# POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

## **CONTENTS**

| POWER SUPPLY ROUTING CIRCUIT                     |      |
|--|------|
| Schematic  | 3    |
| Wiring Diagram - POWER                           | 4    |
| BATTERY POWER SUPPLY - IGNITION SW. IN           |      |
| ANY POSITION                                     | 4    |
| ACCESSORYPOWERSUPPLY-IGNITIONSW.                 |      |
| IN "ACC" OR "ON"                                 | 9    |
| IGNITION POWER SUPPLY - IGNITION SW. IN          |      |
| "ON" AND/OR "START"                              | . 10 |
| Fuse   | . 15 |
| Fusible Link                                     |      |
| Circuit Breaker                                  | . 15 |
| PDM E/R (INTELLIGENT POWER DISTRIBUTION          |      |
| MODULE ENGINE ROOM)                              | . 16 |
| System Description                               |      |
| SYSTEMS CONTROLLED BY IPDM E/R                   | . 16 |
| CAN COMMUNICATION LINE CONTROL                   | . 16 |
| IPDM E/R STATUS CONTROL                          | . 17 |
| CAN Communication System Description             |      |
| CAN Communication Unit                           | . 17 |
| Function of Detecting Ignition Relay Malfunction | . 17 |
| CONSULT-II Function (IPDM E/R)                   | . 18 |
| CONSULT-II BASIC OPERATION                       | . 18 |
| SELF-DIAG RESULTS                                | . 19 |
| DATA MONITOR                                     |      |
| ACTIVE TEST                                      | . 21 |
| Auto Active Test                                 |      |
| DESCRIPTION                                      |      |
| OPERATION PROCEDURE                              | . 22 |
| INSPECTION IN AUTO ACTIVE TEST MODE              | . 22 |
| Schematic  |      |
| IPDM E/R Terminal Arrangement                    |      |
| IPDM E/R Power/Ground Circuit Inspection         |      |
| Inspection With CONSULT-II (Self-Diagnosis)      |      |
| Removal and Installation of IPDM E/R             | . 28 |
| REMOVAL  |      |
| INSTALLATION                                     |      |
|  | _    |

| GROUND                            | 29  |
|-----------------------------------|-----|
| Ground Distribution               | 29  |
| MAIN HARNESS                      | 29  |
| ENGINE ROOM HARNESS               | 34  |
| ENGINE CONTROL HARNESS            | 3   |
| BODY HARNESS                      | 38  |
| HARNESS                           | 4   |
| Harness Layout                    |     |
| HOW TO READ HARNESS LAYOUT        |     |
| OUTLINE                           |     |
| MAIN HARNESS                      | 43  |
| ENGINE ROOM HARNESS               |     |
| ENGINE CONTROL HARNESS (2WD)      |     |
| ENGINE CONTROL HARNESS (AWD)      |     |
| BODY HARNESS                      | 5   |
| BODY NO. 2 HARNESS                |     |
| ROOM LAMP HARNESS                 |     |
| FRONT DOOR HARNESS                |     |
| REAR DOOR HARNESS                 | 6   |
| Wiring Diagram Codes (Cell Codes) | 62  |
| ELECTRICAL UNITS LOCATION         |     |
| Electrical Units Location         | 6   |
| ENGINE COMPARTMENT                |     |
| PASSENGER COMPARTMENT             |     |
| LUGGAGE COMPARTMENT               |     |
| HARNESS CONNECTOR                 |     |
| Description                       | 69  |
| HARNESS CONNECTOR (TAB-LOCKING    |     |
| TYPE)                             | 69  |
| HARNESS CONNECTOR (SLIDE-LOCKING  | _   |
| TYPE)                             | 70  |
| ELECTRICAL UNITS                  |     |
| Terminal Arrangement              | 7   |
| SMJ (SUPER MULTIPLE JUNCTION)     |     |
| Terminal Arrangement              | 72  |
| STANDARDIZED RELAY                |     |
| Description                       | / 4 |
| NORMAL OPEN, NORMAL CLOSED AND    | _   |
| MIXED TYPE RELAYS                 | [4  |
| TYPE OF STANDARDIZED RELAYS       | / ' |

D

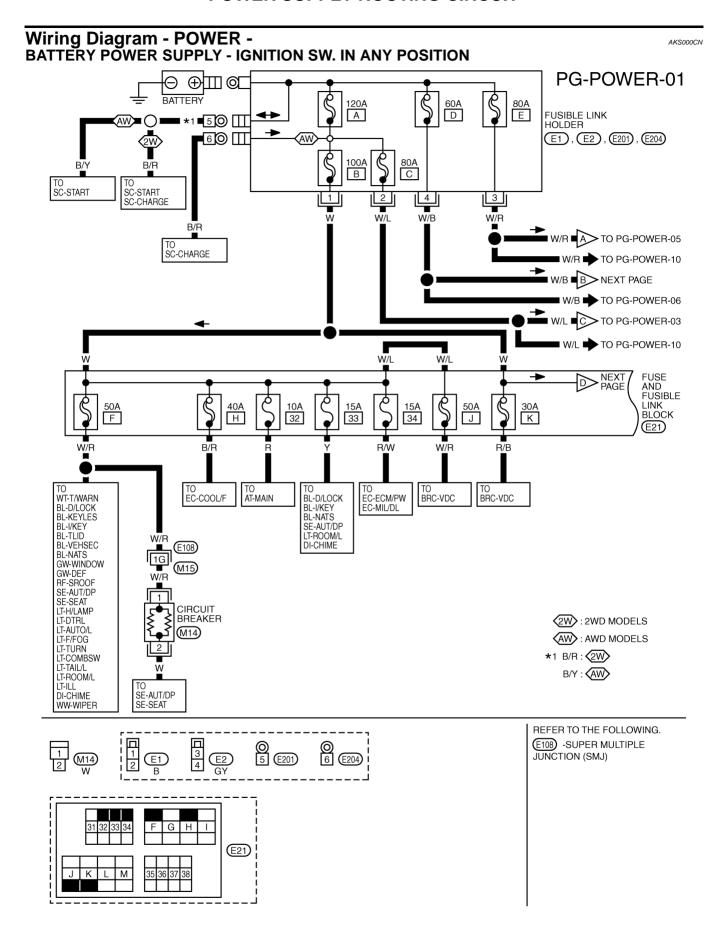
Е

РG

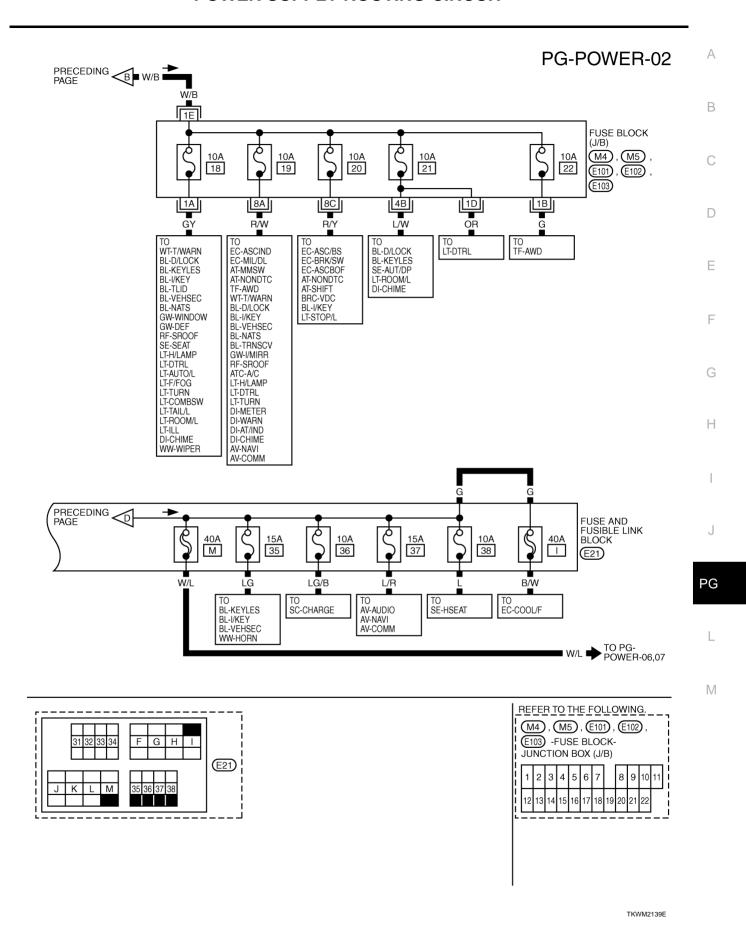
| FUSE BLOCK - JUNCTION BOX (J/B)76 | FUSE, FUSIBLE LINK AND RELAY BOX77 |
|-----------------------------------|------------------------------------|
| Terminal Arrangement76            | Terminal Arrangement77             |

#### POWER SUPPLY ROUTING CIRCUIT PFP:24110 Α **Schematic** AKS000CM 40F 15A MIL/DL NONDTC START \*: This relay is built into the IPDM E/R (Intelligent power distribution module engine room). В BLOWER RELAY 15A 85 A/C 15A C 10A 84 ultoo 15A 40E CIGAR D MAIN NONDTC BACK/L NAVI DATA LINE DATA LINE 9 9 FRONT WIPER \*(\*) ACCESSORY RELAY 40 82 83 SNOWSW AWD VDC DTRL WARN Е 15A 5 FUEL PUMP RELAY 15A 00 ulton: 98 10 4 F HSEAT \$<u>4</u> 15A ASCIND MILDIL MI G AUDIO NAVI COMM FRONT FOG LAMP JRELAY (\*) \$[E] 36A DTRL F/F0G \$(88) Н 10A ASCIBS ASCIBS ASCIBOT INKEY NATIOP HALTIOP AC COMPAS COMPAS 15A THROTTLE CONTROL MOTOR RELAY KEYLES I/KEY VEHSEC HORN ĕ□ (2W): 2WD models (AW): AWD models 15A 87 -34 34 W ļ 15A J ത 15A 15A 32 32 40 9 PG MAIN $\mathfrak{M}$ 808 GNITION SWITCH \$₽ 20A $\overline{\phantom{a}}$ \$[® L 40 ₩ 띰 ₩ ¥ AWD Δ 15A ₩ . 198 198 \$E M ECM ★) 4<sup>7</sup> $\geq$ VEHSEC H/LAMP DTRL AUTO/L 80A E 15A P \$⊟ COOLF W 20A $\times$ \$ | |} ASC/BS BRK/SW ASCBOF NONDTC SHIFT VDC I/KEY STOP/L \$□ HEADLAMP HIGH RELAY (\*) NATS $\times$ \$(£) 10A VEHSEC H/LAMP DTRL AUTO/L ASCIND MILDIA MI ത 96 P 10A AUT/DP SEAT TAIL (\*) (\*) TWARN TWARN TELES φE AUTO/L TAIL/L I'L 58 F 20A $\bigotimes$ START CHARGE B B B (<del>A</del>) 丰 BATTERY START ₩ O

TKWM2137E

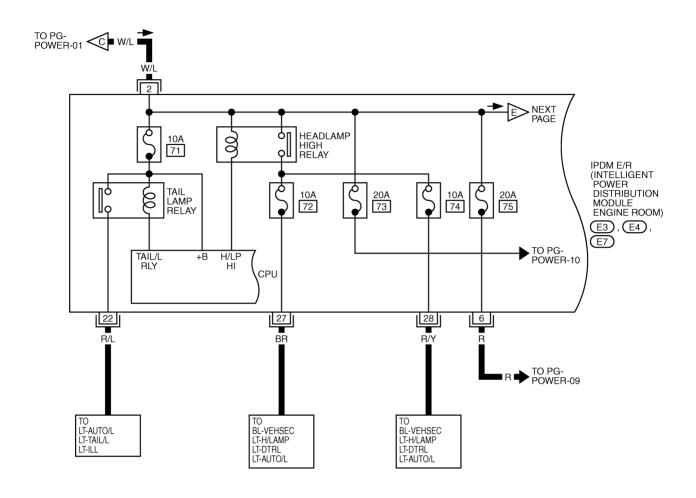


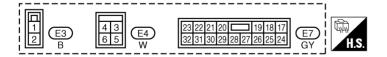
TKWM2138E



Edition; 2004 September PG-5 2005 G35 Sedan

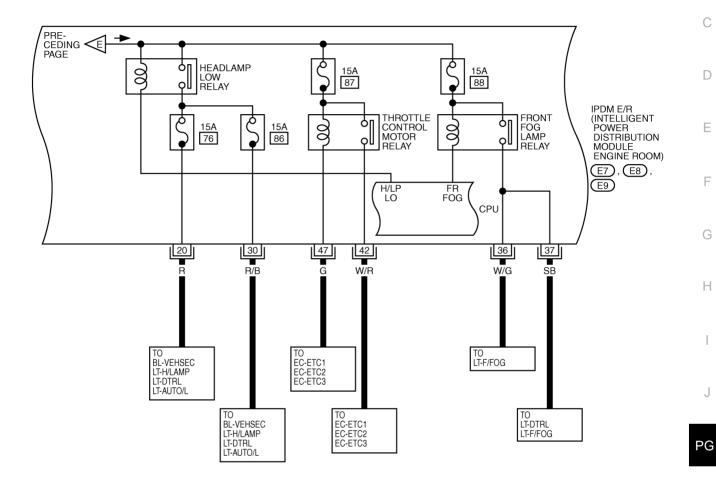
## PG-POWER-03

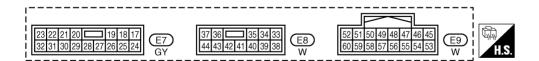




TKWM2140E

## PG-POWER-04





TKWT1570E

В

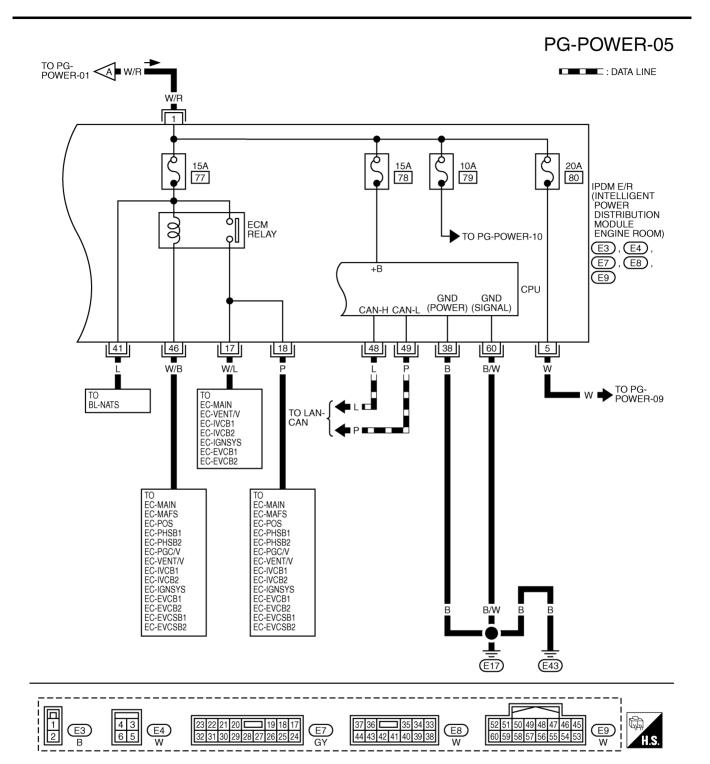
Α

С

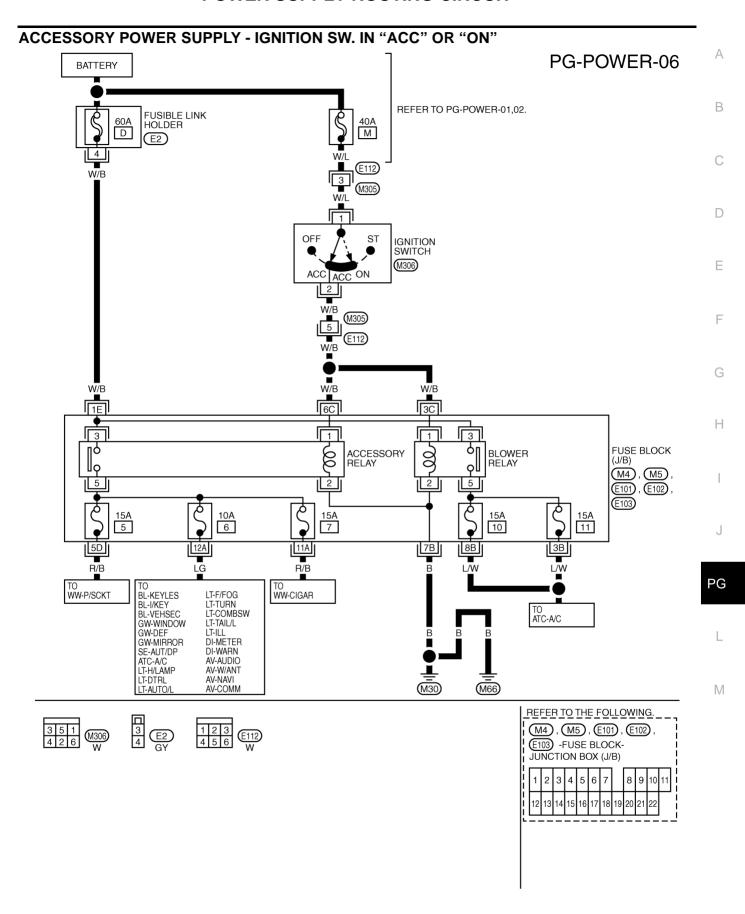
D

G

Н

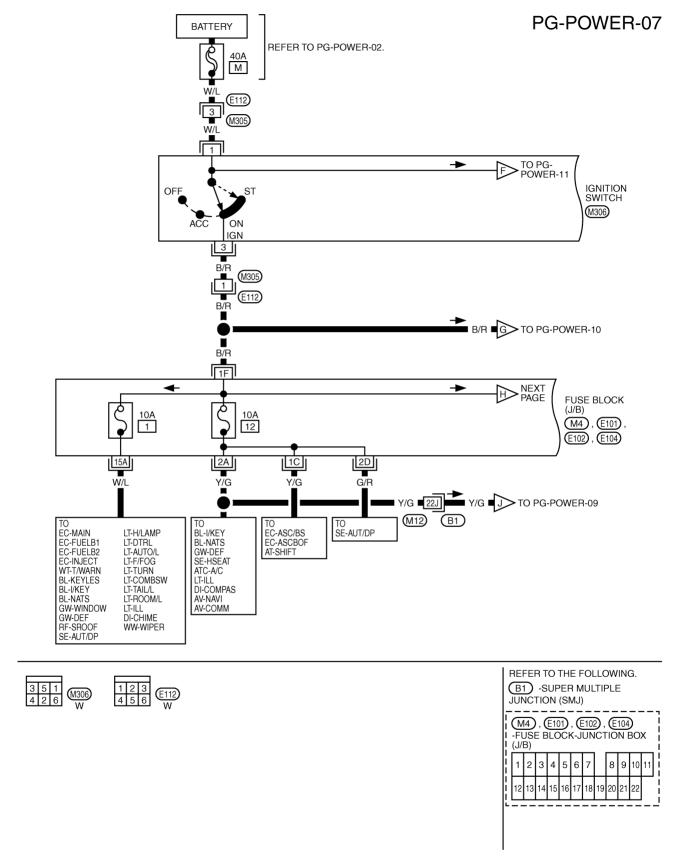


TKWM2141E



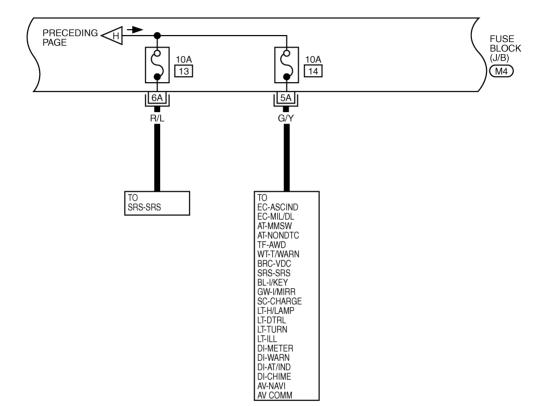
TKWM2142E

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



TKWM2143E

## PG-POWER-08



D

Α

В

Е

F

G

Н

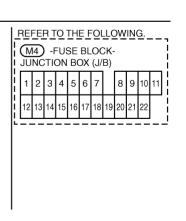
I

J

PG

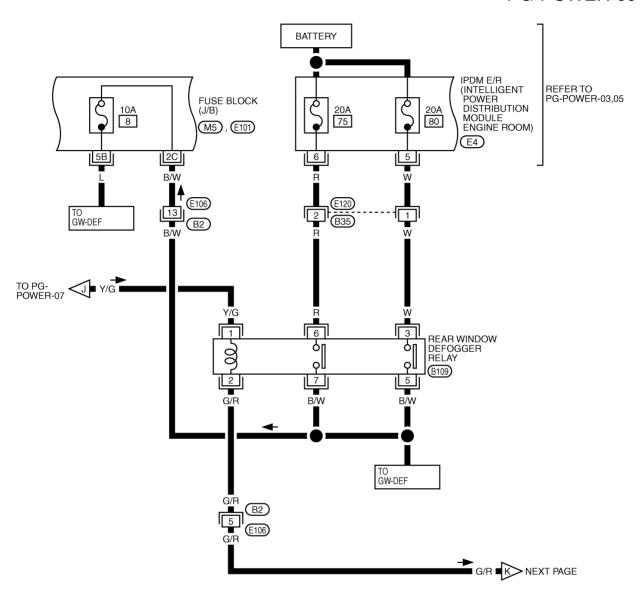
L

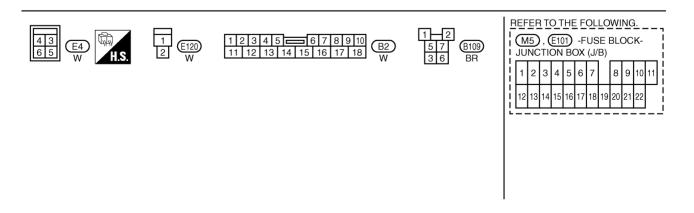
M



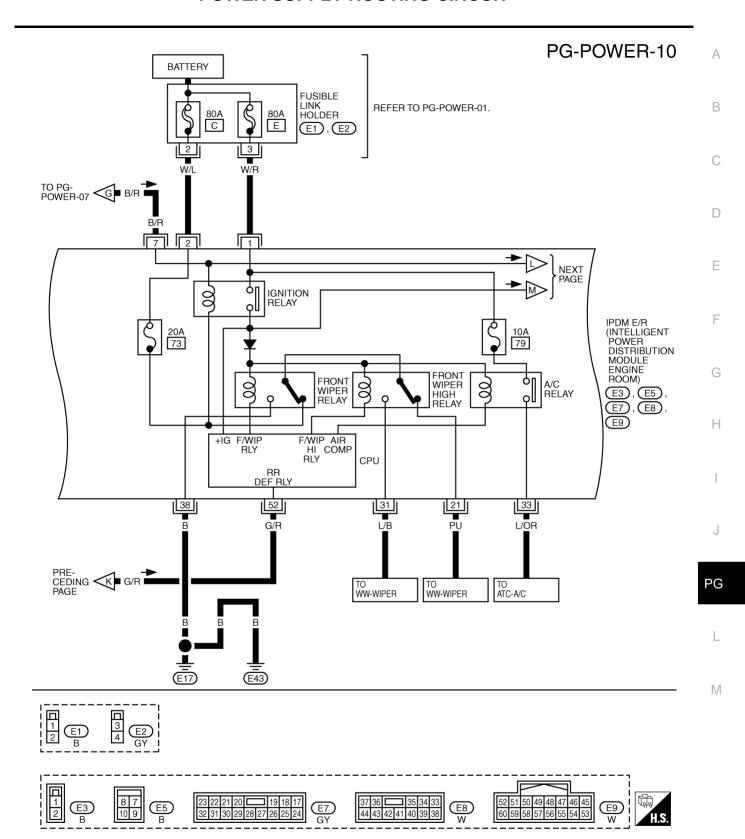
TKWM2144E

## PG-POWER-09

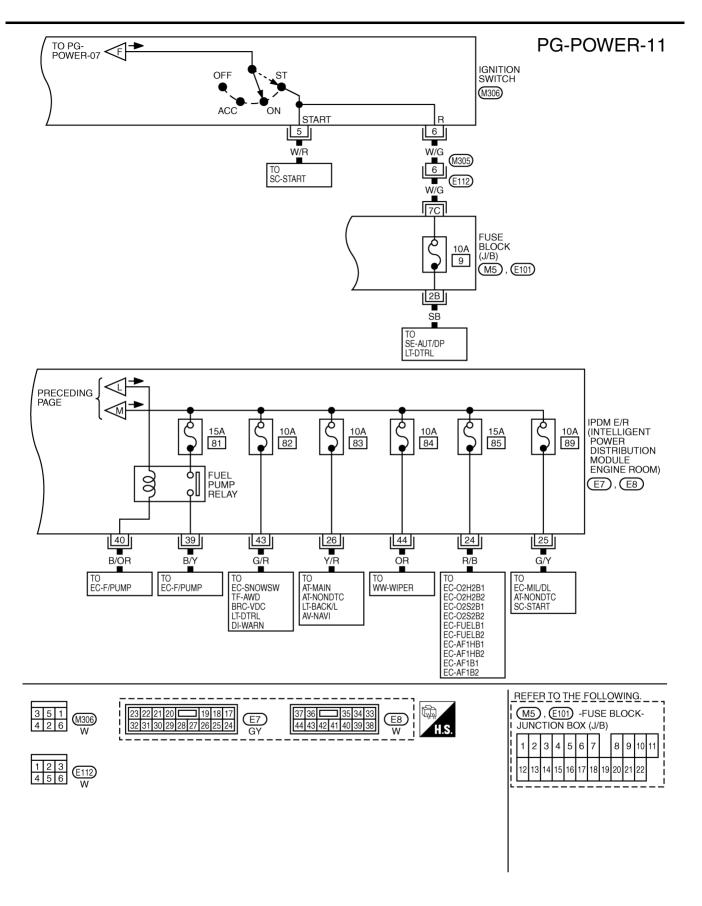




TKWT1575E



TKWM2145E

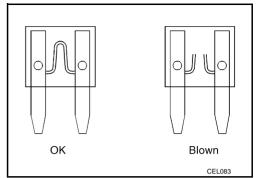


TKWM2146E

Fuse

• If fuse is blown, be sure to eliminate cause of malfunction 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.

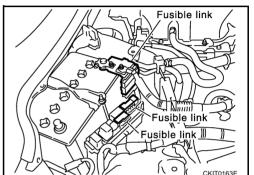


**Fusible Link** 

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.

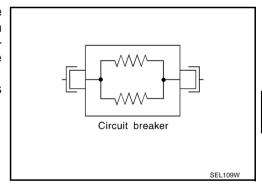
#### **CAUTION:**

- 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 malfunction.
- 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

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.



L

PG

Α

AKS00019

F

Н

 $\mathbb{N}$ 

Edition; 2004 September PG-15 2005 G35 Sedan

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

PFP:284B7

## **System Description**

AKSOOOIO

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

#### CAUTION

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

#### SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control

Using CAN communication line, it receives signal from BCM and controls the following lamps:

- Head lamps (Hi, Lo)
- Parking lamps
- Tail lamps
- Front fog lamps
- 2. Wiper control

Using CAN communication line, it receives signals from BCM and controls the front wipers.

- Rear window defogger relay control
   Using CAN communication line, it receives signals from BCM and controls the rear window defogger
   relay.
- 4. A/C compressor control

Using CAN communication line, it receives signals from ECM and controls the A/C relay.

- 5. Cooling fan control
  - Using CAN communication line, it receives signals from ECM and controls cooling fan relay.
- Horn control

Using CAN communication line, it receives signals from BCM and controls horn relay.

#### CAN COMMUNICATION LINE CONTROL

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

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

| Controlled system  | Fail-safe mode   |  |  |
|--|--|--|--|
| Uaadlama   | With the ignition switch ON, the headlamp (low) is ON.   |  |  |
| Headlamp   | With the ignition switch OFF, the headlamp (low) is OFF.   |  |  |
| Tail and parking lamps   | With the ignition switch ON, the tail and parking lamps is ON.   |  |  |
| Tail and parking lamps  • With the ignition switch OFF, the tail and parking lamps is OFF. |  |  |  |
| Cooling for  | With the ignition switch ON, the cooling fan HI operates.  |  |  |
| Cooling fan  | With the ignition switch OFF, the cooling fan stops.   |  |  |
| Front wiper  | Until the ignition switch is turned off, the front wiper LO and HI remains in the same status it was in just before fail—safe control was initiated. |  |  |
| Rear window defogger   | Rear window defogger relay OFF   |  |  |
| A/C compressor   | A/C compressor OFF   |  |  |
| Front fog lamps  | Front fog lamp relay OFF   |  |  |

#### IPDM E/R STATUS CONTROL

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

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

## **CAN Communication System Description**

AKS00A1L

Α

 $\mathsf{D}$ 

F

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

## **CAN Communication Unit**

AKS0092W

Refer to LAN-21, "CAN Communication Unit".

## **Function of Detecting Ignition Relay Malfunction**

AKS009HN

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

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

#### NOTE:

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

PG

L

M

Edition; 2004 September PG-17 2005 G35 Sedan

## **CONSULT-II Function (IPDM E/R)**

AKS009HO

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

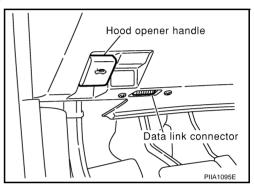
| Inspection Item, Diagnosis Mode | Description  |
|---------------------------------|--|
| SELF-DIAG RESULTS               | The IPDM E/R performs diagnosis of the CAN communication and self-diagnosis.         |
| DATA MONITOR                    | The input/output data of the IPDM E/R is displayed in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

#### CONSULT-II BASIC OPERATION

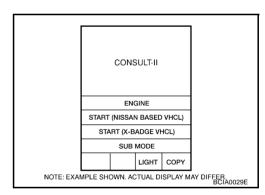
#### **CAUTION:**

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

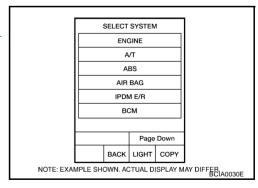
1. With the ignition switch OFF, connect CONSULT-II and CON-SULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



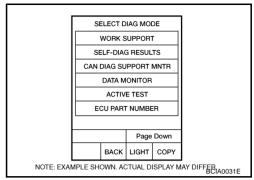
2. Touch "START (NISSAN BASED VHCL)".



- 3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
  - If "IPDM E/R" is not indicated, refer to GI-38, "CONSULT-II Data Link Connector (DLC) Circuit".



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



## **SELF-DIAG RESULTS**

## **Operation Procedure**

- 1. Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
- 2. Check display content in self-diagnostic results.

## **Display Item List**

| Display Items  | CONSULT-II   | Malfunction detecting condition  |   | ME   | Possible causes   |
|--|--------------|--|---|------|---|
| Diopidy Romo   | display code |  |   | PAST | 1 coolbic caacco  |
| NO DTC IS<br>DETECTED.FURTHER<br>TESTING MAY BE<br>REQUIRED. | -            | -  | , | -    | <u>-</u>  |
| CAN COMM CIRC  | U1000        | <ul> <li>If CAN communication reception/transmission data has a malfunction, or if any of the control units malfunction, data reception/transmission cannot be confirmed.</li> <li>When the data in CAN communication is not received before the specified time</li> </ul> | × | ×    | Any of or several items below have errors.  TRANSMIT DIAG ECM BCM/SEC |

#### NOTE:

The details for display of the period are as follows:

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

ΡG

Α

D

F

G

Н

#### **DATA MONITOR**

#### **Operation Procedure**

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

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

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

#### All Signals, Main Signals, Selection From Menu

|                                   |                                |                 | Monitor item selection |                 | election                     |   |  |
|-----------------------------------|--------------------------------|-----------------|------------------------|-----------------|------------------------------|---|--|
| Item name                         | CONSULT-II<br>screen display   | Display or unit | ALL<br>SIGNALS         | MAIN<br>SIGNALS | SELECTION<br>FROM<br>MENU    | Description                                   |  |
| Motor fan request                 | MOTOR FAN REQ                  | 1/2/3/4         | ×                      | ×               | ×                            | Signal status input from ECM                  |  |
| Compressor request                | AC COMP REQ                    | ON/OFF          | ×                      | ×               | ×                            | Signal status input from ECM                  |  |
| Tail & clearance request          | TAIL&CLR REQ                   | ON/OFF          | ×                      | ×               | ×                            | Signal status input from BCM                  |  |
| H/L LO request                    | HL LO REQ                      | ON/OFF          | ×                      | ×               | ×                            | Signal status input from BCM                  |  |
| H/L HI request                    | HL HI REQ                      | ON/OFF          | ×                      | ×               | ×                            | Signal status input from BCM                  |  |
| FR fog request                    | FR FOG REQ                     | ON/OFF          | ×                      | ×               | ×                            | Signal status input from BCM                  |  |
| H/L washer request                | HL WASHER<br>REQ* <sup>1</sup> | OFF             | ×                      |                 | ×                            | _   |  |
| FR wiper request                  | FR WIP REQ                     | STOP/LOW/HI     | ×                      | ×               | ×                            | Signal status input from BCM                  |  |
| Wiper auto stop                   | WIP AUTO STOP                  | ACT P/STOP P    | ×                      | ×               | ×                            | Output status of IPDM E/R                     |  |
| Wiper protection                  | WIP PROT                       | OFF/BLOCK       | ×                      | ×               | ×                            | Control status of IPDM E/R                    |  |
| Starter request                   | ST RLY REQ*2                   | ON/OFF          | ×                      |                 | ×                            | Status of input signal                        |  |
| Ignition relay status             | IGN RLY                        | ON/OFF          | ×                      | ×               | ×                            | Ignition relay status monitored with IPDM E/R |  |
| Rear window defog-<br>ger request | RR DEF REQ                     | ON/OFF          | × × × Signal sta       |                 | Signal status input from BCM |   |  |
| Oil pressure switch               | OIL P SW                       | OPEN/CLOSE      | × ×                    |                 | ×                            | Signal status input in IPDM E/R               |  |
| DTLR request                      | DTRL REQ*1                     | ON/OFF          | ×                      |                 | ×                            | _   |  |
| Hood switch                       | HOOD SW                        | ON/OFF          | ×                      |                 | ×                            | Input signal status                           |  |
| Theft warning horn request        | THFT HRN REQ                   | ON/OFF          | ×                      |                 | ×                            | Signal status input from BCM                  |  |
| Horn chirp                        | HORN CHIRP                     | ON/OFF          | ×                      |                 | ×                            | Output status of IPDM E/R                     |  |

#### NOTE:

- Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is at ACC, the display may not be correct.
- \*1: This item is displayed, but does not function.
- \*2: The vehicle without 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.
- 3. Touch "START", and confirm its operation.
- 4. Touch "STOP" while testing to stop the operation.

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

#### NOTE:

This item is displayed, but cannot be tested.

PG

Α

В

D

Е

F

G

Н

L

Auto Active Test DESCRIPTION

AKS009H

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

#### **OPERATION PROCEDURE**

1. Close hood and front door (passenger side) and then 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 drivers door switch 10 times (close other doors). 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. Oil pressure warning lamp starts blinking.
- 6. After a series of operations is repeated three times, auto active test is completed.

#### NOTE:

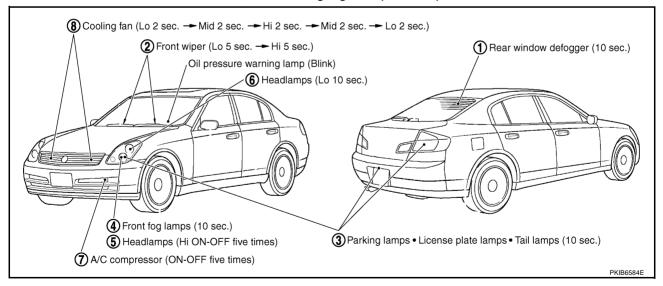
When auto active test mode has to be cancelled halfway, turn ignition switch OFF.

#### CAUTION:

Be sure to inspect BL-41, "Check Door Switch" when the auto active test cannot be performed.

#### **INSPECTION IN AUTO ACTIVE TEST MODE**

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



## **Concept of Auto Active Test**

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

#### Diagnosis chart in auto active test mode

| Symptom  | Inspection contents   |  | Possible cause  |  |  |
|--|---|--|---|--|--|
|  |   | YES  | BCM signal input circuit malfunction  |  |  |
| Rear window defog-<br>ger does not operate.  Perform auto active<br>test. Does rear win-<br>dow defogger oper-<br>ate? |   | NO   | Rear window defogger relay malfunction     Harness/connector malfunction between IPDM E/R and rear window defogger relay  |  |  |
|  |   |  | <ul><li>Open circuit of rear window defogger</li><li>IPDM E/R malfunction</li></ul>   |  |  |
| Any of front wipers,   |   | YES  | BCM signal input system malfunction   |  |  |
| tail and parking<br>lamps, front fog<br>lamps, and head<br>lamps (Hi, Lo) do not<br>operate.                           | Perform auto active<br>test. Does system<br>in question oper-<br>ate? | NO   | <ul> <li>Lamp/wiper motor malfunction</li> <li>Lamp/wiper motor ground circuit malfunction</li> <li>Harness/connector malfunction between IPDM E/R and system in question</li> <li>IPDM E/R (integrated relay) malfunction</li> </ul> |  |  |
| A/C compressor does not operate.   | test. Does magnetic   |  | <ul> <li>BCM signal input circuit malfunction</li> <li>CAN communication signal between BCM and ECM.</li> <li>CAN communication signal between ECM and IPDM E/R</li> <li>Magnetic clutch malfunction</li> </ul>                       |  |  |
| clutch operate?  |   | NO   | Harness/connector malfunction between IPDM E/R and magnetic clutch     IPDM E/R (integrated relay) malfunction  |  |  |
| Cooling fan does not   | Perform auto active   | YES  | ECM signal input circuit     CAN communication signal between ECM and IPDM E/R  |  |  |
| operate. test. Does cooling fan operate?   |   | NO   | <ul> <li>Cooling fan motor malfunction</li> <li>Harness/connector malfunction between IPDM E/R and cooling fan motor</li> <li>IPDM E/R (integrated relay) malfunction</li> </ul>  |  |  |
| Oil pressure warning lamp does not oper-   | Perform auto active<br>test. Does oil pres-<br>sure warning lamp      | Harness/connector malfunction between IPDM E/R and oil pressure     Oil pressure switch malfunction     IPDM E/R malfunction |   |  |  |
| ate.   | blink?  | NO   | CAN communication signal between IPDM E/R and combination meter     Combination meter   |  |  |

Edition; 2004 September PG-23 2005 G35 Sedan

PG

Α

В

D

F

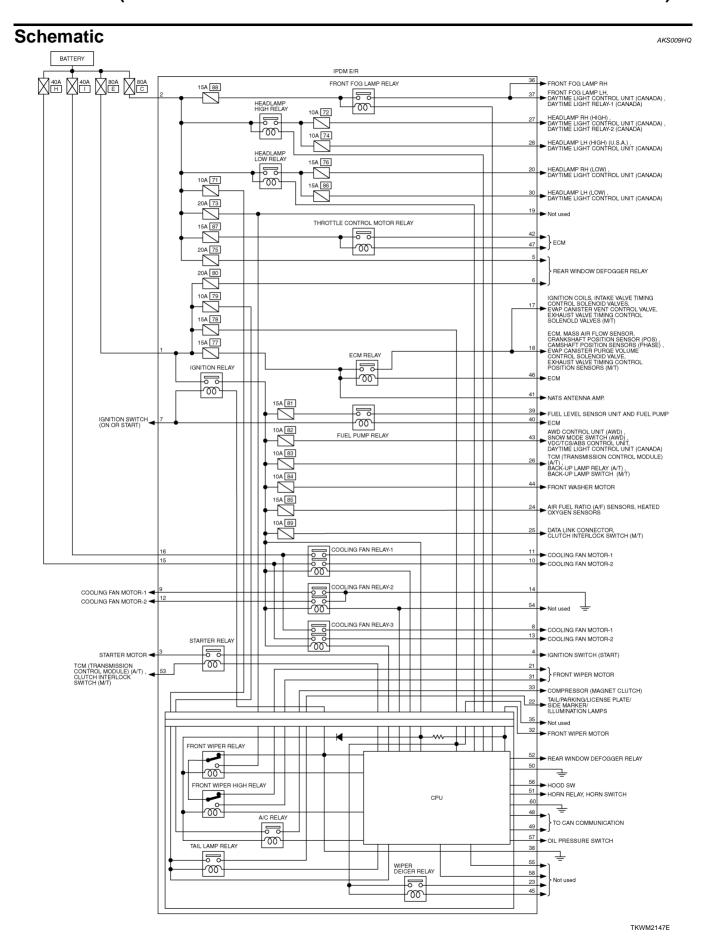
F

G

Н

L

IV.



**PG-25** 2005 G35 Sedan Edition; 2004 September

В

D

Н

PG

## IPDM E/R Power/Ground Circuit Inspection

## 1. CHECK FUSE AND FUSIBLE LINK

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

| Terminal No. | Power source  | Fuse and fusible link No. |
|--------------|---------------|---------------------------|
| 1, 2         |               | С                         |
|              | Battery power | E                         |
|              |               | 71                        |
|              |               | 78                        |

#### OK or NG

OK >> GO TO 2.

NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new one.

## 2. CHECK POWER SUPPLY CIRCUIT

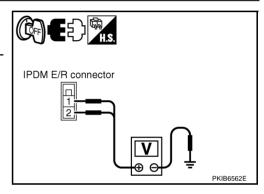
- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R harness connector E3.
- Check voltage between IPDM E/R harness connector E3 terminals 1 (W/R), 2 (W/L) and ground.

: Battery voltage

#### OK or NG

OK >> GO TO 3.

NG >> Replace IPDM E/R power supply circuit harness.



AKS009HV

## 3. CHECK GROUND CIRCUIT

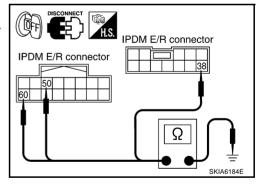
- 1. Disconnect IPDM E/R harness connectors E8 and E9.
- Check continuity between IPDM E/R harness connectors E8 terminal 38 (B), E9 terminal 50 (B/W), 60 (B/W) and ground.

: Continuity should exist.

#### OK or NG

OK >> INSPECTION END

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



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

AKS009HW

Α

В

С

D

F

Н

#### CALITION:

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

## 1. CHECK SELF DIAGNOSTIC RESULT

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

| CONSULT-II display                                   | CONSULT-II   | TIME |      | Details of diagnosis result   |
|--|--------------|------|------|---|
| CONSOLT-II display                                   | display code | CRNT | PAST | Details of diagnosis result   |
| NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED. | -            | -    | -    | No malfunction  |
| CAN COMM CIRC  | U1000        | ×    | ×    | Any of or several items below have errors.  TRANSMIT DIAG  ECM  BCM/SEC |

#### NOTE:

The details for display of the period are as follows:

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

#### Contents displayed

NO DTC IS DETECTED.FURTHER TESTING MAY BE REQUIRED.>>INSPECTION END CAN COMM CIRC>>After print-out of the monitor items, refer to <a href="LAN-3">LAN-3</a>, "Precautions When Using CONSULT-II".

PG

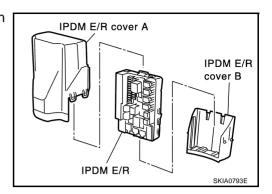
J

L

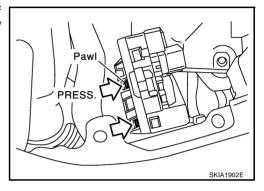
# Removal and Installation of IPDM E/R REMOVAL

AKS009HX

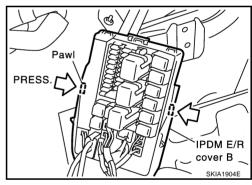
1. Remove battery. Refer to <u>SC-8</u>, "<u>Removal and Installation</u>" in "Starting and Charging System (SC)" section.



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



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



#### **INSTALLATION**

Installation is the reverse order of removal.

GROUND PFP:00011

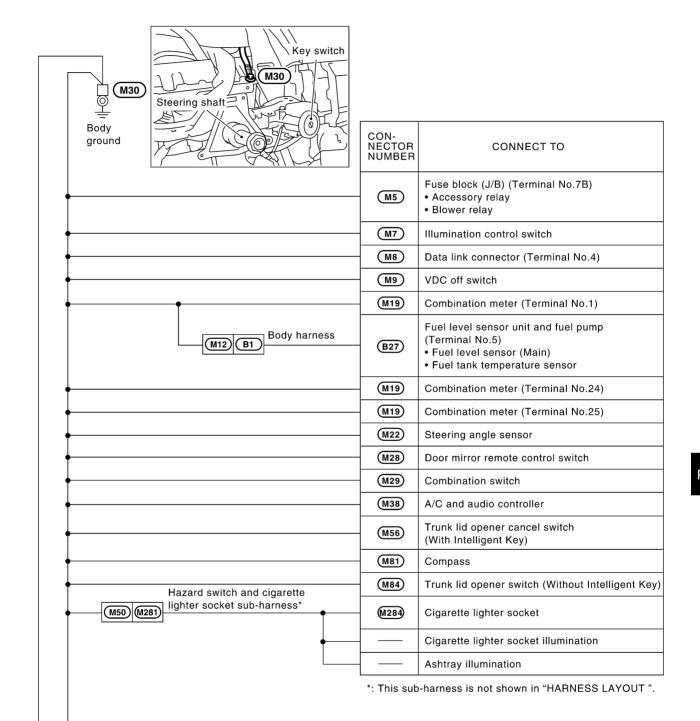
# **Ground Distribution MAIN HARNESS**

Next page

AKS000IB

В

D



Н

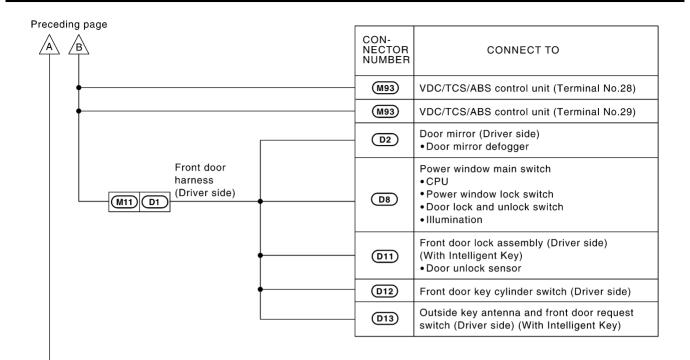
PG

L

N/I

CKIM0418E

## **GROUND**



CKIM0419E

Next page

|  | NECTOR<br>NUMBER | CONNECT TO   |  |
|--|------------------|--|--|
|  | M2               | BCM (Body control module)  |  |
|  | M10              | AWD control unit (Terminal No.10) (AWD models  |  |
|  | M10              | AWD control unit (Terminal No.11) (AWD models  |  |
|  | (M37)            | NAVI switch  |  |
|  | M47)             | A/T device (Terminal No.1)  Park position switch  Shift lock solenoid                      |  |
|  | M52              | Power socket (Floor console box) (With A/T)  |  |
|  | M53              | Heated seat switch (Passenger side) (With A/T)   |  |
|  | M54              | Heated seat switch (Driver side) (With A/T)  |  |
| 0  | M69              | Shield wire (Inside key antenna (Dashboard))<br>(With Intelligent Key)                     |  |
| M71 M171 Console sub-harness   | M172             | Shield wire (Inside key antenna (Center console (With Intelligent Key)                     |  |
|  | M75              | Intelligent Key unit (With Intelligent Key)  |  |
|  | (M85)            | Heated seat relay  |  |
|  | (M88)            | Power socket (Instrument side panel RH) (With M/   |  |
|  | M92              | Snow mode switch (AWD models)  • Snow indicator lamp                                       |  |
|  | (M95)            | Up-and-down unit (Display unit)  |  |
|  | M97)             | Automatic drive positioner control unit (With automatic drive positioner) (Terminal No.40) |  |
|  | M97)             | Automatic drive positioner control unit (With automatic drive positioner) (Terminal No.48) |  |
|  | M100             | ADP steering switch (With automatic drive positione  |  |
| M89 M156 Switch sub-harness  | M154)            | Heated seat switch (Driver side) (With M/T)  |  |
| Switch sub-harness  Hazard switch and cigarette                                | M155             | Heated seat switch (Passenger side) (With M/T  |  |
| lighter socket sub-harness*  Steering column sub-harness                       | M282             | Hazard switch  |  |
| (Without Intelligent Key ) Steering column sub-harness (With Intelligent Key ) | M308             | NATS antenna amp.  |  |
| M12 B1 Body harness  | B114)            | Shield wire (Inside key antenna (Trunk room))<br>(With Intelligent Key)                    |  |
| Room lamp harness  | R4               | Vanity mirror lamp RH  |  |
|  | R6               | Sunroof motor assembly   |  |
| <del> </del>   | R7               | Auto anti-dazzling inside mirror • Homelink universal transceiver                          |  |
| Doom laws sub-barrass  | R9               | Vanity mirror lamp LH  |  |
| R5 R51 Room lamp sub-harness   | R52              | Map lamp   |  |
|  | R54              | Personal lamp LH   |  |
|  | R55              | Personal lamp RH   |  |
| Front door harness (Passenger side)  | D41              | Outside key antenna and front door request switch (Passenger side) (With Intelligent Key)  |  |

CKIM0420E

Α

В

С

D

Е

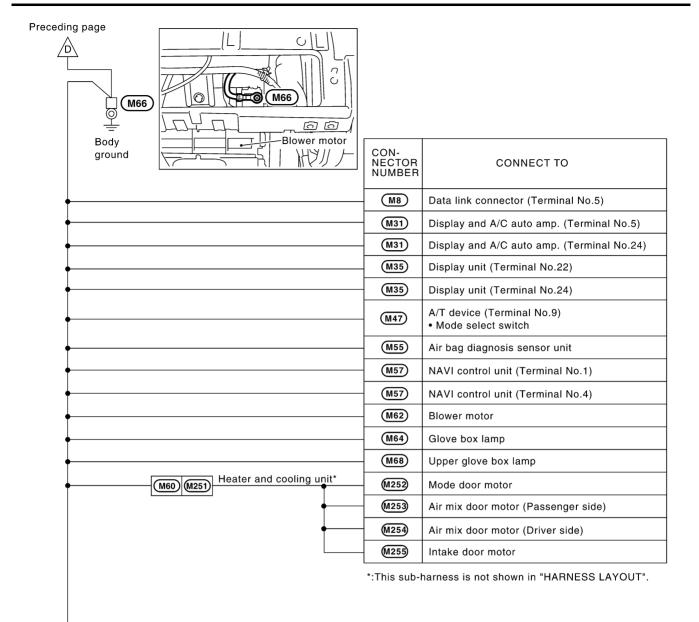
F

G

Н

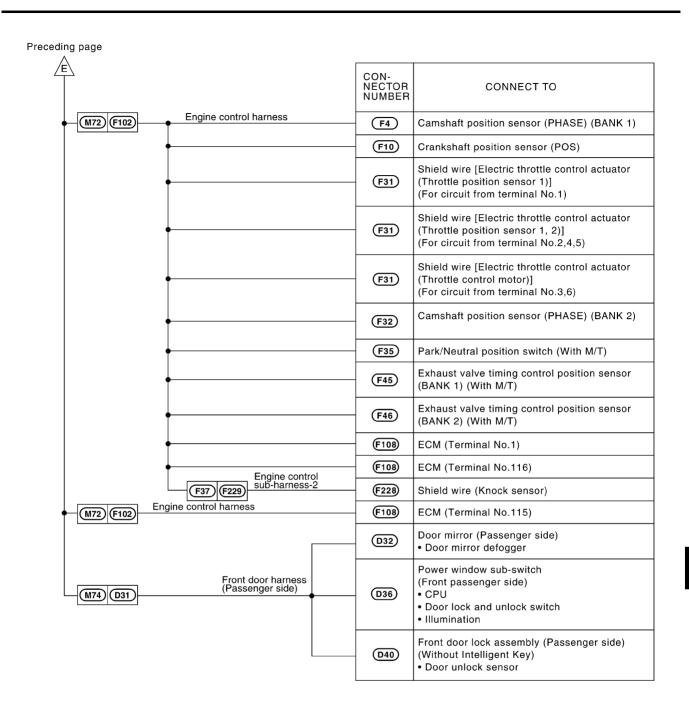
J

PG



CKIM0421E

Next page



CKIM0422E

Α

В

0

D

F

F

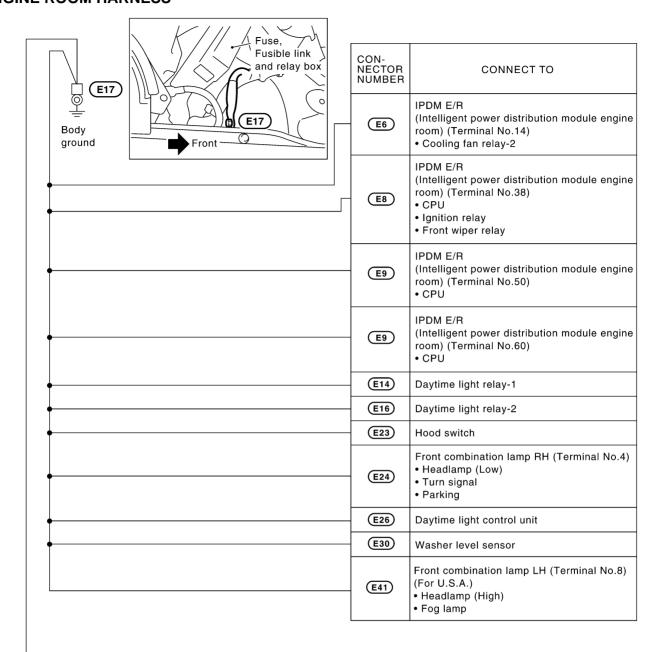
G

Н

. I

PG

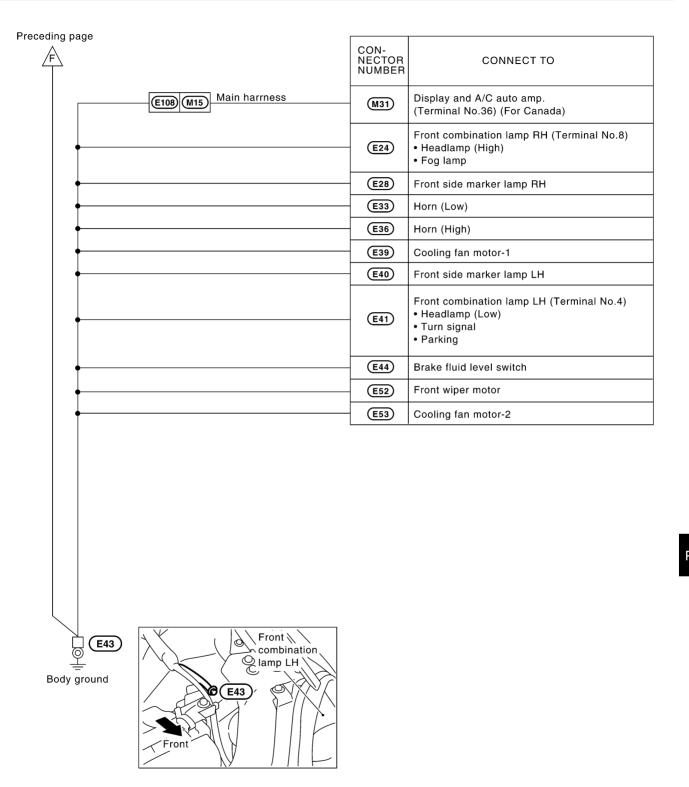
## **ENGINE ROOM HARNESS**



F/ Next page

CKIM0423E

## **GROUND**



CKIM0424E

Α

В

С

D

Е

F

G

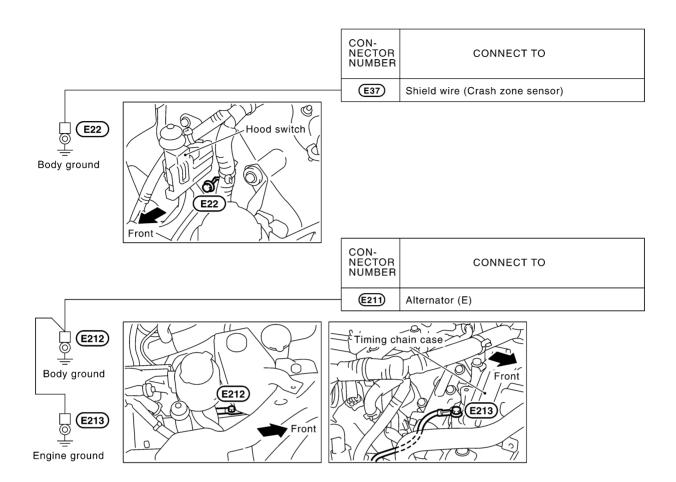
Н

ı

J

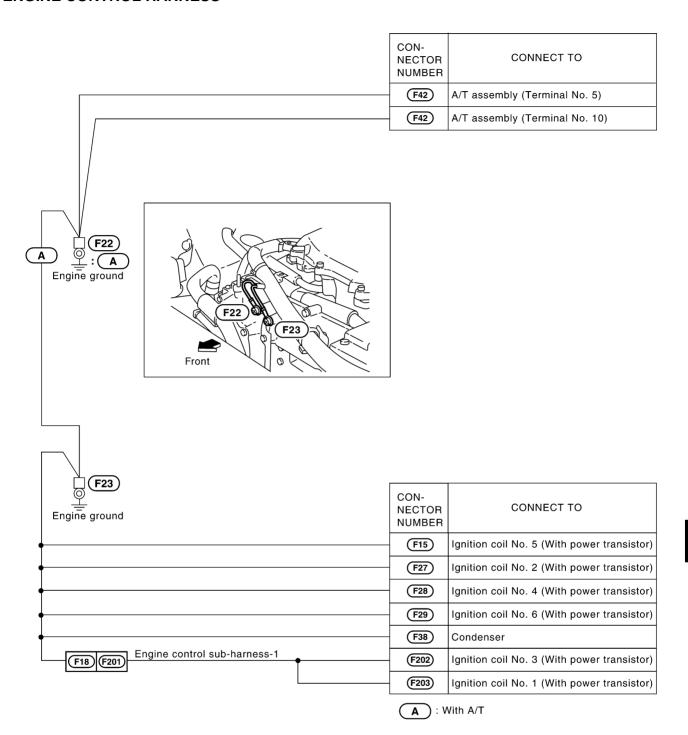
PG

.



CKIT0446E

#### **ENGINE CONTROL HARNESS**



CKIT0486E

Α

В

С

D

Е

F

G

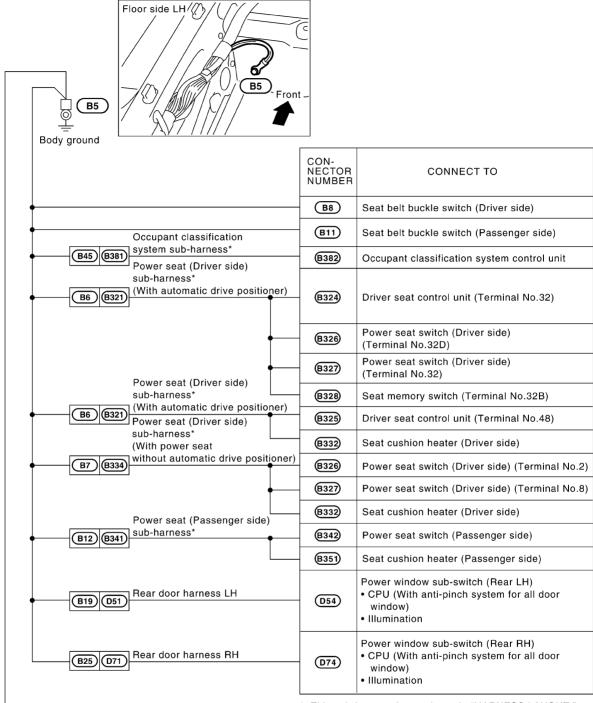
Н

ı

ı

PG

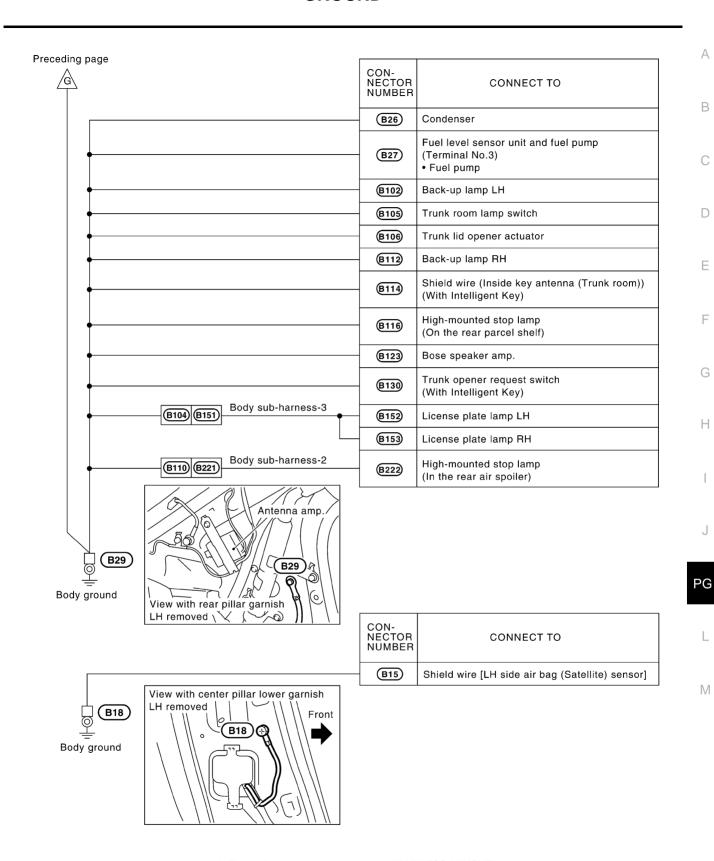
#### **BODY HARNESS**



<sup>\*:</sup> This sub-harness is not shown in "HARNESS LAYOUT".

G/ Next page

CKIM0425E



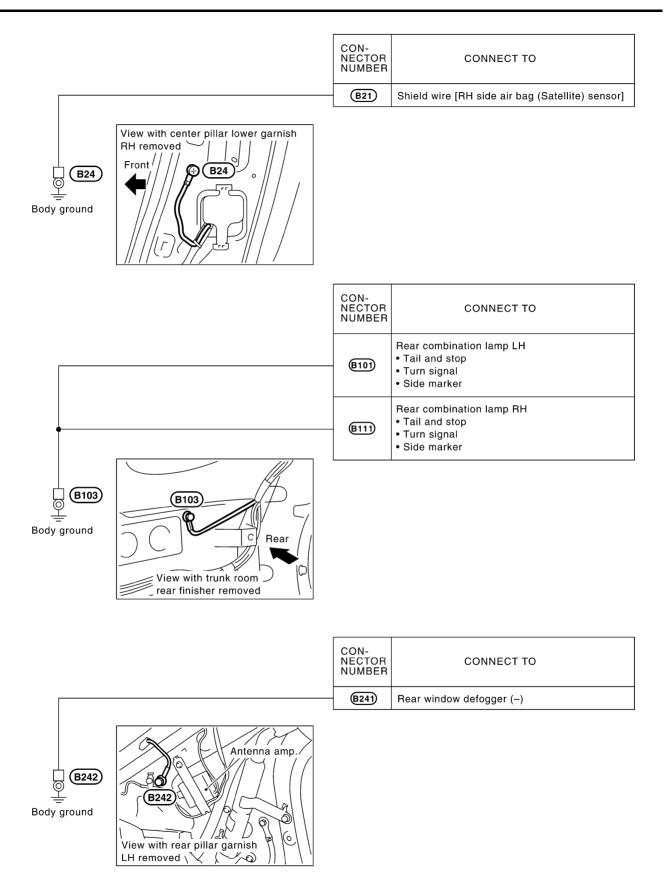
\*: This sub-harness is not shown in "HARNESS LAYOUT".

CKIM0426E

Α

В

F



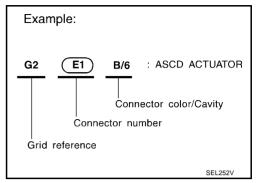
CKIT0340E

HARNESS PFP:00011

#### Harness Layout HOW TO READ HARNESS LAYOUT

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

- Main Harness
- Engine Room Harness (Engine Compartment)
- Engine Control Harness
- Body Harness (Passenger Compartment)



#### To Use the Grid Reference

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

#### **CONNECTOR SYMBOL**

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

| Connector type                          | Water proof type |        | Standard type |        |
|---|------------------|--------|---------------|--------|
|   | Male             | Female | Male          | Female |
| Cavity: Less than 4     Relay connector | <b>©</b>         | 6      | <b>Ø</b>      |        |
| Cavity: From 5 to 8                     |                  |        |               |        |
| Cavity: More than 9                     |                  |        |               |        |
| Ground terminal etc.                    | _                |        | <i>P</i>      |        |

CKIT0108E

PG

J

Α

В

D

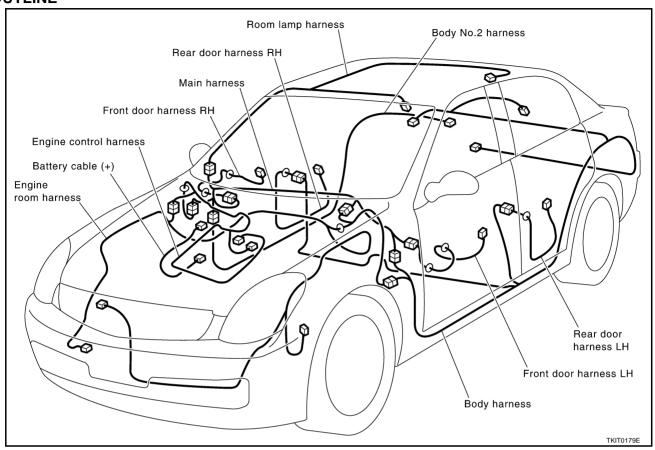
F

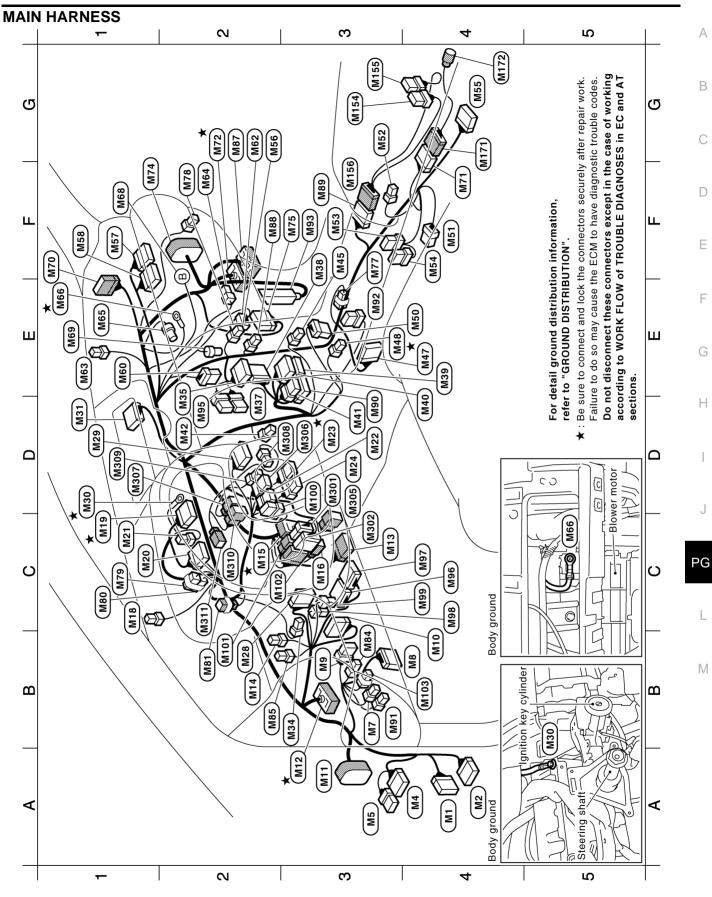
G

Н

AKS000IC

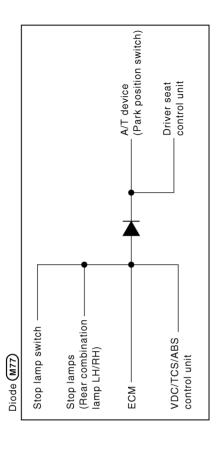
#### **OUTLINE**

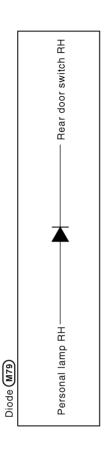


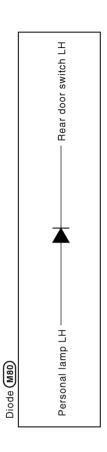


Edition; 2004 September PG-43 2005 G35 Sedan

| G2 (M87) SMJ: To (B40) (For U.S.A.) F2 (W88) B/2: Power socket (Instrument side panel RH) (With M/T) D3 (W89) W/12: To (W126) (With M/T) B3 (W91) W/12: Option connector for audio unit (For U.S.A.) B3 (W92) W/8: Tire pressure warning check connector E3 (W92) W/8: Snow mode switch (AWD models) F3 (W93) SMJ: VDC/TCS/ABS control unit D2 (W95) GY/6: Up-and-down unit (Display unit) (With navigation system) C4 (W96) W/32: Automatic drive positioner control unit (With automatic drive positioner) C4 (W99) W/4: Tilt sensor and telescopic motor (With automatic drive positioner) D3 (M100) GY/6: ADP steering switch (With automatic drive positioner) B2 (M10) W/8: To (W302) (Without Intelligent Key) B4 (M103) -/2: Resistor  | 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. |
|--|--|
| E4 (M50) W/8 : Hazard switch and Cigarette lighter socket (Via sub-harness) F4 (M51) B/6 : Yaw rate / side G sensor G3 (M52) B/2 : Power socket (Floor console box) (With A/T) F3 (M53) BR/6 : Heated seat switch (Passenger side) (With A/T and heated seat) (With navigation system)  E1 (M65) W/6 : Heater and cooling unit (Via sub-harness) G2 (M62) W/6 : Blower motor E1 (M63) W/2 : Glove box lamp (With unavigation system) E1 (M63) W/2 : Glove box lamp (Without navigation system) E1 (M68) Bulb : Upper glove box lamp (Without navigation system) E1 (M79) W/18 : To (B2) F1 (M77) W/18 : To (B2) F1 (M77) W/18 : To (B3) F3 (M77) SMJ : To (B3) F3 (M77) W/19 : Diode (With AT) F2 (M78) W/4 : Remote keyless entry receiver C1 (M79) W/2 : Diode C1 (M79) W/2 : Diode | (M81) W/4 : (M84) W/4 : (M85) L/4 :  |
| A4 (MI) W/40: BCM (Body control module) A4 (MZ) B/15: BCM (Body control module) A3 (MZ) W/16: Fuse block (J/B) B3 (MZ) W/8: Fuse block (J/B) B4 (MB) W/16: Date link connector B3 (MZ) W/76: WDC off switch B4 (MI) W/16: Date link connector B3 (MI) S/M : I'lumination control switch B4 (MI) W/16: AWD control unit (AWD models) A3 ★ (MI] S/M : To (E10) B2 (MI] B/R/16: To (E10) B2 (MI] B/R/16: To (E10) C3 (MI] B/R/16: To (E10) C1 (MI] B/R : Sunload sensor C1 ★ (MI] W/10: Combination meter C1 (MZ) W/10: Combination meter C1 (MZ) W/10: Combination meter C1 (MZ) W/10: Combination switch D1 ★ (MZ) W/10: Combination switch D1 ★ (MZ) W/10: Door mirror remote control switch D1 ★ (MZ) W/10: Door mirror remote control switch D1 ★ (MZ) W/10: Door mirror remote control switch D1 ★ (MZ) W/10: Display and A/C auto amp. B2 (MZ) W/10: Display and A/C auto amp. C1 (MZ) W/10: Security indicator lamp D2 (MZ) W/10: Security indicator lamp D2 (MZ) W/10: A/C and audio controller E4 (MZ) W/10: A/C and audio controller E4 (MZ) W/10: A/C and audio controller E4 (MZ) W/10: A/C and outit D3 (MZ) W/10: In-vehicle sensor  | F3 (M45) BR/2: Antenna amp. (Via sub-harness) E4 * (M47) W/10: A/T device (With A/T) E3 (M48) BR/2: A/T illumination (With A/T)  |







Console sub-harness (With Intelligent Key)

(M154) W/6 : Heated seat switch (Driver side)

(M155) BR/6 : Heated seat switch

G3 G3

(Passenger side)

M156 W/12 : To (M89)

33

Switch sub-harness (With M/T)

M171 W/32 : To (M71)

(M172) GY/2 : Inside key antenna G4 G4

(Center console)

BR/2 : Key switch (Without Intelligent Key) (M301) W/8 : To (M101) (Without Intelligent Key) M302 W/12 : To (M102) (With Intelligent Key) Steering corumn sub-harness W/4 : NATS antenna amp. W/6 : Ignition switch W/6 : To (E112) (M307) M305 M306 (M308) D3 C3 D3 D3 D3 D3 D3 C2 C2 C2 C2

(With Intelligent Key) (With Intelligent Key) W/4 : Steering lock unit M311

 $^{5}$ 

GY/6 : Key switch and ignition knob switch

W/2 : Ignition keyhole illumination

(M309) M310 PG

J

Α

В

С

D

Е

F

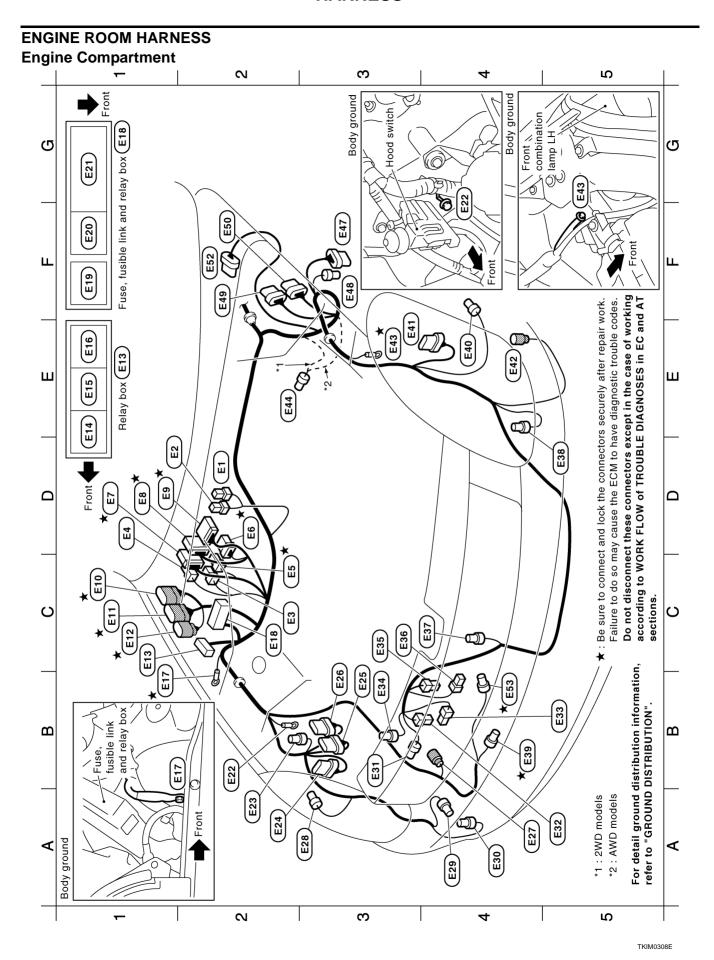
G

Н

L

M

TKIM0307E



| B4 ★ E39 GY/4 : Cooling fan motor-1 E4 E40 DGY/2 : Front side marker lamp LH E3 E41 B/8 : Front combination lamp LH E4 E42 B/2 : Front wheel sensor LH E3 ★ E43 - : Body ground E2 E44 GY/2 : Brake fluid level switch F3 E47 B/8 : VDC relay box F3 E48 B/2 : VDC relay box F3 E49 GY/8 : VDC actuator F2 E50 B/8 : VDC actuator F2 E50 GY/6 : Front wiper motor B4 ★ E53 GY/4 : Cooling fan motor-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.   |
|---|---|
| D2 (E1) B/2 : Fusible link holder C2 (E3) B/2 : Fusible link holder C2 (E3) B/2 : PDDM E/R (Intelligent power distribution module engine room) D1 (E4) W/4 : IPDM E/R (Intelligent power distribution module engine room) D2 * (E5) B/4 : IPDM E/R (Intelligent power distribution module engine room) D1 * (E6) W/6 : IPDM E/R (Intelligent power distribution module engine room) D1 * (E9) W/12 : IPDM E/R (Intelligent power distribution module engine room) D1 * (E9) W/12 : IPDM E/R (Intelligent power distribution module engine room) C1 * (E10) G/9 : To (E2) C1 * (E11) G/10 : To (E2) C1 * (E12) B/8 : To (E3) C1 (E13) — : Relay box E1 (E14) L/4 : Daytime light relay-1 (For Canada) E1 (E14) B/8 : Passanger side select indock relay (With Intelligent Key) | (E16) L/4: Daytime light relay-2 (Forest of E18) — : Body ground E19 L/4: Back-up lamp relay (With E20) W/3: Horn relay Horn relay (E22) W/3: Horn relay Horn relay (E22) — : Body ground E22 GY/2: Hood switch (E23) GY/2: Hood switch (E24) B/8: Front combination lamp (E25) GY/8: Daytime light control unite (E25) GY/8: Front wheel sensor RH (E27) GY/2: Front wheel sensor RH (E39) BR/2: Front washer motor (E39) BR/2: Front washer level sensor (E31) B/3: Horn (Low) (E32) B/1: Horn (Low) (E33) B/1: Horn (High) (High) (E35) B/1: Horn (High) (High) (E35) B/1: Horn (High) (High) (With Intelligent Key warning be (E38) DGY/3: Intelligent Key) |

TKIM0309E

Α

В

С

D

Е

F

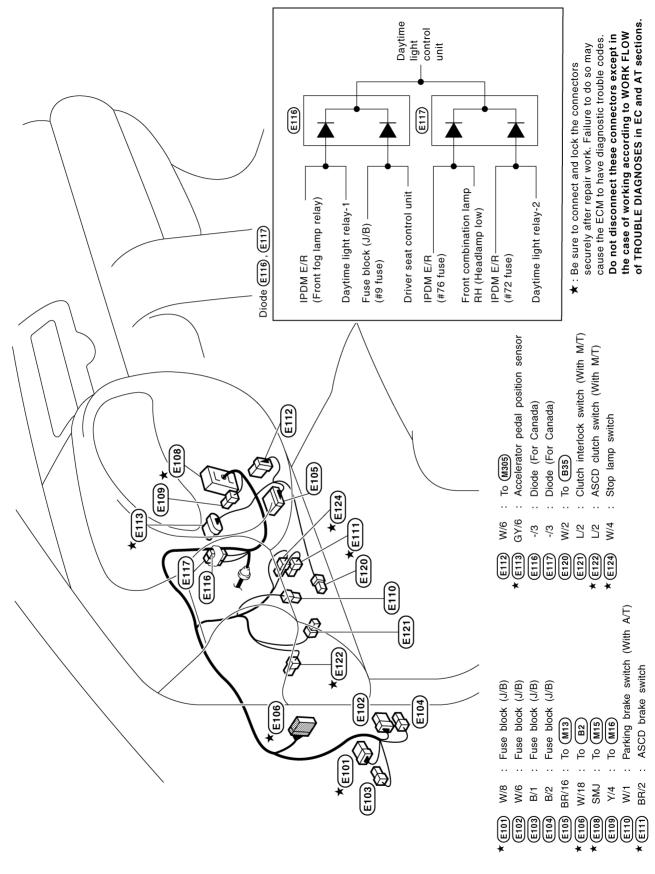
G

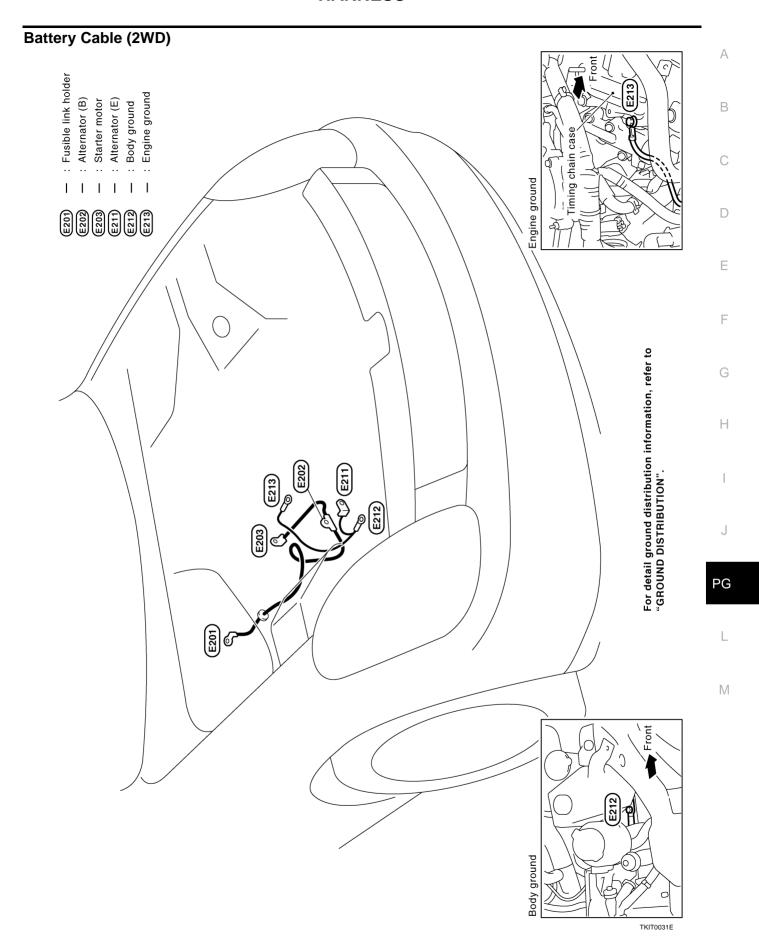
Н

J

РG

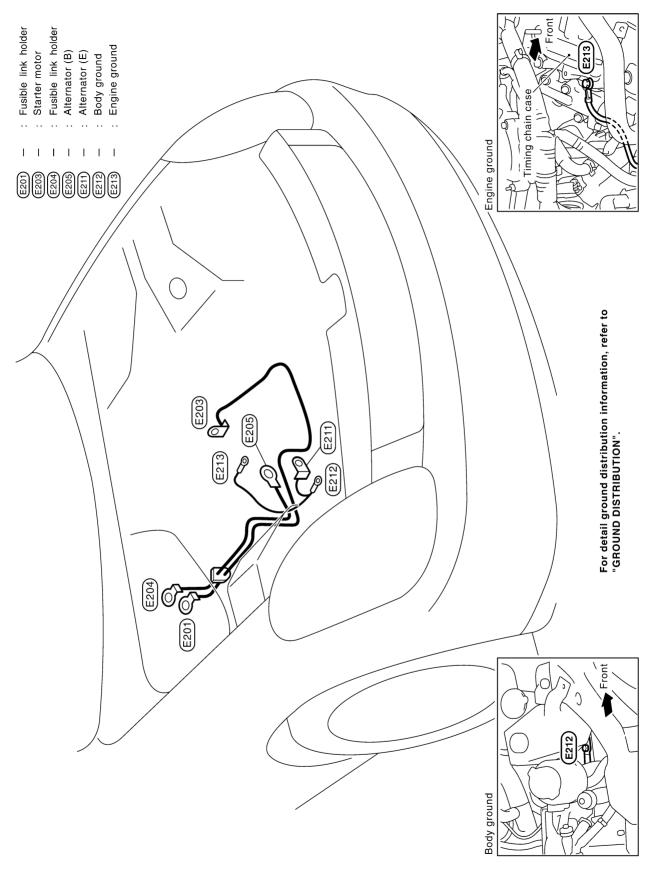
#### **Passenger Compartment**

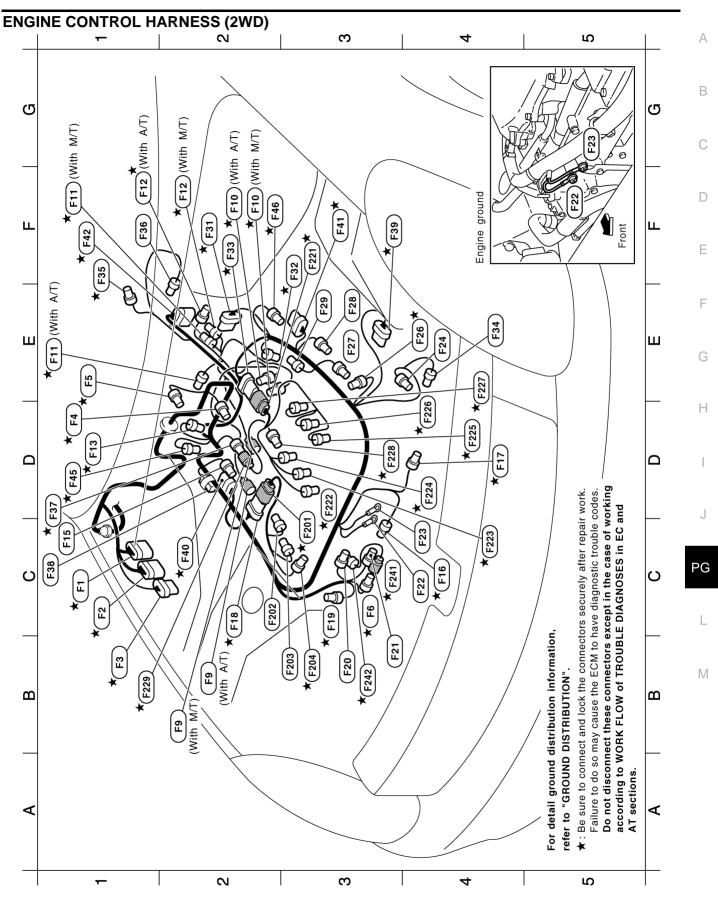




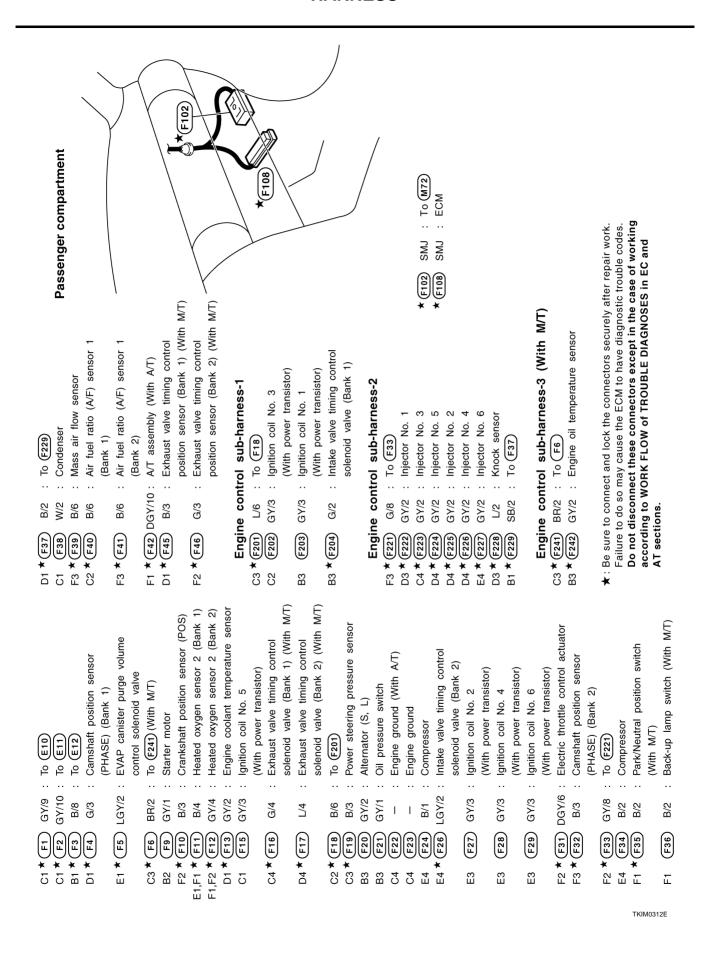
Edition; 2004 September PG-49 2005 G35 Sedan

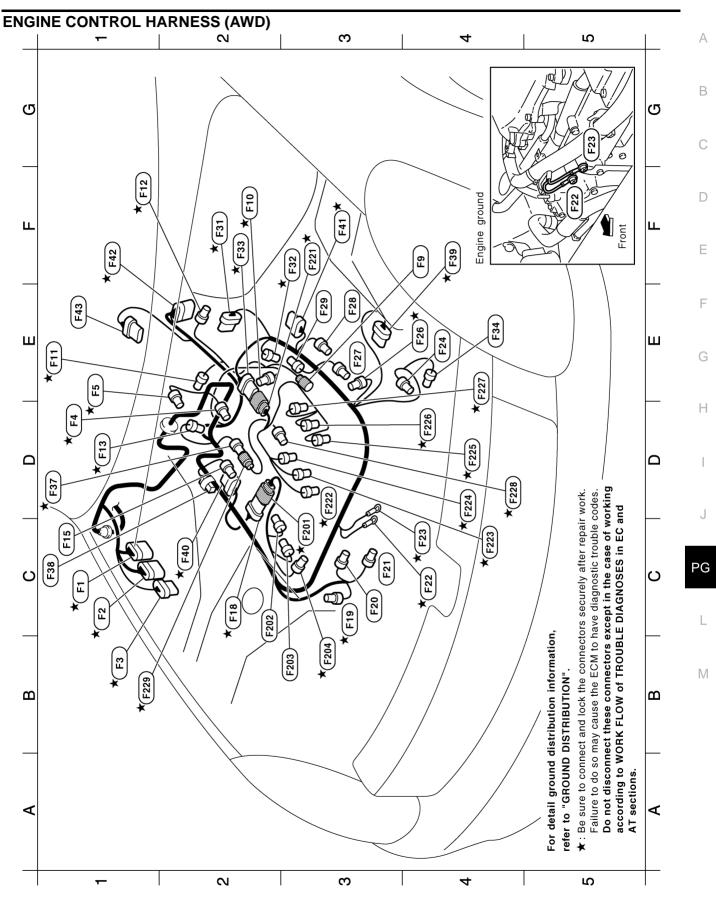
# **Battery Cable (AWD)**



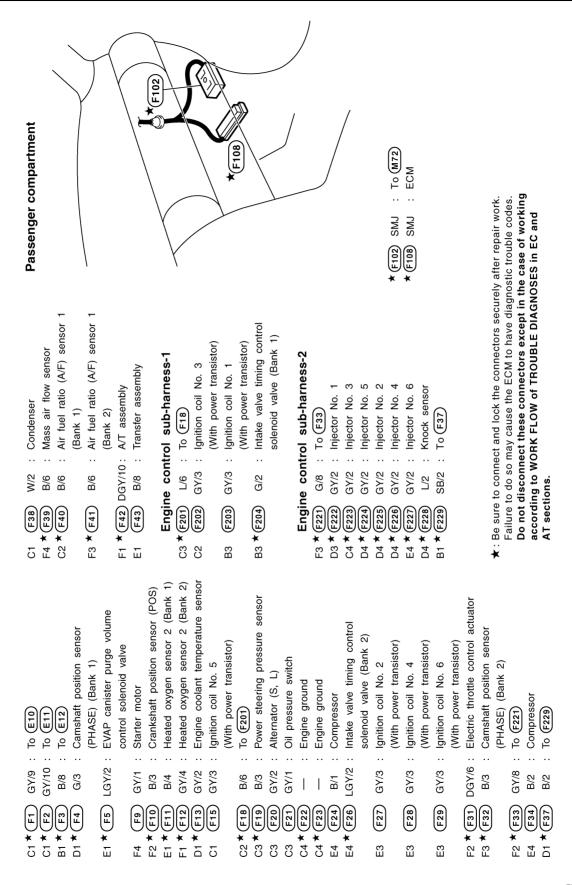


Edition; 2004 September PG-51 2005 G35 Sedan

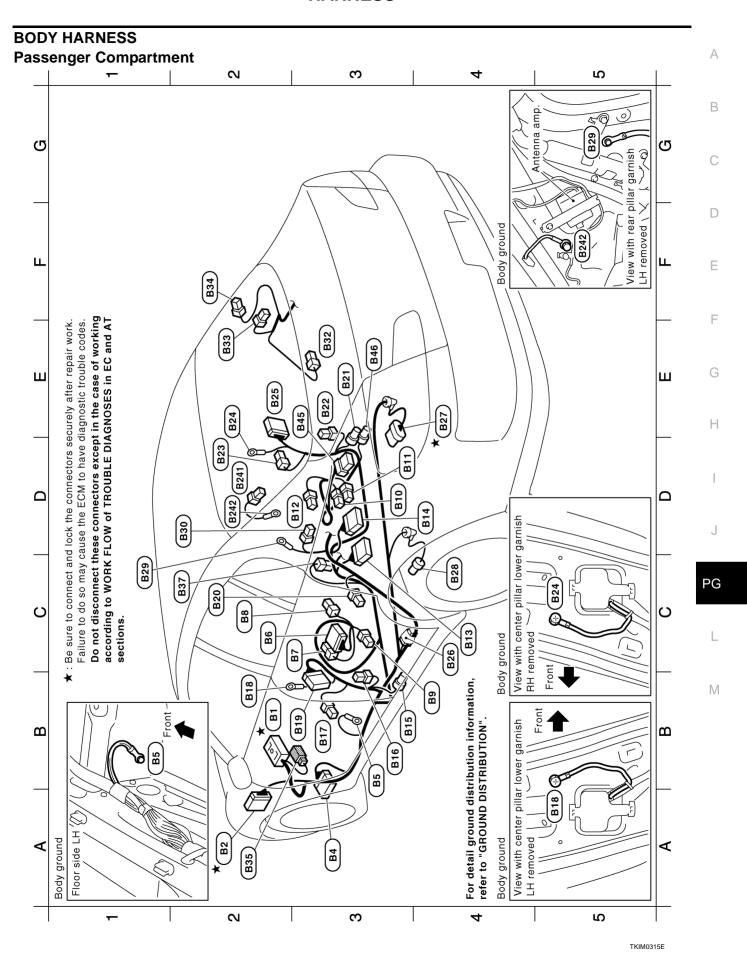




Edition; 2004 September PG-53 2005 G35 Sedan



TKIM0314E



Edition; 2004 September PG-55 2005 G35 Sedan

Front power seat (Driver side) (Without automatic drive positioner) Front power seat (Driver side) (With automatic drive positioner) Occupant classification system control unit (Via sub-harness) Seat belt buckle switch (Passenger side) Fuel level sensor unit and fuel pump Seat belt buckle switch (Driver side) Front power seat (Passenger side) RH side air bag (Satellite) sensor LH side air bag (Satellite) sensor Front door switch passenger side Front RH seat belt pre-tensioner Front LH seat belt pre-tensioner RH side curtain air bag module LH side curtain air bag module Parking brake switch (With M/T) Front RH side air bag module Front LH side air bag module Air bag diagnosis sensor unit Air bag diagnosis sensor unit Front door switch driver side Fuel level sensor unit (Sub) BCM (Body control module) : Rear window defogger (-) Rear door switch LH Rear door switch RH Belt tension sensor Body ground Body ground Body ground Body ground Body ground Condenser Condenser To (E120) To (E106) To (D51) To (071) sub-harness W/18 W/15 W/12 W/18 W/18 GY/5 GY/2 Y/12 Y/12 W/3 W/3 W/4 **Y/2** W/3 W/3 W/3 W/2 B/1 W/4 W/3 ۲//2 ۲/2 **Y/2** ۲//2 **Y**/2 ۲/2 W/8 Body B26 B241 B242 B11) B14 B15 B16 B19 B21 B27 B28 B29 830 B32 B10 B12 B13 B17) B18 B20 B22 B23 B24 B25 B33 BS (B) B37 B46 8 B6 B8 B2 B7 A2 \* ( D2 D2

To (M12)

B2 ★ (B1

TKIM0316E

★: 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.

Edition; 2004 September PG-57 2005 G35 Sedan

M

TKIM0317E

J

Α

В

С

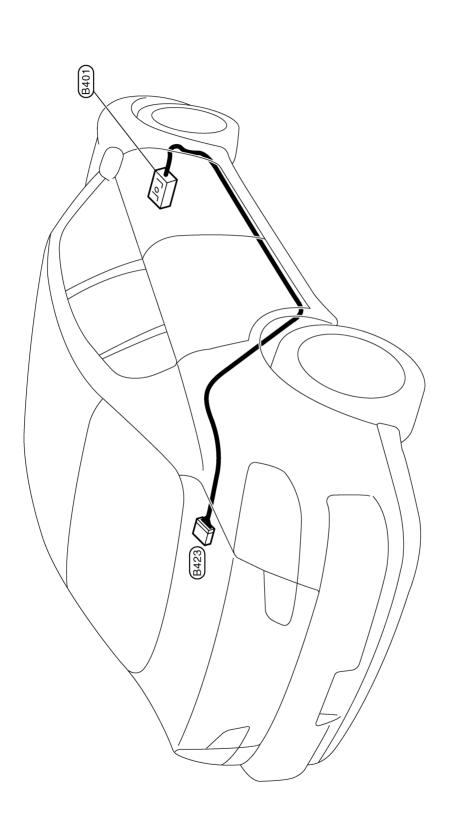
D

Е

F

Н

# **BODY NO. 2 HARNESS**



(8401) SMJ : To (M87) (8423) W/16 : Option connector for satellite radio receiver

TKIT0098E

# **ROOM LAMP HARNESS**

: Sunroof switch (With sunroof)

W/3 : Map lamp
W/3 : Sunroof switch (With
W/3 : Personal lamp LH
W/3 : Personal lamp RH

HS3 HS3 HS4 HS3 HS5 HS5

Sunroof motor assembly (With sunroof)

Vanity mirror lamp RH

To (R51)

B/12 8/M

(With automatic drive positioner)

: Auto anti-dazzling inside mirror

Room lamp sub-harness

To (R5)

RB BB 88 (R52) R54 (R51) R5 R4 Without sunroof With sunroof RSS : Vanity mirror lamp LH W/2 (H)

TKIM0318E

Α

В

С

D

Е

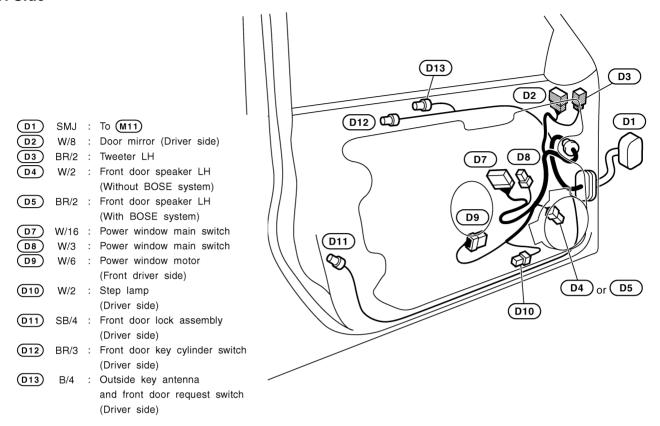
G

Н

J

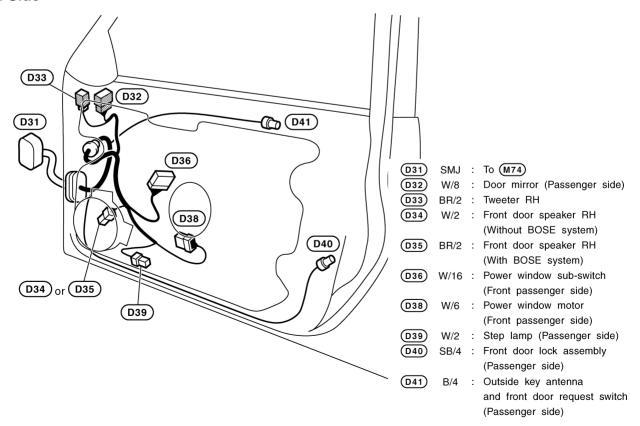
PG

# FRONT DOOR HARNESS LH Side



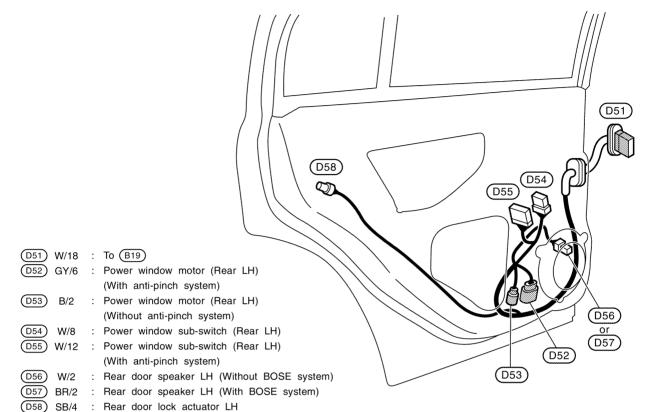
TKIM0319E

#### **RH Side**

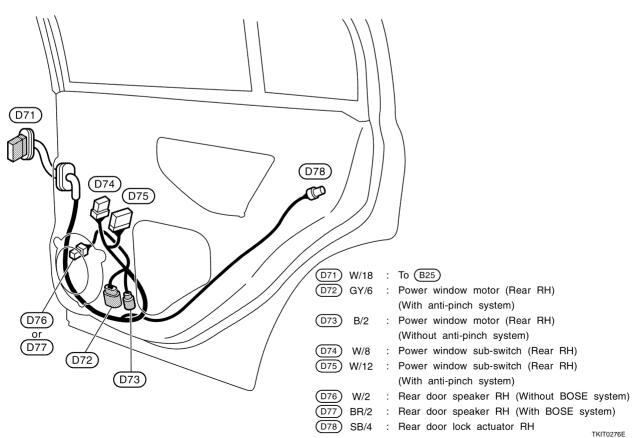


TKIM0320E

#### **REAR DOOR HARNESS LH Side**



**RH Side** 



В

Α

C

D

Е

G

Н

TKIT0275E

2005 G35 Sedan

PG

J

# **Wiring Diagram Codes (Cell Codes)**

AKS000ID

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

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

| Code   | Section | Wiring Diagram Name                                   |  |
|--------|---------|---|--|
| A/C    | ATC     | Air Conditioner                                       |  |
| AF1B1  | EC      | Air Fuel Ratio Sensor 1 Bank 1                        |  |
| AF1B2  | EC      | Air Fuel Ratio Sensor 1 Bank 2                        |  |
| AF1HB1 | EC      | Air Fuel Ratio Sensor 1 Heater Bank 1                 |  |
| AF1HB2 | EC      | Air Fuel Ratio Sensor 1 Heater Bank 2                 |  |
| APPS1  | EC      | Accelerator Pedal Position Sensor                     |  |
| APPS2  | EC      | Accelerator Pedal Position Sensor                     |  |
| APPS3  | EC      | Accelerator Pedal Position Sensor                     |  |
| ASC/BS | EC      | Automatic Speed Control Device (ASCD) Brake Switch    |  |
| ASC/SW | EC      | Automatic Speed Control Device (ASCD) Steering Switch |  |
| ASCBOF | EC      | Automatic Speed Control Device (ASCD) Brake Switch    |  |
| ASCIND | EC      | Automatic Speed Control Device (ASCD) Indicator       |  |
| AT/IND | DI      | A/T Indicator Lamp                                    |  |
| AUDIO  | AV      | Audio   |  |
| AUT/DP | SE      | Automatic Drive Positioner                            |  |
| AUTO/L | LT      | Automatic Light System                                |  |
| AWD    | TF      | AWD Control System                                    |  |
| BACK/L | LT      | Back-Up Lamp  |  |
| BRK/SW | EC      | Brake Switch  |  |
| CAN    | AT      | CAN Communication Line                                |  |
| CAN    | EC      | CAN Communication Line                                |  |
| CAN    | LAN     | CAN System  |  |
| CHARGE | SC      | Charging System                                       |  |
| CHIME  | DI      | Warning Chime   |  |
| CIGAR  | WW      | Cigarette Lighter                                     |  |
| CLOCK  | DI      | Clock   |  |
| COMBSW | LT      | Combination Switch                                    |  |
| COMM   | AV      | Audio Visual Communication Line                       |  |
| COMPAS | DI      | Compass and Thermometer                               |  |
| COOL/F | EC      | Cooling Fan Control                                   |  |
| D/LOCK | BL      | Power Door Lock                                       |  |
| DEF    | GW      | Rear Window Defogger                                  |  |
| DTRL   | LT      | Headlamp - With Daytime Light System                  |  |
| ECM/PW | EC      | ECM Power Supply for Back-Up                          |  |
| ECTS   | EC      | Engine Coolant Temperature Sensor                     |  |
| EOTS   | EC      | Engine Oil Temperatuer Sensor                         |  |
| ETC1   | EC      | Electric Throttle Control Function                    |  |
| ETC2   | EC      | Electric Throttle Control Motor Relay                 |  |
| ETC3   | EC      | Electric Throttle Control Motor                       |  |
| EVCB1  | EC      | Exhaust Valve Timing Control Solenoid Valve (Bank 1)  |  |
| EVCB2  | EC      | Exhaust Valve Timing Control Solenoid Valve (Bank 2)  |  |

| Code   | Section | Wiring Diagram Name                                   | <del></del> |
|--------|---------|---|-------------|
| EVCSB1 | EC      | Exhaust Valve Timing Control Position Sensor (Bank 1) |             |
| EVCSB2 | EC      | Exhaust Valve Timing Control Position Sensor (Bank 2) |             |
| F/FOG  | LT      | Front Fog Lamp  |             |
| F/PUMP | EC      | Fuel Pump   |             |
| FTS    | AT      | A/T Fluid Temperature Sensor Circuit                  |             |
| FTTS   | EC      | Fuel Tank Temperature Sensor                          |             |
| FUELB1 | EC      | Fuel Injection System Function (Bank 1)               |             |
| FUELB2 | EC      | Fuel Injection System Function (Bank 2)               |             |
| H/LAMP | LT      | Headlamp  |             |
| HORN   | WW      | Horn  |             |
| HSEAT  | SE      | Heated Seat   |             |
| I/KEY  | BL      | Intelligent Key System                                |             |
| I/MIRR | GW      | Inside Mirror (Auto Anti-Dazzling Mirror)             |             |
| IATS   | EC      | Intake Air Temperature Sensor                         |             |
| IGNSYS | EC      | Ignition System                                       |             |
| ILL    | LT      | Illumination  |             |
| INJECT | EC      | Injector  |             |
| IVCB1  | EC      | Intake Valve Timing Control Solenoid Valve Bank 1     |             |
| IVCB2  | EC      | Intake Valve Timing Control Solenoid Valve Bank 2     |             |
| KEYLES | BL      | Remote Keyless Entry System                           |             |
| KS     | EC      | Knock Sensor  |             |
| MAFS   | EC      | Mass Air Flow Sensor                                  |             |
| MAIN   | AT      | Main Power Supply and Ground Circuit                  |             |
| MAIN   | EC      | Main Power Supply and Ground Circuit                  |             |
| METER  | DI      | Speedometer, Tachometer, Temp. and Fuel Gauges        |             |
| MIL/DL | EC      | MIL & Data Link Connector                             |             |
| MIRROR | GW      | Door Mirror   |             |
| MMSW   | AT      | Manual Mode Switch                                    |             |
| NATS   | BL      | Nissan Anti-Theft System                              |             |
| NAVI   | AV      | Navigation System                                     |             |
| NONDTC | AT      | Non-Detective Items                                   | <del></del> |
| O2H2B1 | EC      | Heated Oxygen Sensor 2 Heater Bank 1                  | <del></del> |
| O2H2B2 | EC      | Heated Oxygen Sensor 2 Heater Bank 2                  |             |
| O2S2B1 | EC      | Heated Oxygen Sensor 2 Bank 1                         | <del></del> |
| O2S2B2 | EC      | Heated Oxygen Sensor 2 Bank 2                         |             |
| P/SCKT | WW      | Power Socket  |             |
| PGC/V  | EC      | EVAP Canister Purge Volume Control Solenoid Valve     |             |
| PHSB1  | EC      | Camshaft Position Sensor (PHASE) (Bank 1)             |             |
| PHSB2  | EC      | Camshaft Position Sensor (PHASE) (Bank 2)             |             |
| PNP/SW | AT      | Park/Neutral Position Switch                          |             |
| PNP/SW | EC      | Park/Neutral Position Switch                          |             |
| POS    | EC      | Crankshaft Position Sensor (CKPS) (POS)               |             |
| POWER  | PG      | Power Supply Routing                                  |             |
| PRE/SE | EC      | EVAP Control System Pressure Sensor                   |             |

А

В

С

D

Е

F

G

Н

L

 $\mathbb{N}$ 

| Code   | Section | Wiring Diagram Name                          |  |
|--------|---------|--|--|
| PS/SEN | EC      | Power Steering Pressure Sensor               |  |
| ROOM/L | LT      | Interior Room Lamp                           |  |
| RP/SEN | EC      | Refrigerant Pressure Sensor                  |  |
| SEAT   | SE      | Power Seat                                   |  |
| SEN/PW | EC      | Sensor Power Supply                          |  |
| SHIFT  | AT      | A/T Shift Lock System                        |  |
| SNOWSW | EC      | Snow Mode Switch                             |  |
| SROOF  | RF      | Sunroof                                      |  |
| SRS    | SRS     | Supplemental Restraint System                |  |
| START  | SC      | Starting System                              |  |
| STOP/L | LT      | Stop Lamp                                    |  |
| STSIG  | AT      | Start Signal Circuit                         |  |
| T/WARN | WT      | Low Tire Pressure Warning System             |  |
| TAIL/L | LT      | Parking, License and Tail Lamps              |  |
| TLID   | BL      | Trunk Lid Opener                             |  |
| TPS1   | EC      | Throttle Position Sensor (Sensor 1)          |  |
| TPS2   | EC      | Throttle Position Sensor (Sensor 2)          |  |
| TPS3   | EC      | Throttle Position Sensor                     |  |
| TRNSCV | BL      | Homelink Universal Transceiver               |  |
| TURN   | LT      | Turn Signal and Hazard Warning Lamp          |  |
| VDC    | BRC     | Vehicle Dynamics Control System              |  |
| VEHSEC | BL      | Vehicle Security System                      |  |
| VENT/V | EC      | EVAP Canister Vent Control Valve             |  |
| VSSA/T | AT      | Vehicle speed Sensor A/T (Revolution Sensor) |  |
| W/ANT  | AV      | Audio Antenna                                |  |
| WARN   | DI      | Warning Lamps                                |  |
| WINDOW | GW      | Power Window                                 |  |
| WIPER  | WW      | Front Wiper and Washer                       |  |

#### **ELECTRICAL UNITS LOCATION**

PFP:25230

AKS000IE

В

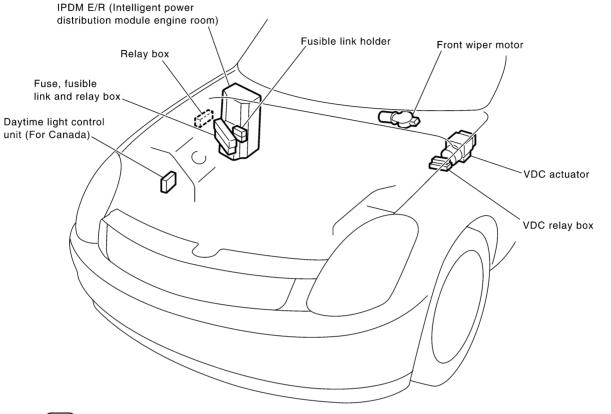
D

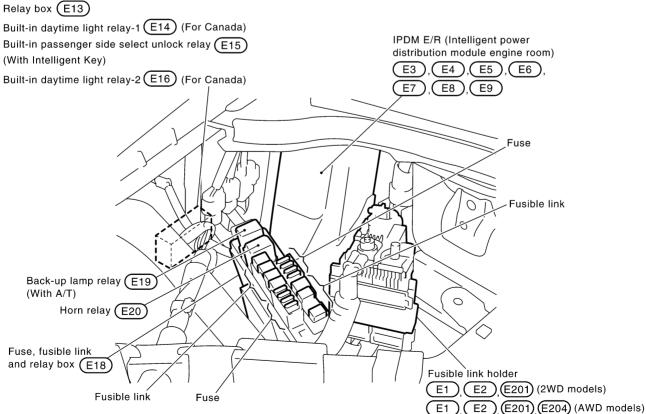
F

G

Н

# **Electrical Units Location ENGINE COMPARTMENT**



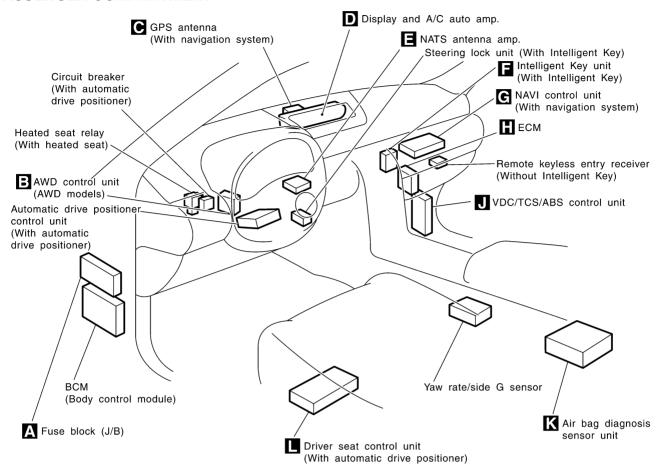


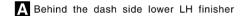
PG

M

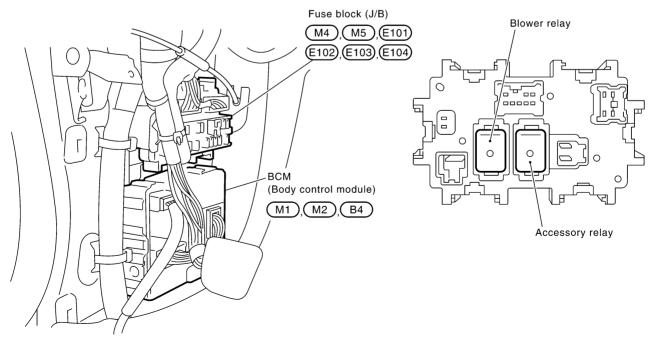
CKIM0416E

#### PASSENGER COMPARTMENT

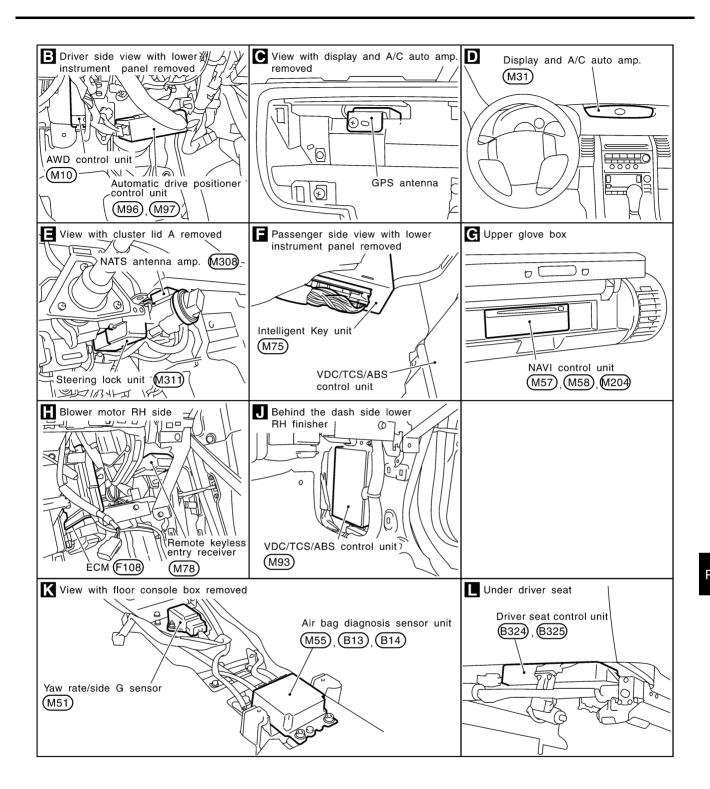




Fuse block (J/B) rear view



CKIM0427E



CKIM0428E

Edition; 2004 September PG-67 2005 G35 Sedan

Α

В

С

D

F

G

Н

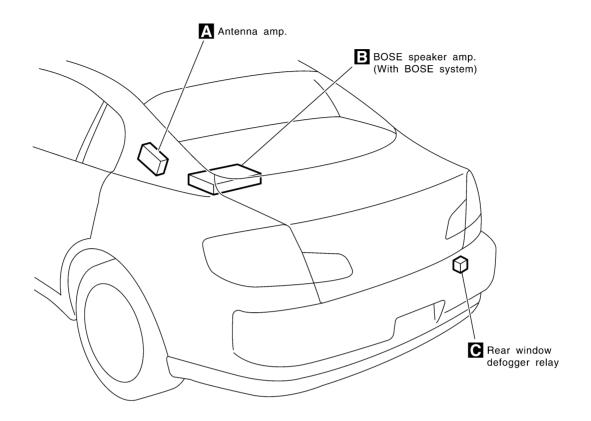
1

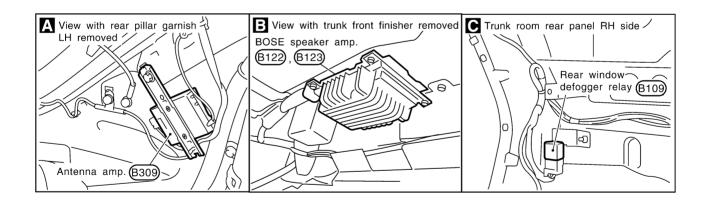
J

ΡG

L

#### **LUGGAGE COMPARTMENT**





CKIT0432E

#### HARNESS CONNECTOR

#### HARNESS CONNECTOR

PFP:00011

# Description

AKS000IF

Α

В

С

## HARNESS CONNECTOR (TAB-LOCKING TYPE)

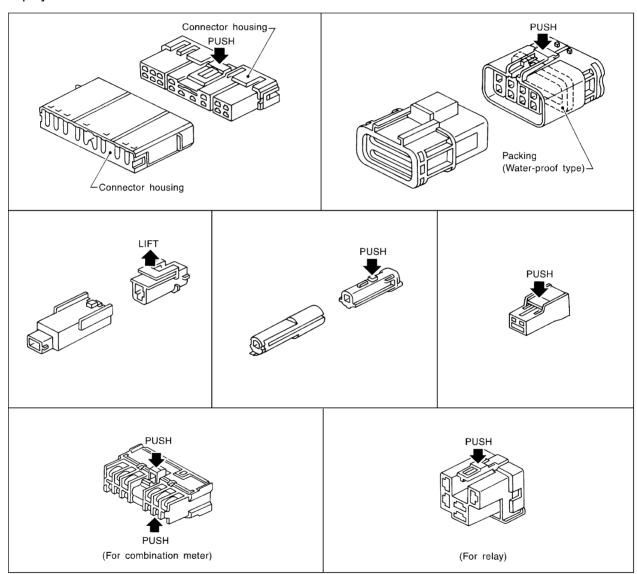
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the figure below.

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

Edition; 2004 September PG-69 2005 G35 Sedan

D

F

F

G

Н

ΡG

L

#### HARNESS CONNECTOR

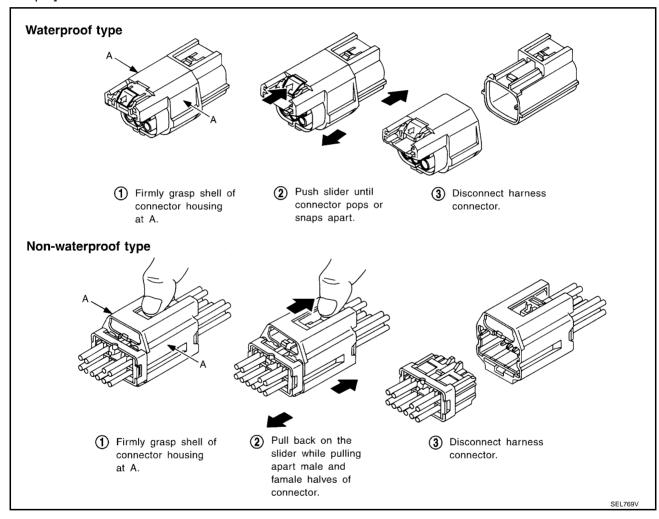
#### HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- 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 figure below.

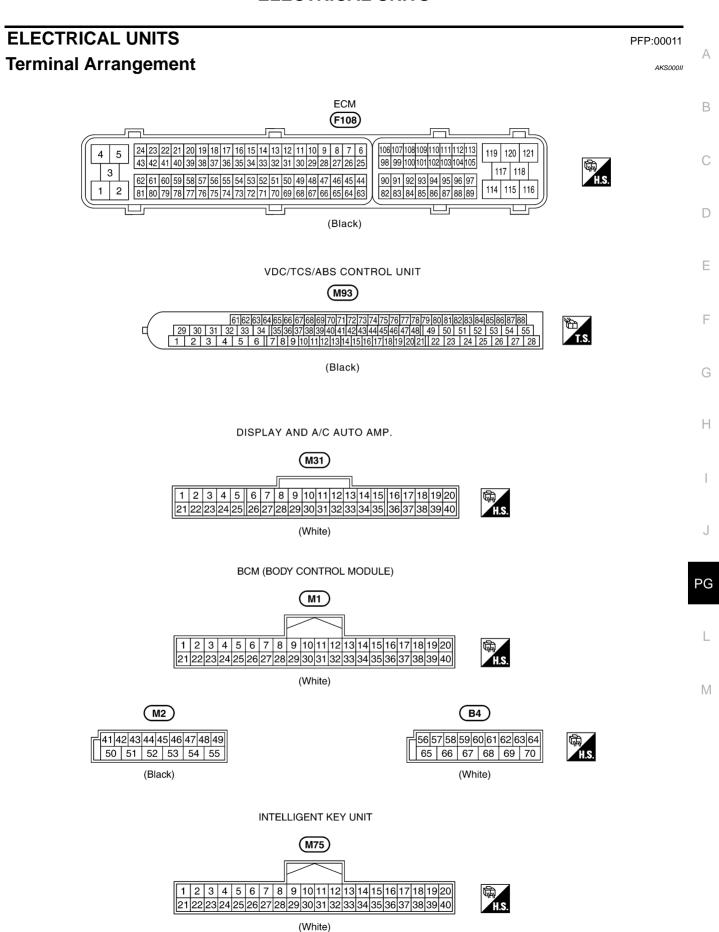
#### **CAUTION:**

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

#### [Example]



#### **ELECTRICAL UNITS**



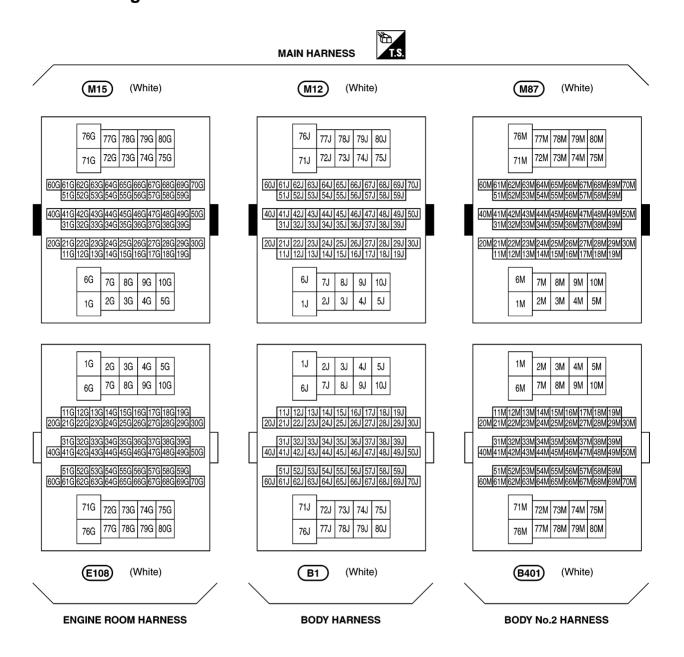
CKIM0429E

## SMJ (SUPER MULTIPLE JUNCTION)

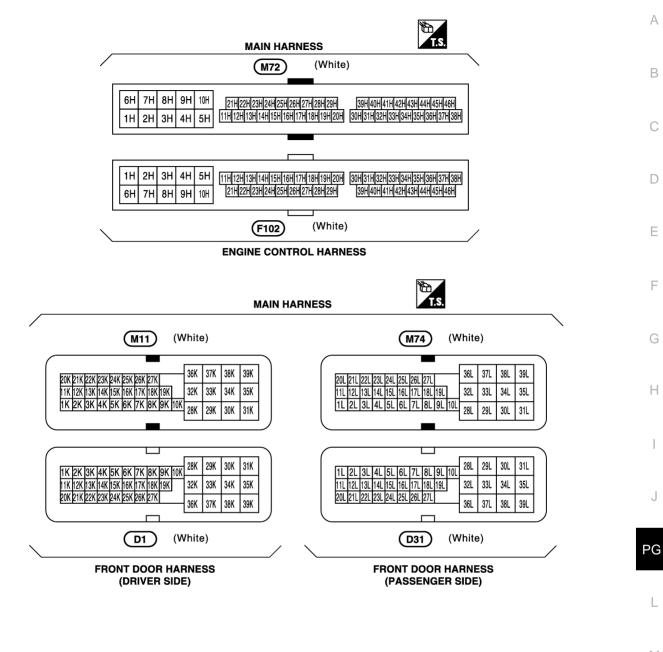
# SMJ (SUPER MULTIPLE JUNCTION) Terminal Arrangement

PFP:B4341

AKS000IJ



#### SMJ (SUPER MULTIPLE JUNCTION)



CKIT0158E

**PG-73** Edition; 2004 September 2005 G35 Sedan

Α

В

D

Е

G

Н

#### STANDARDIZED RELAY

#### STANDARDIZED RELAY

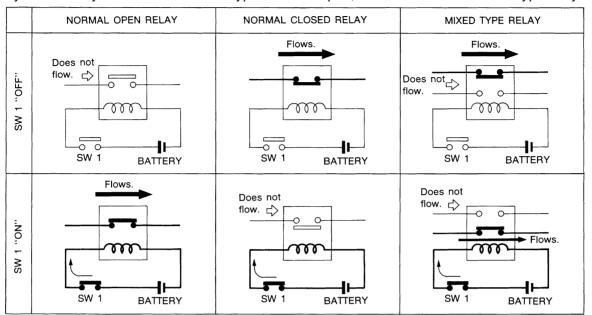
PFP:00011

AKS000IK

# Description

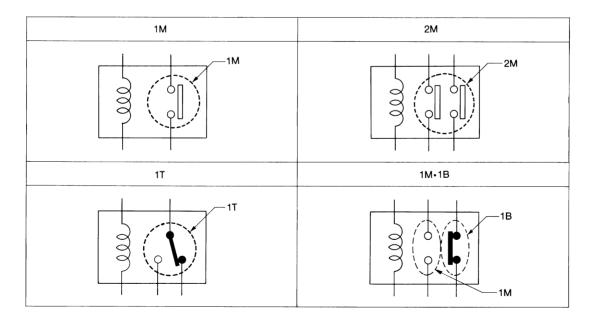
#### NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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



SEL881H

#### TYPE OF STANDARDIZED RELAYS



SEL882H

#### STANDARDIZED RELAY

| Туре  | Outer view | Circuit  | Connector symbol and connection | Case color |
|-------|------------|--|---------------------------------|------------|
| 1T    | 5 2 4      | ① ⑤ ④<br>① ② ③                                 | 5 2 4 1                         | BLACK      |
| 2M    |            | ① ⑥ ③<br>② ⑦ ⑤                                 | 2 1<br>7 5<br>6 3               | BROWN      |
| 1M•1B |            | (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c | 2 1 6 7 3 4                     | GRAY       |
| 1 M   | 3 3 5      | (1) (§) (§) (§) (§) (§) (§) (§) (§) (§) (§     | 5<br>2 1<br>3<br>5<br>2 1       | BLUE       |

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

SEL188W

Α

В

С

D

F

Е

G

Н

|

PG

L

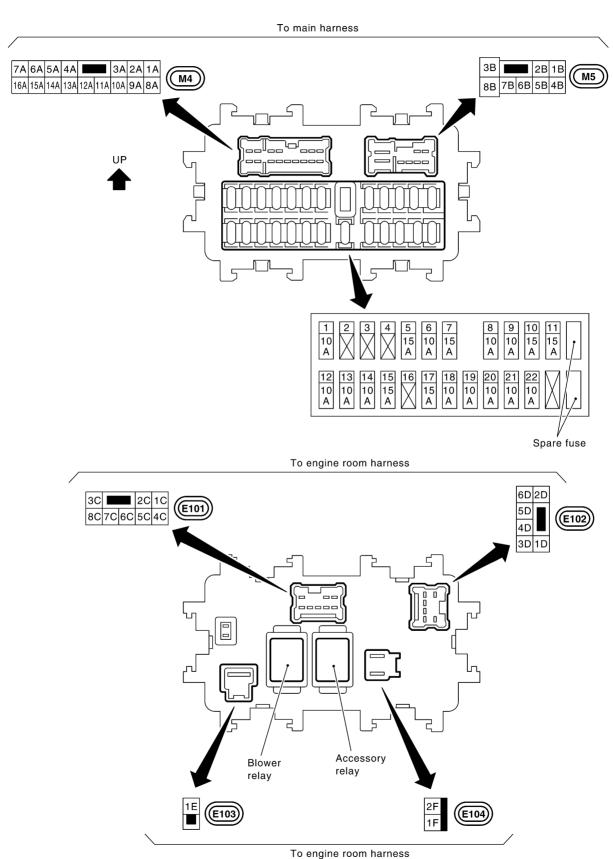
## **FUSE BLOCK - JUNCTION BOX (J/B)**

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

PFP:24350

**Terminal Arrangement** 

AKS000D7



# FUSE, FUSIBLE LINK AND RELAY BOX Terminal Arrangement

PFP:24382

AKS000IL

Α

В

С

D

Е

F

G

Н

Battery (+)

Fusible link holder E1, E2, E201 (2WD models)

Fusible link holder E1, E2, E201 (2WD models)

(E1), (E2), (E201), (E204) (AWD models)

Back-up lamp relay Horn relay G Н 40 A 40 A 50 35 36 37 38 J K М 15 10 15 10 A A A A 50 A 30 40 Fuse and fusible link block F - M: FUSIBLE LINK No. 31 - 38: FUSE (E21) Front Fuse, fusible link and relay box

(E18)

PG

J

M

CKIT0489E

# FUSE, FUSIBLE LINK AND RELAY BOX