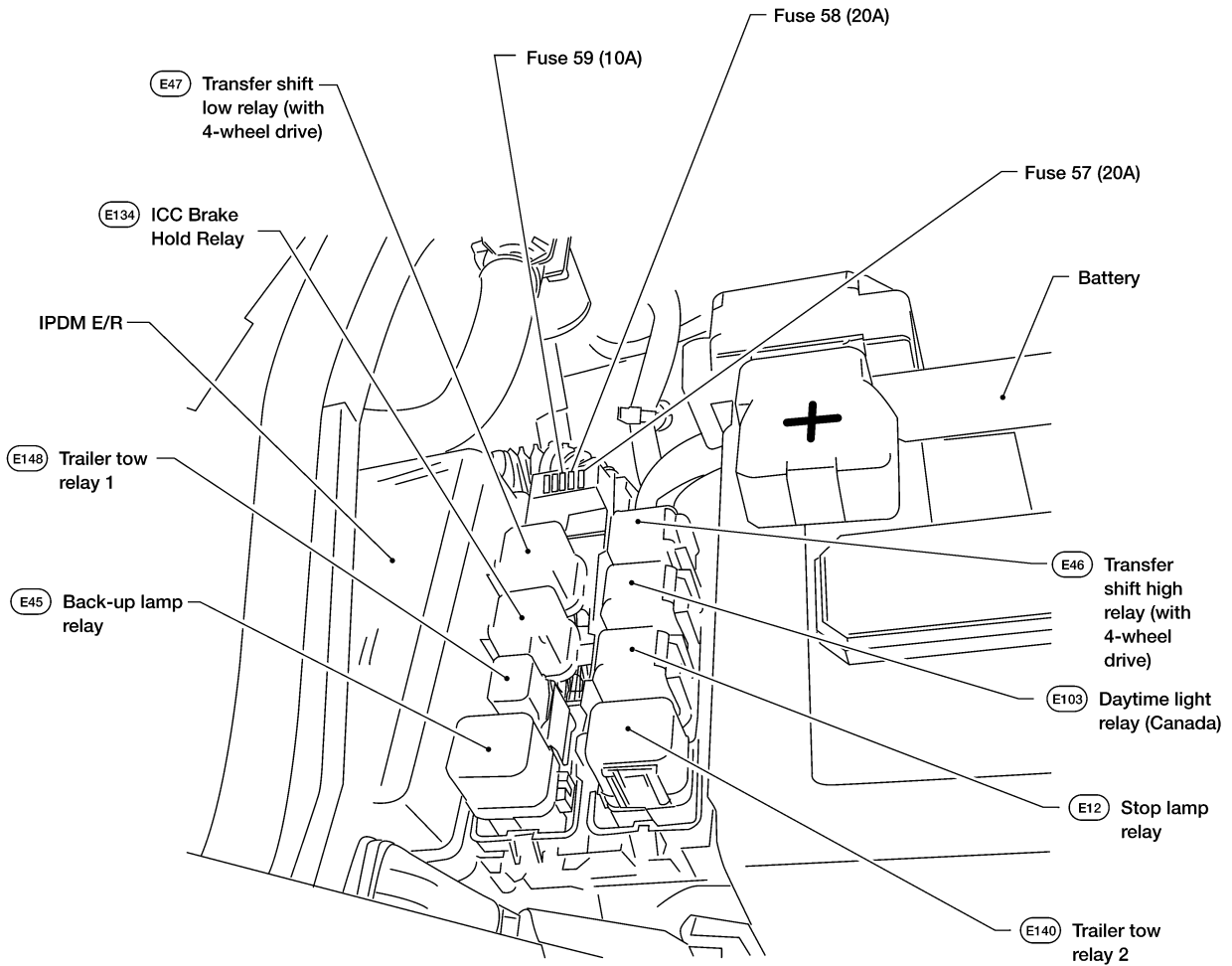
FUSE AND RELAY BOX

PF2:24012

EKS0070A

FUSE AND RELAY BOX

Terminal Arrangement



WKIA4248E