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POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

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PRECAUTIONS

PRECAUTIONS PFP:00001

Precautions for Battery Service

AKS003RD

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

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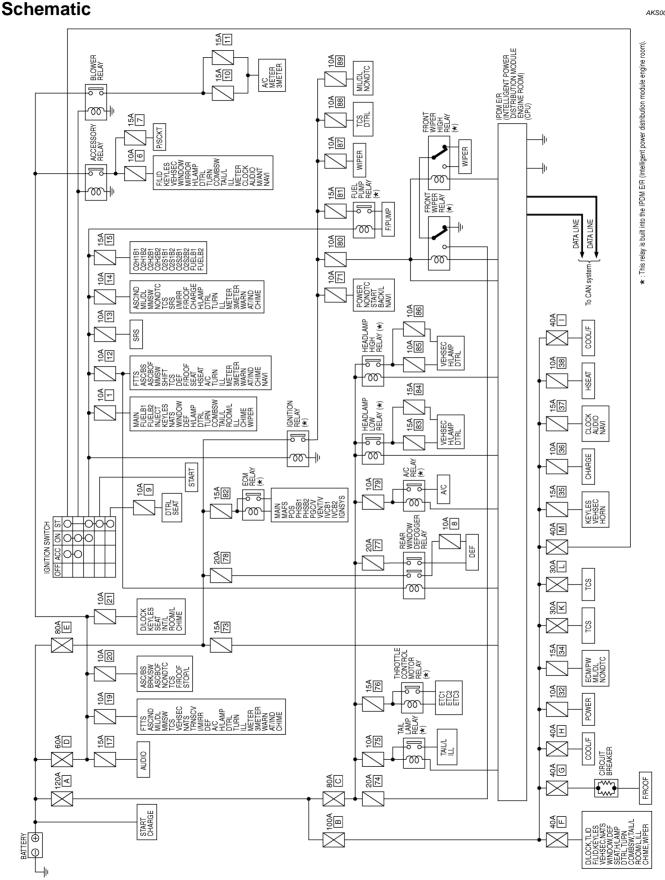
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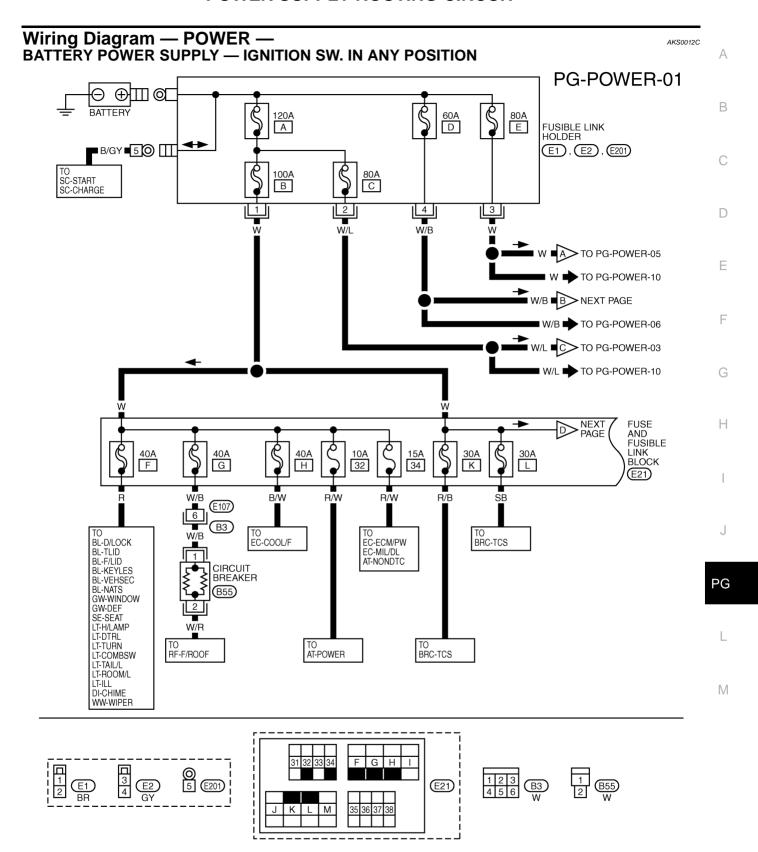
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POWER SUPPLY ROUTING CIRCUIT

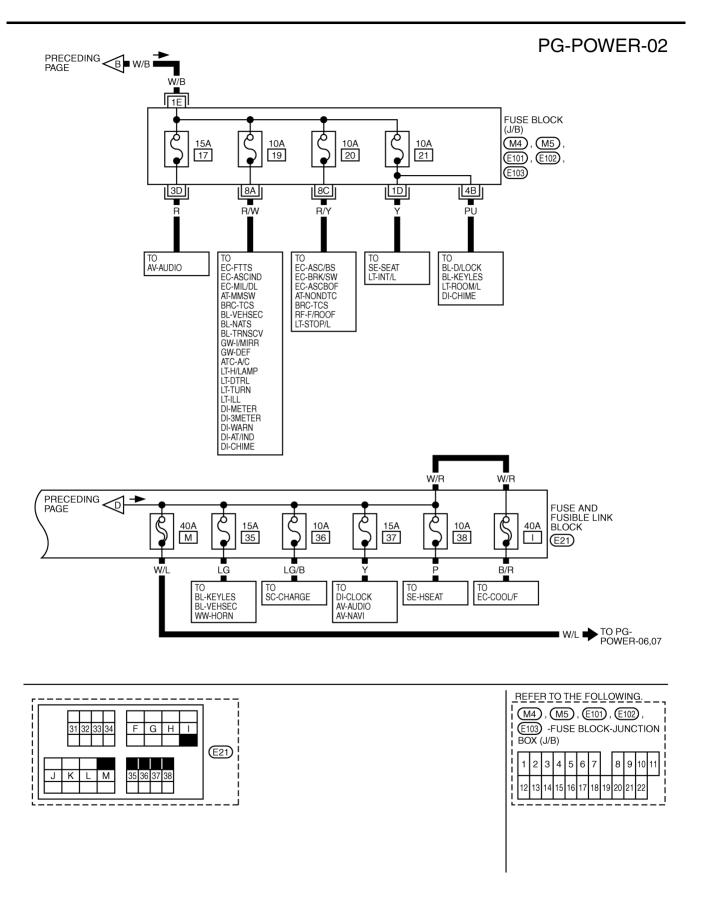
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AKS0012B



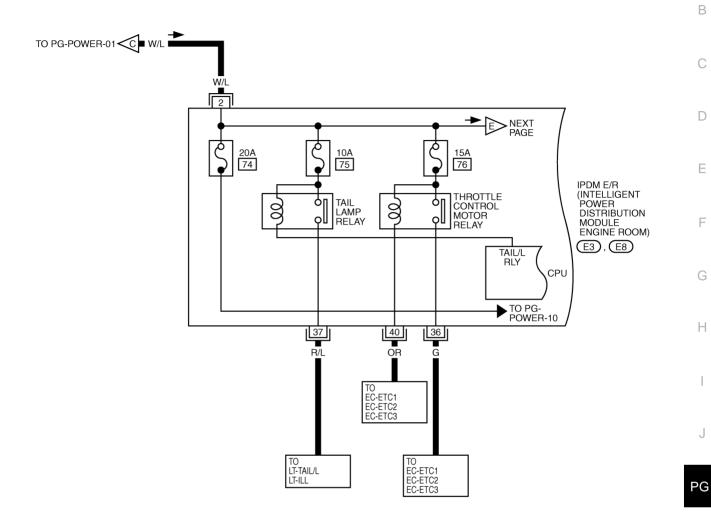


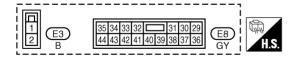
TKWM1391E



TKWM1392E

PG-POWER-03





TKWT0526E

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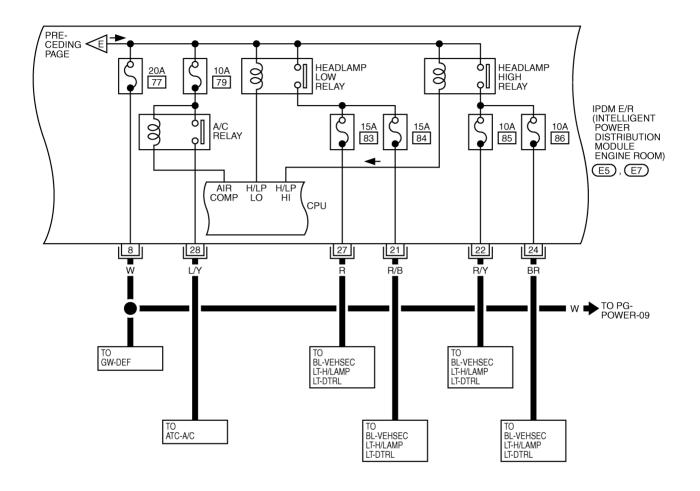
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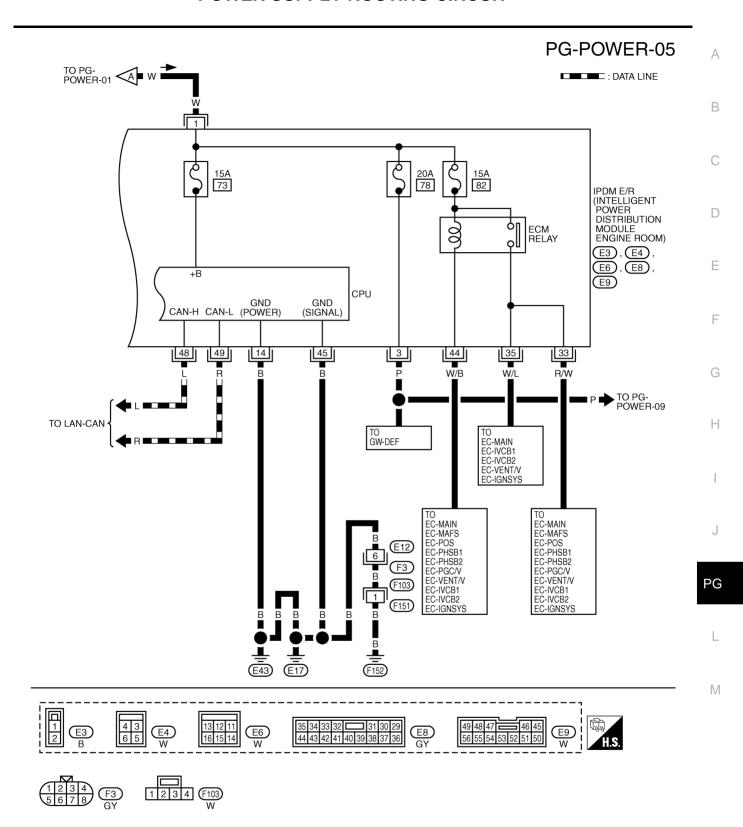
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PG-POWER-04



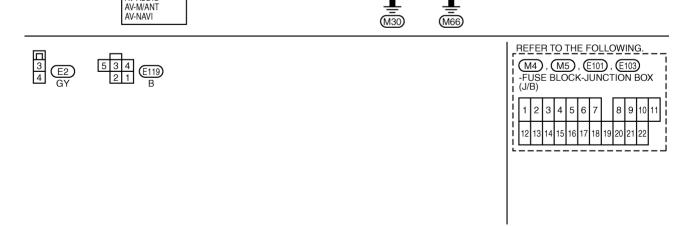


TKWT0527E



TKWT1121E

ACCESSORY POWER SUPPLY — IGNITION SW. IN "ACC" OR "ON" PG-POWER-06 BATTERY REFER TO PG-POWER-01.02. FUSIBLE LINK HOLDER 40A M 60A D (E2) 4 W/L W/B START IGNITION SWITCH **E**119 ACC 2 ₩/B W/B W/B W/B 6C I3C 巾 <u>3</u> 「市 3 ПQ ACCESSORY RELAY δη BLOWER RELAY 8 FUSE BLOCK IJο (J/B) 5 (M4), (M5)5 2 (E101), (E103) 15A 7 15A 11 10A 6 10 ЗВ 12A 11A 7B 8B R/G L/W LG TO WW-P/SCKT BL-F/LID BL-KEYLES BL-VEHSEC TO ATC-A/C GW-WINDOW GW-MIRROR LT-H/LAMP LT-DTRL DI-METER DI-3METER LT-TURN LT-COMBSW LT-TAIL/L



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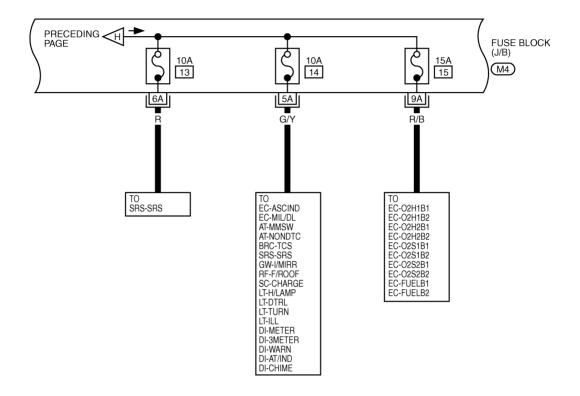
LT-ILL DI-METER DI-CLOCK AV-AUDIO

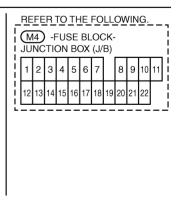
TKWT1122E

IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" Α PG-POWER-07 BATTERY В REFER TO PG-POWER-02. \$ W/L 4<u>0</u>A М С F> TO PG-POWER-11 D IGNITION OFF START SWITCH (E119) ACC ON Е lign 3 B/R B/R ■G TO PG-POWER-10 F Ì B/R 1F G H NEXT PAGE FUSE BLOCK (J/B) 10A 1 M4), (E101) 12 Н (E102), (E104) 2A 1C 15A 2D W/L Y/G Y/G ■ G ■ J > TO PG-POWER-09 TO TO TO EC-MAIN EC-FUELB1 EC-FUELB2 EC-FTTS AT-MMSW BRC-TCS EC-ASC/BS EC-ASCBOF AT-SHIFT GW-DEF J RF-F/ROOF SE-SEAT EC-INJECT BL-KEYLES BL-NATS **GW-DEF** SE-HSEAT ATC-A/C PG GW-WINDOW GW-DEF LT-H/LAMP LT-TURN LT-ILL DI-METER LT-DTRL DI-3METER LT-TURN LT-COMBSW DI-WARN DI-AT/IND LT-TAIL/L LT-ROOM/L LT-ILL DI-CHIME AV-NAVI DI-CHIME WW-WIPER M REFER TO THE FOLLOWING. M4), (E101), (E102), (E104) -FUSE BLOCK-JUNCTION BOX (J/B) 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

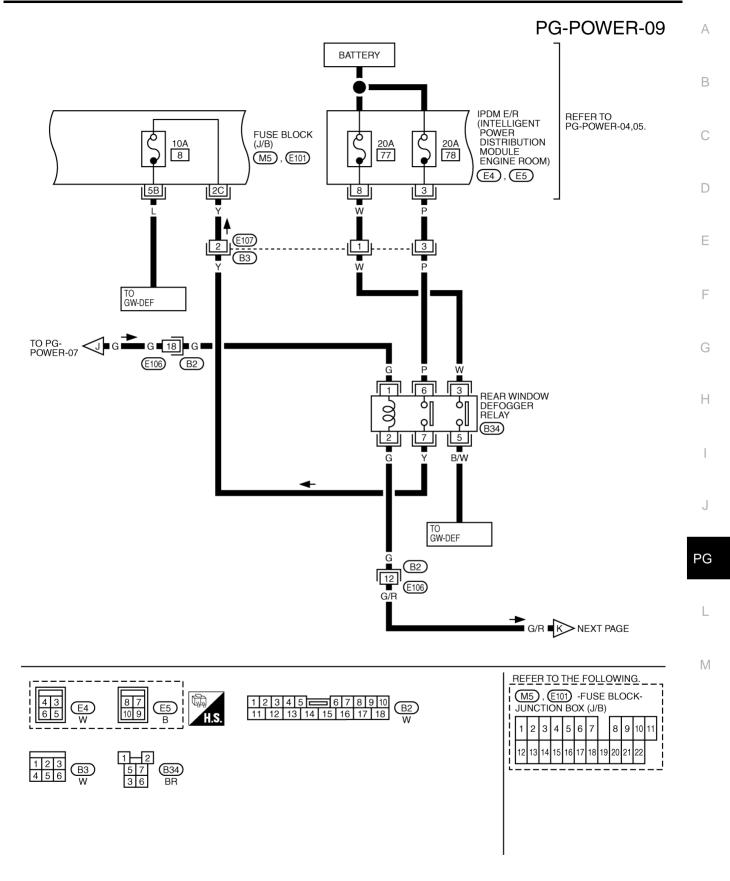
TKWM1393E

PG-POWER-08

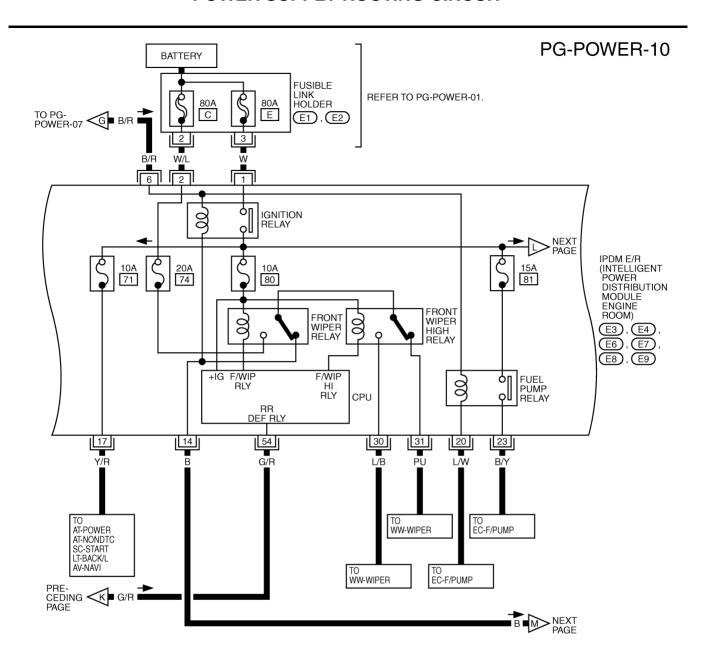


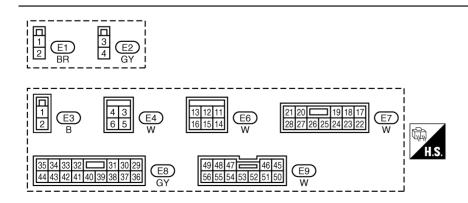


TKWM1394E

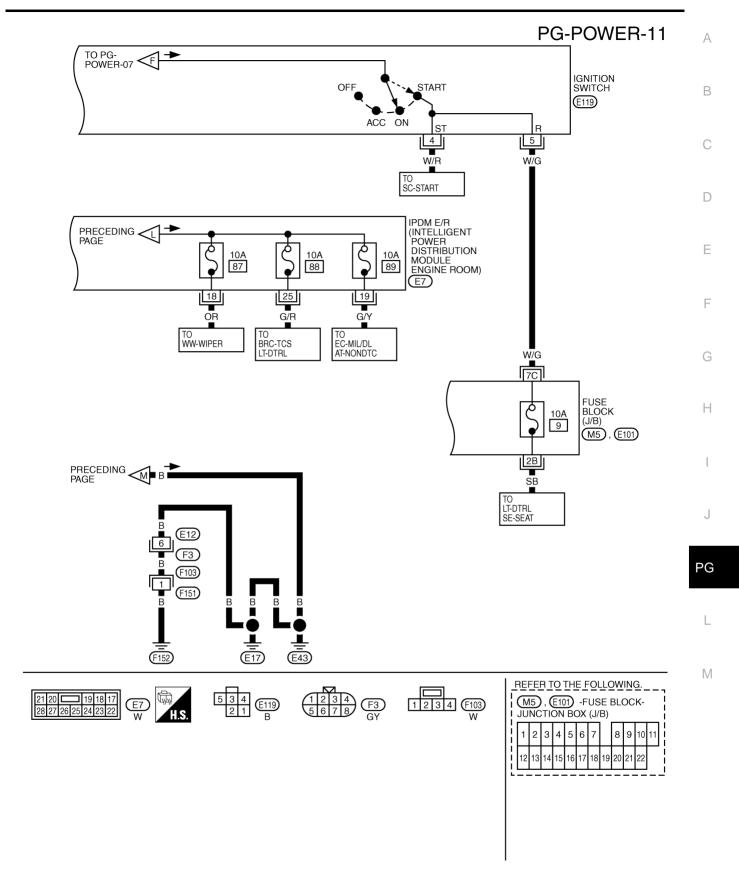


TKWT1125E





TKWM1395E

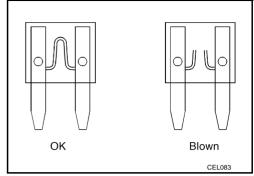


TKWM1396E

Fuse

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.

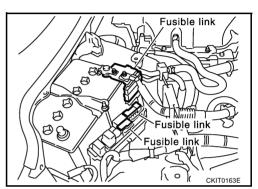


Fusible Link

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

CAUTION:

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



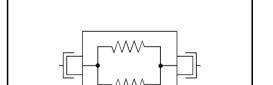
AKS0012E

AKS0012F

SEL109W

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.



Circuit breaker

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

PFP:284B7

System Description

AKS0012G

- 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, etc.
- It controls operation of each electrical part via BCM and CAN communication lines.

CAUTION:

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

SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control

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

- Head lamps (Hi, Lo)
- Parking lamps
- Tail 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.
- Cooling fan control Using CAN communication line, it receives signals from ECM and controls cooling fan relay.
- 6. Horn control
 Using CAN communication line, it receives signals from BCM and controls horn relay.

CAN COMMUNICATION LINE CONTROL

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

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

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

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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 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 hood switch signal is detected, mode switches to CAN communication status.

CAN Communication System Description

AKS003MN

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

AKS003MN

Refer to LAN-4. "CAN Communication Unit".

Function of Detecting Ignition Relay Malfunction

AKS0012

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

NOTE:

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

Auto Active Test DESCRIPTION

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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
- Headlamps (Hi, Lo)
- A/C compressor (magnetic clutch)
- Cooling fan

OPERATION PROCEDURE

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

NOTE:

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

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

NOTE:

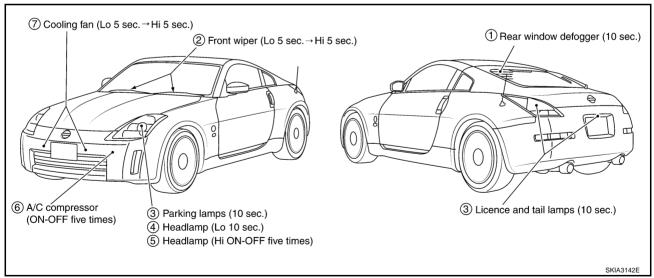
When auto active test mode has to be cancelled halfway, turn ignition switch OFF.

CAUTION:

Be sure to inspect BL-66, "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.



NOTE:

It will take ten seconds from 3 to 4.

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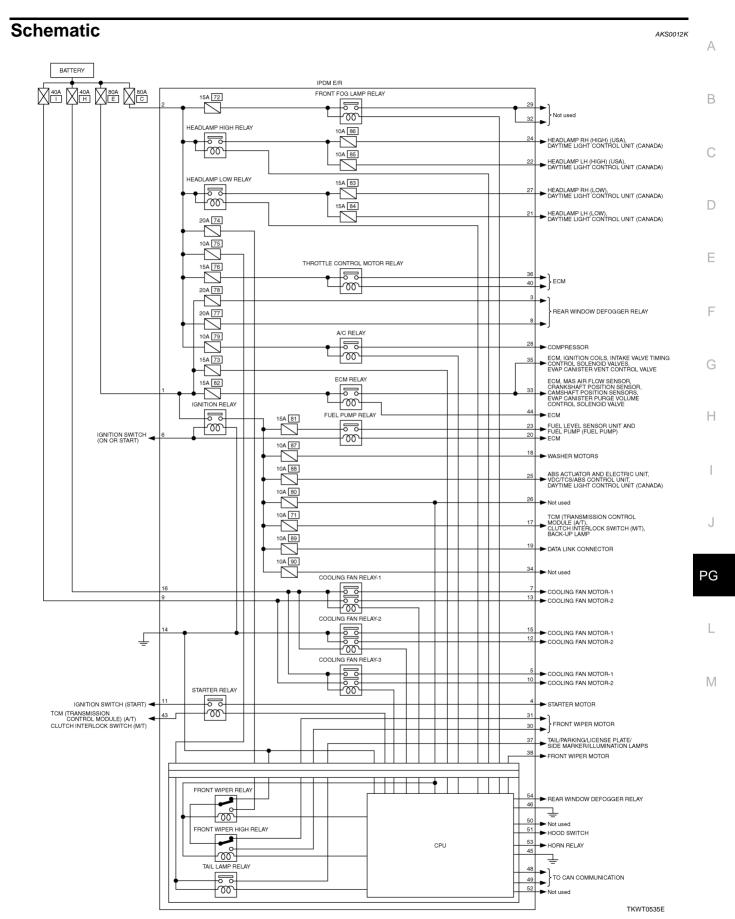
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Concept of Auto Active Test

- 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.

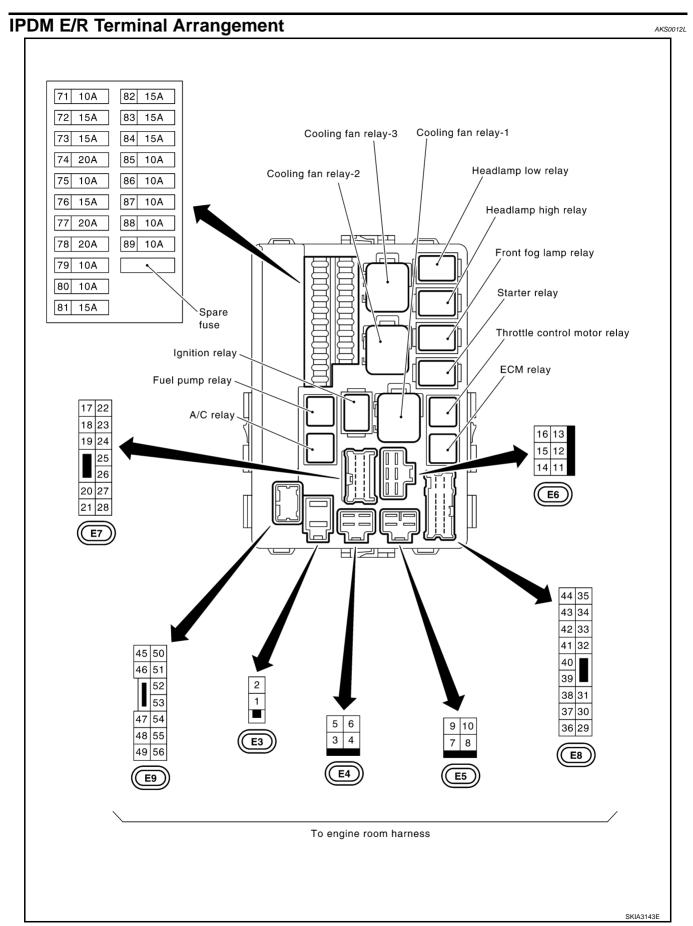
Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
Any of front wipers, tail and parking lamps, and head lamps (Hi, Lo) do not operate.	Perform auto active test. Does system in question operate?	YES	BCM signal input system
		NO	Lamp/wiper motor malfunction
			Lamp/wiper motor ground circuit malfunction
			• Harness/connector malfunction between IPDM E/R and system in question
			• IPDM E/R (integrated relay) malfunction
Rear window defogger does not operate.	Perform auto active test. Does rear win- dow defogger oper- ate?	YES	BCM signal input circuit
		NO	Rear window defogger relay circuit
			Open circuit of rear window defogger
			IPDM E/R malfunction
	Perform auto active test. Does magnetic clutch operate?	YES	BCM signal input circuit
			 CAN communication signal between BCM and ECM.
A/C compressor does			 CAN communication signal between ECM and IPDM E/R
not operate.		NO	Magnetic clutch malfunction
			Harness/connector malfunction between IPDM E/R and magnetic clutch
			● IPDM E/R (integrated relay) malfunction
	Perform auto active test. Does cooling fan operate?	YES	ECM signal input circuit
			 CAN communication signal between ECM and IPDM E/R
Cooling fan does not operate.		NO	Cooling fan motor malfunction
Sp 5. 4(0)			Harness/connector malfunction between IPDM E/R and cooling fan motor
			IPDM E/R (integrated relay) malfunction



NOTE:

Front fog lamp relay does not used.



NOTE:

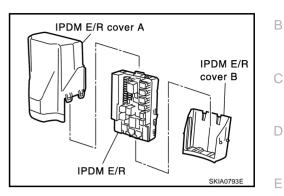
Front fog lamp relay does not used.

IPDM E/R Terminal Inspection

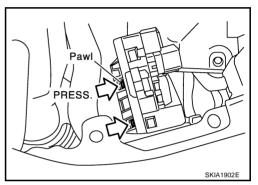
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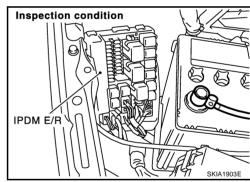
- 1. Remove hood ledge cover. Refer to SC-9, "Removal and Installation".
- 2. Remove cowl top cover (right). Refer to El-20, "COWL TOP".
- 3. Pull up to remove IPDM E/R cover A.



4. While pressing pawl on back side of IPDM E/R cover "B" toward vehicle front to unlock, lift up IPDM E/R.



5. Be sure to incline IPDM E/R when placing it. Then perform inspection on each terminal.



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IPDM E/R Power/Ground Circuit Inspection

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	F/L-C, F/L-E, 73
-	Ignition power	80

OK or NG?

OK >> GO TO 2.

NG >> Replace fuse or fusible link.

2. POWER CIRCUIT INSPECTION

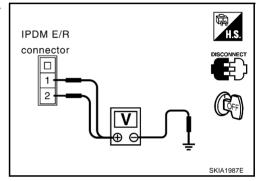
- 1. Disconnect IPDM E/R harness connector E3.
- 2. Check voltage between IPDM E/R harness connector E3 terminals 1 (W), 2 (W/L) and ground.

Battery voltage should exist.

OK or NG

OK >> GO TO 3.

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



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3. GROUND CIRCUIT INSPECTION

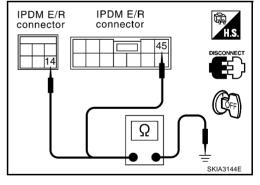
- 1. Disconnect IPDM E/R harness connectors E6 and E9.
- Check continuity between IPDM E/R harness connectors E6 terminal 14 (B), E9 terminal 45 (B) and ground.

Continuity should exist.

OK or NG

OK >> Inspection end.

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



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Removal and Installation of IPDM E/R REMOVAL

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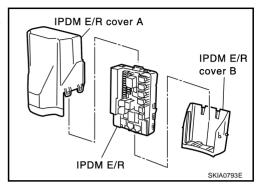
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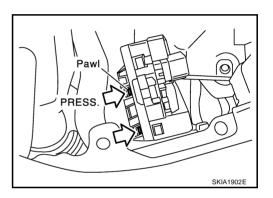
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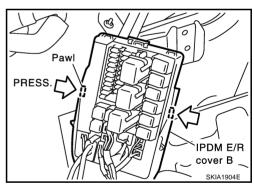
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- Remove battery. Refer to <u>SC-9, "Removal and Installation"</u> in "Starting and Charging System (SC)" section.
- Remove IPDM E/R cover A. While pressing pawl on backside of IPDM E/R cover B toward vehicle front to unlock, lift up IPDM E/R.





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



INSTALLATION

Install in the reverse order of removal.

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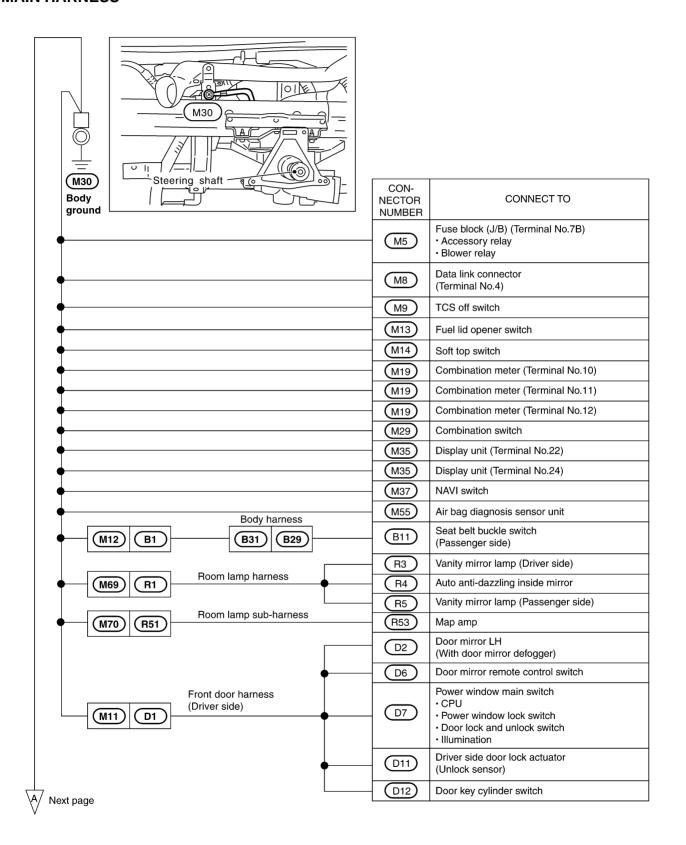
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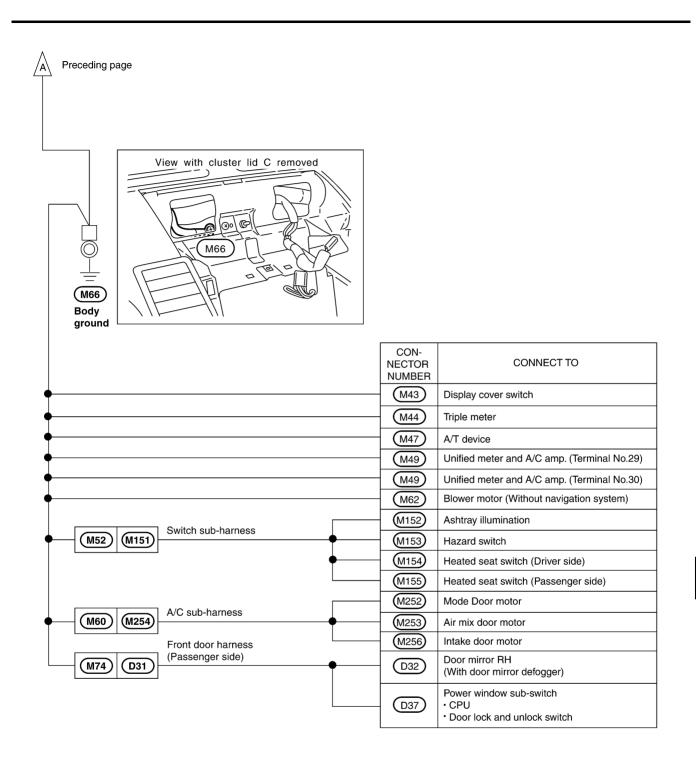
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GROUND PFP:00011

Ground Distribution

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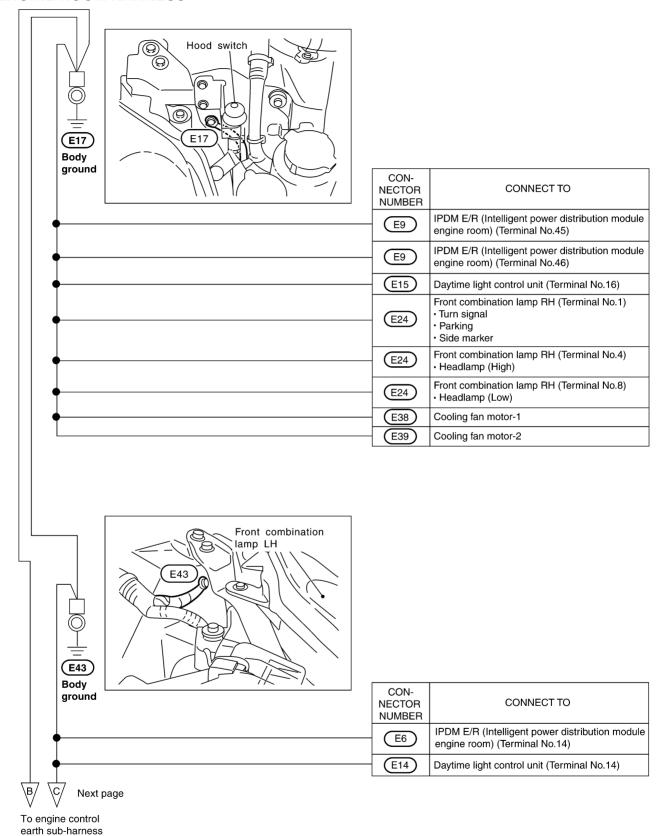
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ENGINE ROOM HARNESS



CKIT0355E

Preceding page CON-**CONNECT TO NECTOR** NUMBER (E23) Hood switch (E30) Washer level sensor (E33) Horn (Low) (E36) Horn (High) Front combination lamp LH (Terminal No.1) *Turn signal (E40) Parking *Side marker Front combination lamp LH (Terminal No.4) (E40) · Headlamp (High) (For U.S.A) Front combination lamp LH (Terminal No.8) (E40) · Headlamp (Low) Brake fluid lever switch (E44) (E51) ABS actuator and electric unit (Terminal No.16) (E51) ABS actuator and electric unit (Terminal No.30) (E52 Front wiper motor (E105) BCM (Body control module) Stop lamp switch (With A/T) (E111)

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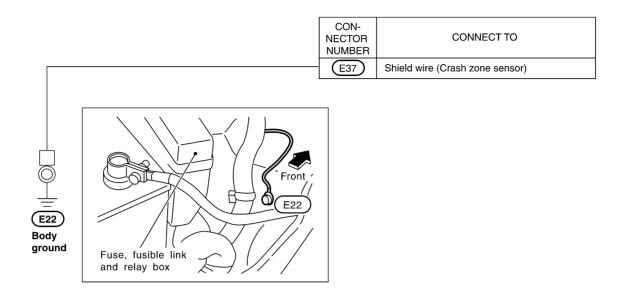
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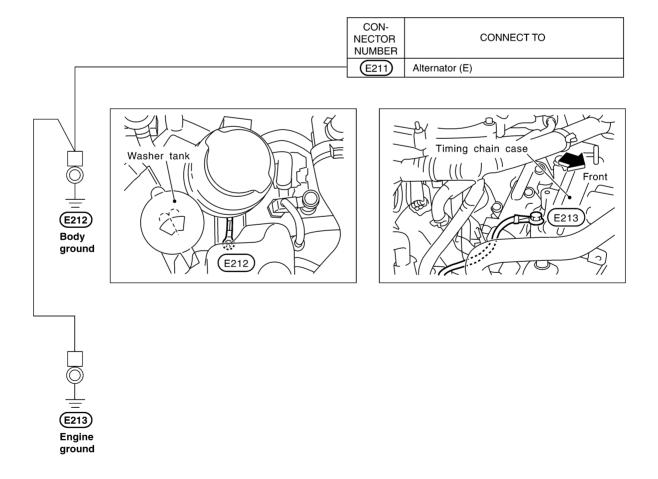
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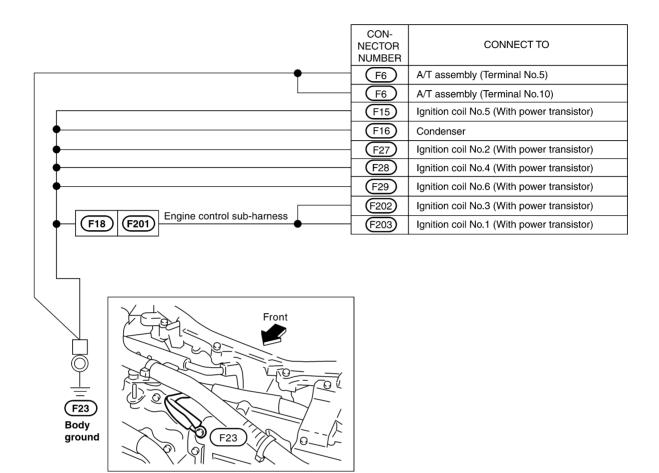
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ENGINE CONTROL HARNESS



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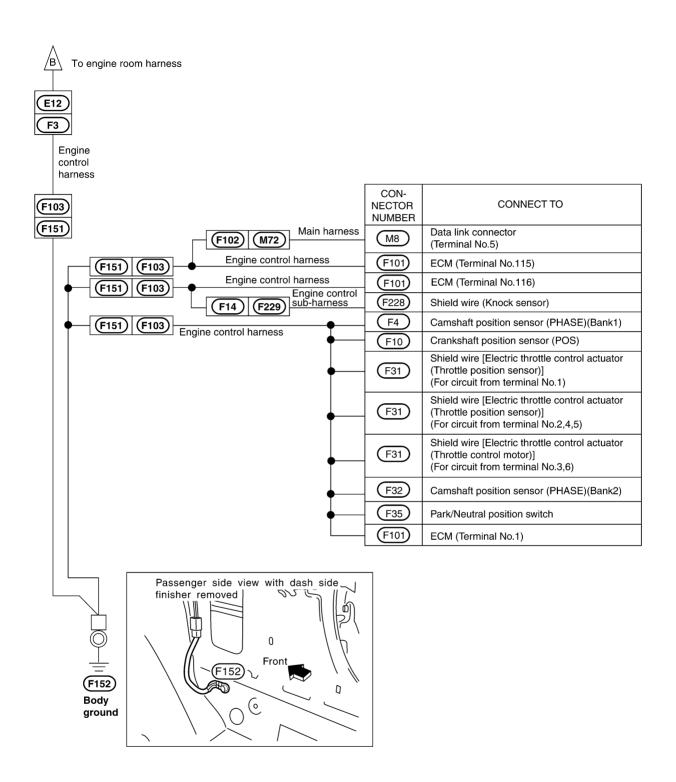
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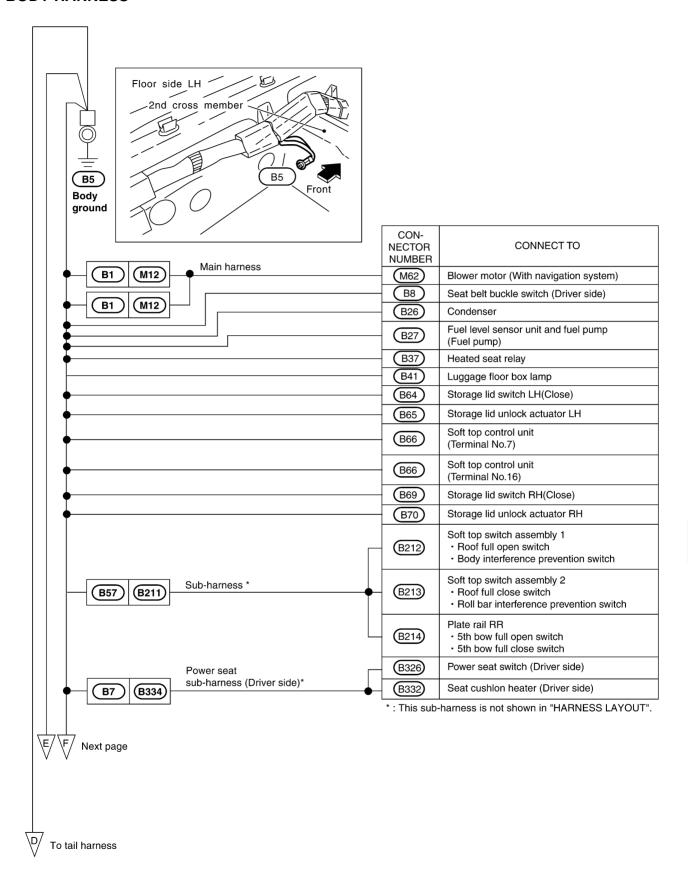
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BODY HARNESS



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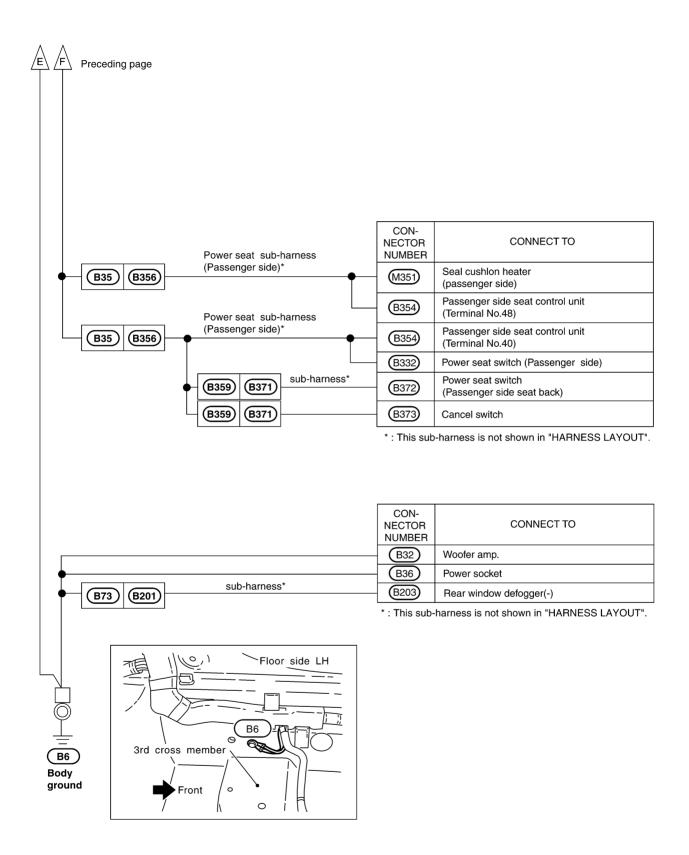
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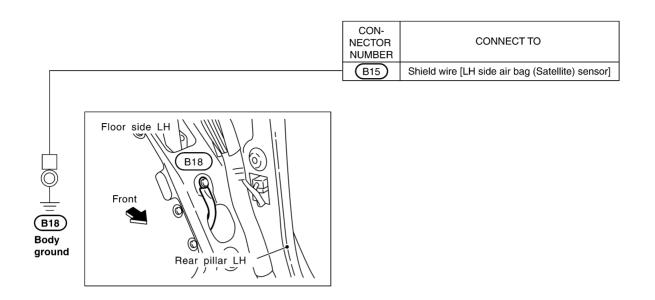
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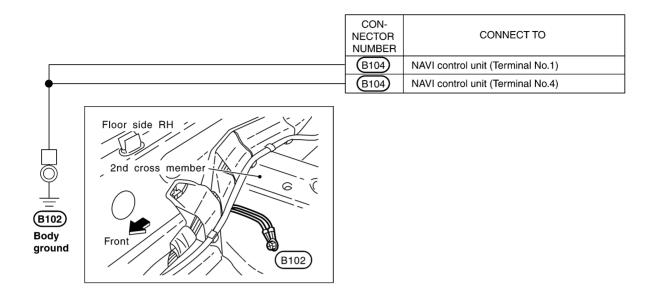
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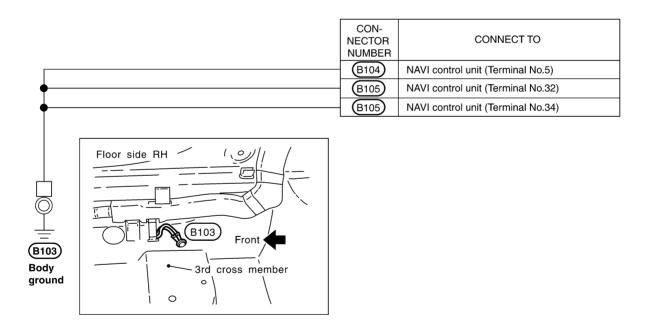
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BODY NO.2 HARNESS

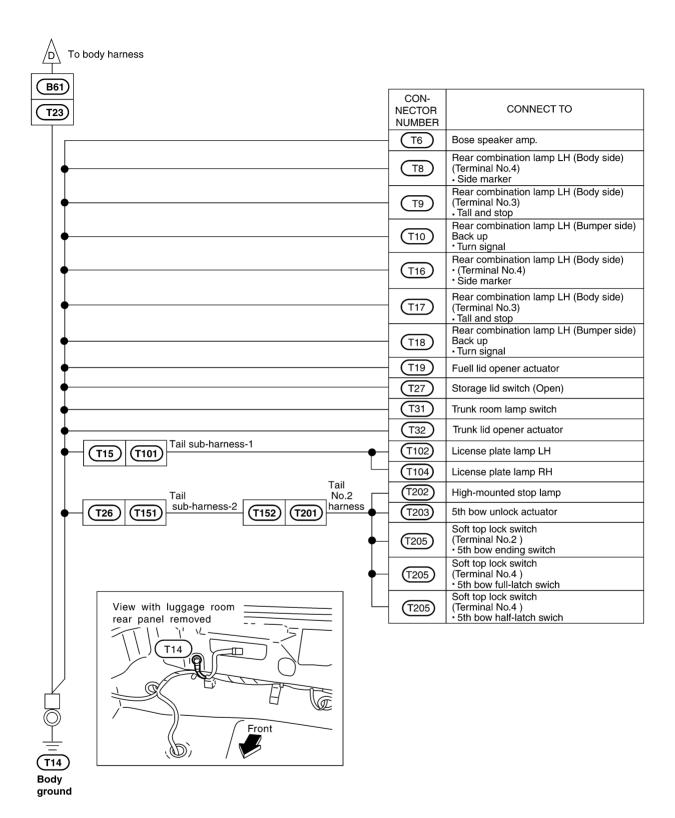




CKIT0360E

GROUND

TAIL HARNESS



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HARNESS PFP:00011

Example:

G2

(E1)

Grid reference

B/6

Connector number

Harness Layout HOW TO READ HARNESS LAYOUT

AKS0012Q

: ASCD ACTUATOR

SEL252V

Connector color/Cavity

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

- Main Harness
- Engine Room Harness (Engine Compartment)
- Engine Control Harness
- Body Harness
- Tail 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.

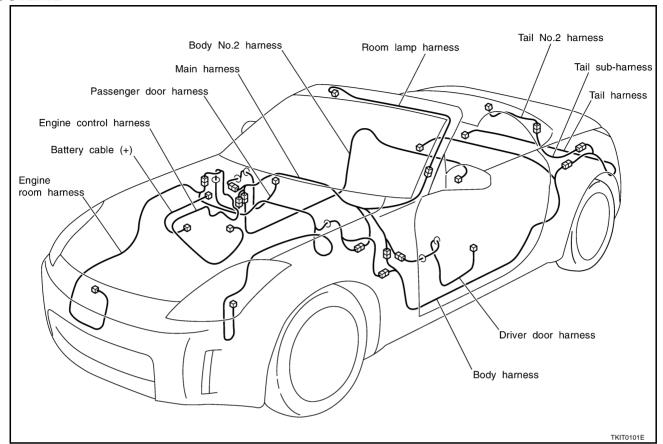
CONNECTOR SYMBOL

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

	Water	proof type	Standard type					
Connector type	Male	Female	Male	Female				
Cavity: Less than 4 Relay connector	Ø	6						
Cavity: From 5 to 8								
Cavity: More than 9				\Diamond				
Ground terminal etc.		_	6					

CKIT0108E

OUTLINE



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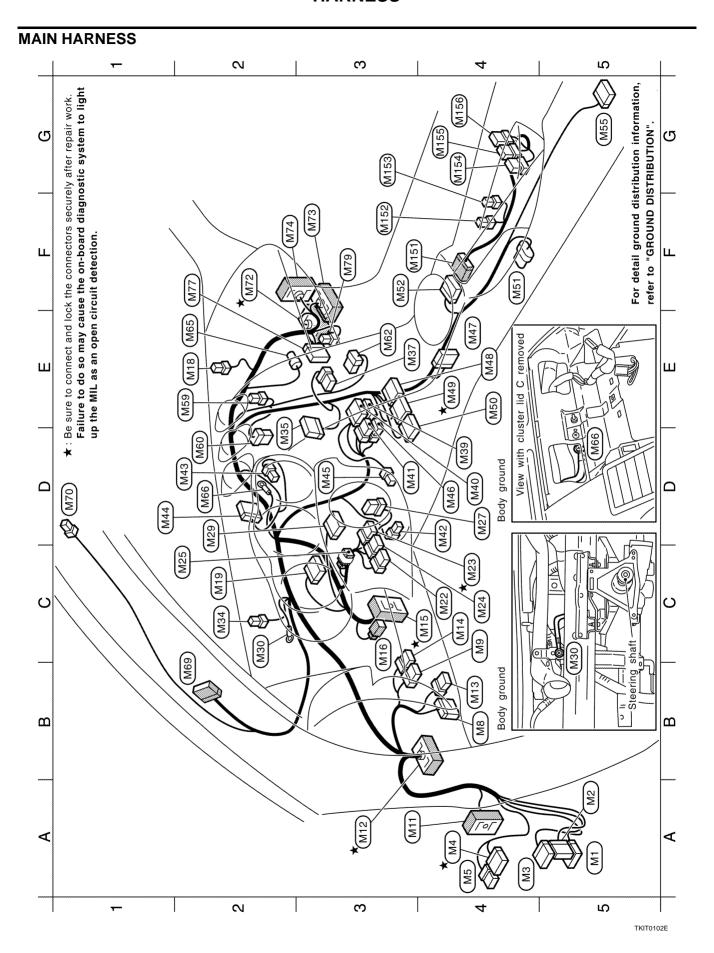
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Switch sub-harness	F3 (M151) W/12 : To (M52)	sensor unit F3 (M152) W/2 : Ashtray illumination	lay G3 (M153) W/4 : Hazard switch	G4 (M154) W/6 : Heated seat switch	(Driver side)	ir bag module (With heated seat)	G4 (M155) BR/6 : Heated seat switch	(Passenger side)	(With heated seat)	G4 (M156) W/6 : Not used	•	ystem) A/C sub-harness	: E/M ((M252) W/3 : Mode door motor	(M253) W/3 : Air mix door motor	(M254) W/6 : To (M60)	(M255) W/4 : Intake sensor	(M256) W/3 : Intake door motor					////	// ()	/ / (bczw)			(M252) (M2)	(MZ53)		(M256)		/ \ \ \(\mathbb{M}(M255) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				★: Be sure to connect and lock the connectors securely after repair work.	Failure to do so may cause the on-board diagnostic system to light	up the MIL as an open circuit detection.
: Not used	: To (M151)	: Air bag diagnosis sensor unit	: Fuel lid opener relay	: To (M254)	: Blower motor	: Front passenger air bag module	: Body ground	To (R1)	: To (R51)	: To (F102)	: To (B101)	(With navigation system)	: To (D31)	: Not used	: Not used					1					`				, `						_		★: Be sur	Failur	up the
M51 B/6	(M52) W/12	(M55) Y/28	(M59) L/4	9/W (M60)	(M62) W/6	(M65) Y/4	 	(M69) W/10	M70 W/4	★ (M72) SMJ	(M73) SMJ		(M74) SMJ	(M77) W/24	M79 W/2																								
F4	F3	G5	E2	D2	E3	E2	D2	B2	5	F2	F3		F2	F2	£																								
: BCM (Body control module)	: BCM (Body control module)	: BCM (Body control module)	: Fuse block (J/B)	: Fuse block (J/B)	: Data link connector	: TCS off switch	: To OI	: To B1	: Fuel lid opener switch	: Soft top switch	: To <u>E108</u>	: To (E109)	: Sunload sensor	: Combination meter	: Not used	: Combination switch (Spiral cable)	: Combination switch (Spiral cable)	: Key switch	: NATS antenna amp.	: Combination switch	: Body ground	: Security indicator lamp	: Display unit (With navigation system)	: NAVI switch (With navigation system)	: Audio unit (With navigation system and	with BOSE system)	: Audio unit	: Audio unit	: In-vehicle sensor	: Display cover switch	(With navigation system)	: Triple meter	: Antenna amp. (Via sub-harness)	: Audio unit (With navigation system and	without BOSE system)	: A/T device (For A/T)	: Unified meter and A/C amp.	: Unified meter and A/C amp.	: Unified meter and A/C amp.
A5 (M1) W/16	A5 (M2) W/16	A4 (M3) BR/24	A4 ★ M4 W/16	A4 (M5) W/8	B4 (M8) W/16	C4 (M9) GY/6	A3 (M11) SMJ	A3 * (M12) SMJ	B4 (M13) GY/6	C4 (M14) W/6	* M15	M16	M18	C2 (M19) W/24	-	C4 ★ (M23) GY/8	C4 (M24) Y/6	C2 (M25) BR/2	D4 (M27) W/8	D2 (M29) W/16	C2 (M30) –	C2 (M34) BR/2	D2 (M35) GY/24	E3 (M37) W/8	D4 (M39) W/16		D4 (M40) W/10	D3 (M41) W/6	D4 (M42) W/2	D2 (M43) W/3		D1 (M44) W12	D3 (M45) BR/2	D4 (M46) BR/8		E4 (M47) W/10	E4 (M48) GY/20	*	E4 (M50) W/24

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ENGINE ROOM HARNESS Engine Compartment က α 2 4 For detail ground distribution information, Front combination E22 refer to "GROUND DISTRIBUTION". E51 വ G fusible link Fuse, fusible ling and relay box E43 ground Body ground ш Ц Body (E52) Front **★** E42 relay box (E18) E44 딘 Ш Ш E40 E2 E21 Fuse, fusible link and * E5 E4 (E19) ¥ E6 E8 E7 E3 E9 Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection. E33 E10 E18) O O E32 E13 E22 E14 E31 E37 E27 E35) (E23) E17) (E252) മ $\mathbf{\omega}$ E38 switch Hood E17 (E251) 0 E24) E36) (© Body ground E30 ⋖ ⋖ '@® E28 E29 N ന 4 2

TKIT0104E

A4 (E29) GY/2 : Front washer motor	A4 (E30) BR/2 : Washer level sensor	om) C4 (E31) B/3 : To (E251)	om) C4 (E32) B/1 : Horn (Low)	om) C4 (E33) B/1 : Horn (Low)	om) B5 (E34) B/2 : Ambient sensor	om) B4 (E35) B/1 : Horn (High)	om) A4 (E36) B/1 : Horn (High)	om) C5 (E37) Y/2 : Crash zone sensor	B5 ★ E38 GY/4 : Cooling fan motor-1 (Via sub-harness)	B5 ★ (E39) GY/4 : Cooling fan motor-2 (Via sub-harness)	E5 (E40) SB/8 : Front combination lamp LH	E5 (E42) L/2 : Front wheel sensor LH	E4 ★ (E43) — : Body ground	E3 (E44) GY/2 : Brake fluid level switch	G3 (E51) SMJ : ABS actuator and electric unit	F2 (E52) GY/5 : Front wiper motor		Sub-harness	A5 (E251) B/3 : To (E31)	B3 (E252) B/3 : Refrigerant pressure sensor	→ Be sure to connect and lock the connectors securely after repair work	Failure to do so may cause the on-board diagnostic system to light	up the MIL as an open circuit detection.
: Fusible link holder	: Fusible link holder	: IPDM E/R (Intelligent power distribution module engine room)	: IPDM E/R (Intelligent power distribution module engine room)	: IPDM E/R (Intelligent power distribution module engine room)	: IPDM E/R (Intelligent power distribution module engine room)	: IPDM E/R (Intelligent power distribution module engine room)	: IPDM E/R (Intelligent power distribution module engine room)	: IPDM E/R (Intelligent power distribution module engine room)	: To FI	: To (F2)	: To F3	: Daytime light control unit (For Canada)	: Daytime light control unit (For Canada)	: Daytime light control unit (For Canada)	: Body ground	: Fuse,fusible link and relay box	: Back-up lamp relay (With A/T)	: Fuse and fusible link block	: Body ground	: Hood switch	: Front combination lamp RH	: Front wheel sensor RH	: Rear washer motor
BR/2	GY/2	B/2	W/4	B/4	9/M	W/12	GY/16	W/12	GY/9	GY/10	GY/8	GY/4	GY/6	GY/8	I	ı	4	I	ı	GY/2	SB/8	GY/2	G/2
EI)	E2	E3	E4	E5	E6		(EB)	(11)	E10		E12		E14	_	E17	E18	(E19)	(E21)	E22			(E27)	E28
Ш	Ш	D3	★ [★	★	5	D2 * (★ [5	۲ ک	¥ 5	5	5	5	¥ £8	క	5	Ш	CZ	B3	A3	င္ပ	A 4

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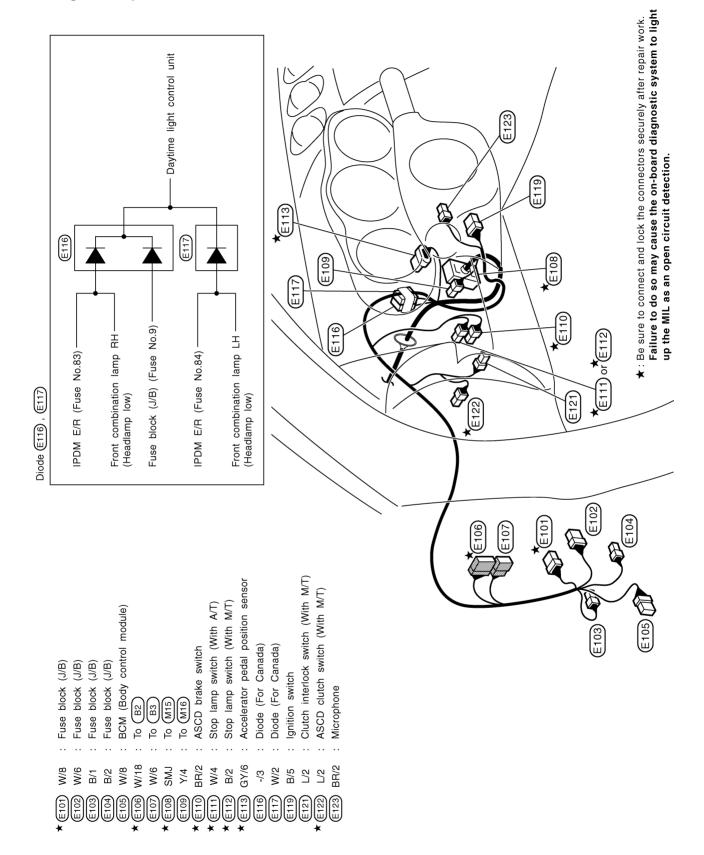
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TKIT0105E

Passenger Compartment

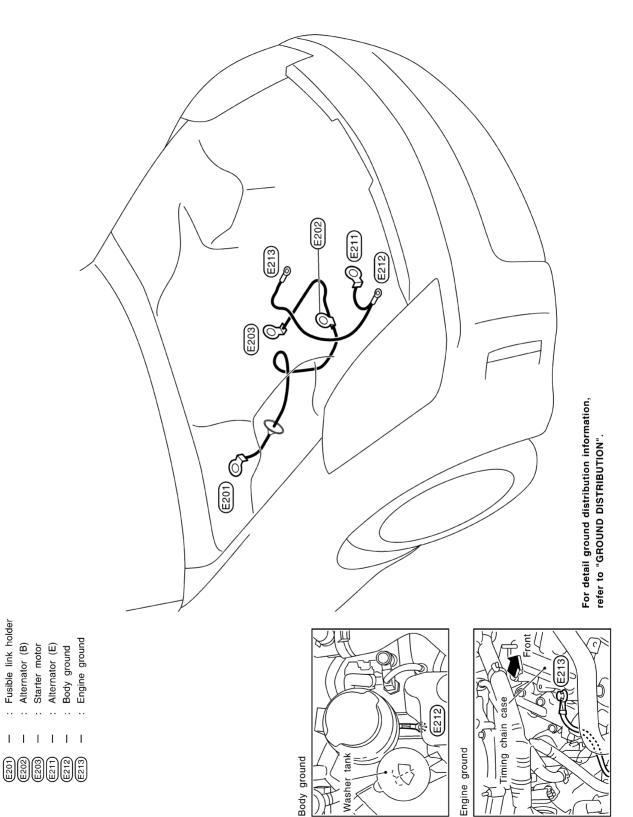


TKIM0206E

Battery Cable

: Fusible link holder

: Alternator (B)



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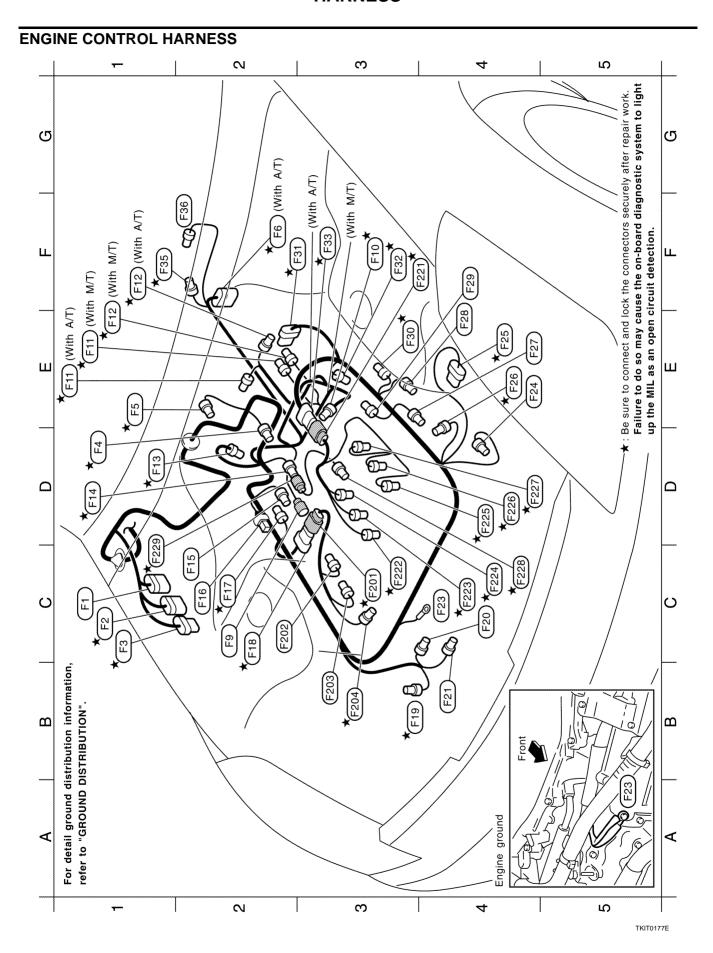
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PG-46

EVAP canister purge volume control solenoid valve Camshaft position sensor (PHASE) (Bank1) GY/3 GY/2 E1 * E D1 ★ (F4

GY/8

F3

01 * (

A/T assembly (With A/T) GY/10 (94)

Starter motor GY/1 62 F2 *(

Crankshaft position sensor (POS) B/3

F3 **★** (

CZ

Heated oxygen sensor 2 (Bank1) Heated oxygen sensor 2 (Bank2) GY/4 B/4 ᇤ

Engine coolant temperature sensor GY/2

To (F229) B/2 F15) F14) D1 * (D1 *(

C5 C5

Ignition coil No.5 (With power transistor) Condenser GY/3 W/2

Heated oxygen sensor 1 (Bank1) To (F201) GY/4 B/3 B/6 C2 **★** (B3 **★** (C2 ★(

Power steering pressure sensor Alternator (S, L) GY/2

C4

B4

Oil pressure sensor B/3 F20 F21

Engine ground Compressor B/1 F24 F23

> C4 E4

Intake valve timing control solenoid valve (Bank2) Mass air flow sensor GY/2 B/6 F25 E4 ★(E4 ★ (

Ignition coil No.4 (With power transistor) gnition coil No.2 (With power transistor) GY/3 GY/3

E4

E4

E4

gnition coil No.6 (With power transistor) Heated oxygen sensor 1 (Bank2) GY/3 GY/4 F30 E3 ★ (

Camshaft position sensor (PHASE) (Bank2) Electric throttle control actuator **GY/6** B/3 F31 F32) F2 ★(F3 ★ (

Park/Neutral position switch (With M/T) To (F221) GY/8 B/2 F33 F35 F1 *(F3 * (

Engine control sub-harness-1

: Back-up lamp switch (With M/T)

F36

: To (F18) 9/7 C3 ★ (F201)

: Ignition coil No.3 (With power transistor) : Ignition coil No.1 (With power transistor) GY/3 GY/3 B3 ★ (F204) C2 B3

Engine control sub-harness-2

G/2

: Intake valve timing control solenoid valve (Bank1)

: Injector No.1 : To (F33) GY/2 g/8 F3 ★ (F221) C3 ★ (F222) C4 ★ (F223)

: Injector No.3

GY/2

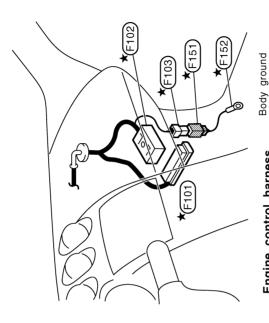
TKIM0207E

Injector No.5 Injector No.2 GY/2 GY/2 C4 * (F224) D4 ★ (F225) D4 * (F

Knock sensor Injector No.4 Injector No.6 GY/2 GY/2 72 D4 ★ (F227) C4 * (F228)

To (F14) SB/2 C1 * (F229)

PASSENGER COMPARTMENT



To (F151) To (M72) : ECM SMJ SMJ **W**/4 * **★** (F102) ¥ (F101)

Engine control harness

: Body ground : To (F103) Earth sub-harness **W/4** * (F151) * (F152)

<u></u> Passenger side view with dash side Front \bigcirc F152) finisher removed

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

Failure to do so may cause the on-board diagnostic system to light ★: Be sure to connect and lock the connectors securely after repair work. up the MIL as an open circuit detection.

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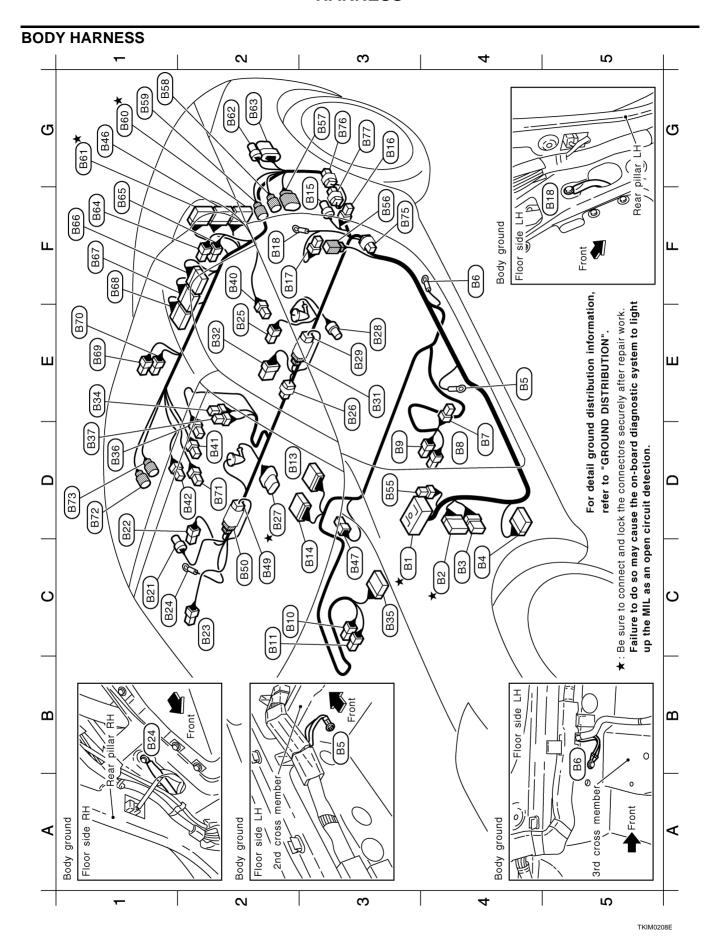
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TKIM0209E

B42 B46 B50 B50 B50

> C2 C2

B41 B41

F2

D2 D2 G1

B36 B37

5

B25 B25

B26

B23

D 2

B22

B34

B31 B32

B29

B28

B27

C1 E2 D2 ★ E3 E3

B13 B14

B10

B8

D3

B3

B4

B2

88

Н 4 4

B7

B3

C3 ★ (B1

C4 ★ (B2

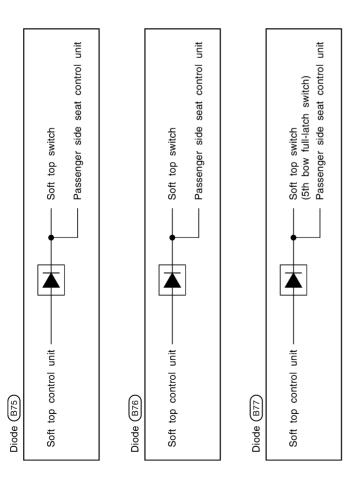
B16)

F3

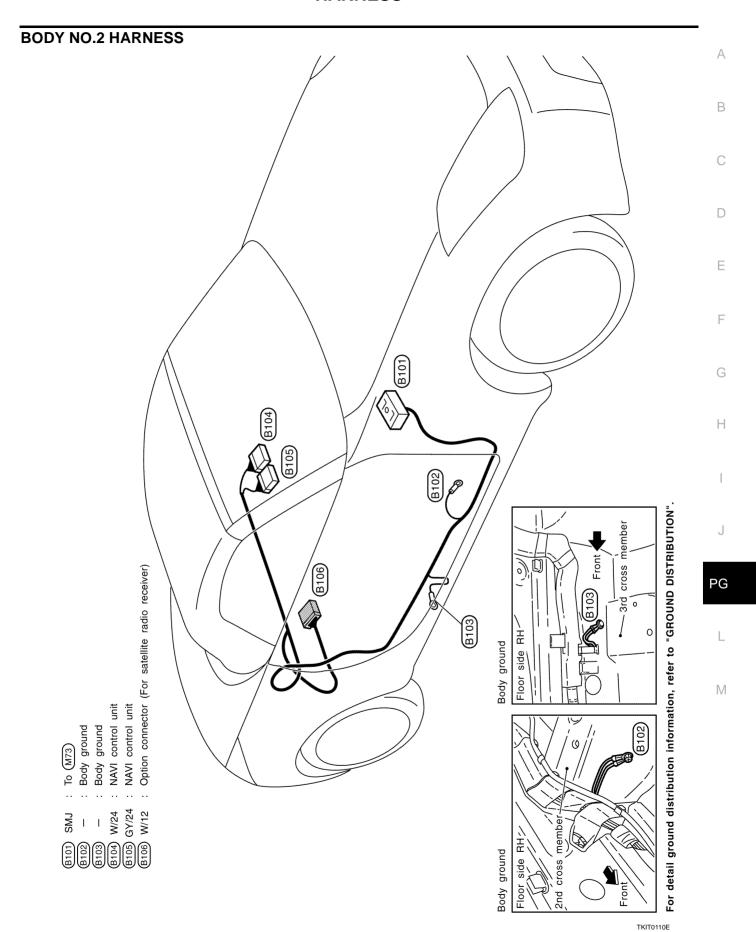
B21

5 E E

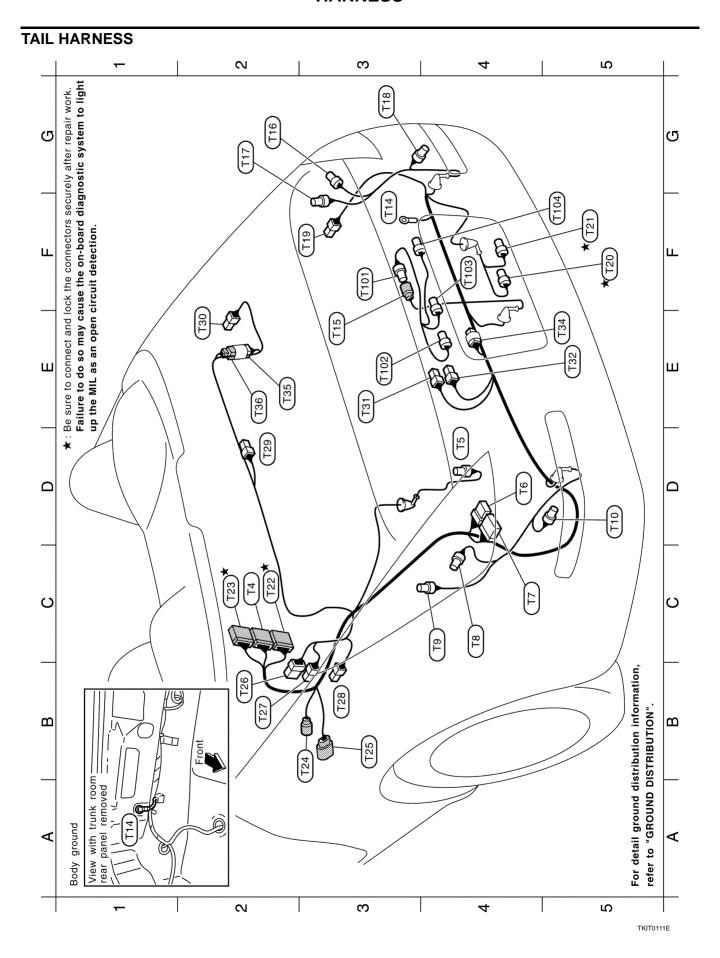
B15



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PG-51



Tail sub-harness-1

: License plate lamp LH : To (T15) GY/4 BR/2 T101) T102)

GY/2 F3 E3 F4 F5

Trunk lid opener switch T103

: License plate lamp RH BR/2 T104

Diode (T34)

BCM (Body control module) Trunk room lamp switch Trunk room lamp

Failure to do so may cause the on-board diagnostic system to light : Be sure to connect and lock the connectors securely after repair work. up the MIL as an open circuit detection.

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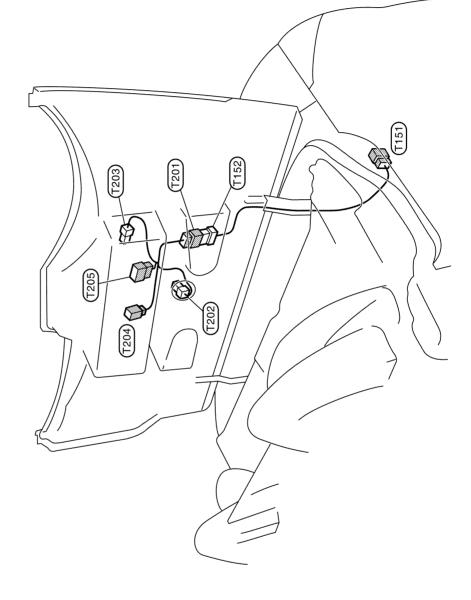
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BOSE speaker amp. (With BOSE system) Rear combination lamp RH (Bumper side) BOSE speaker amp. (With BOSE system) Rear combination lamp LH (Bumper side) Rear combination lamp RH (Body side) Rear combination lamp LH (Body side) Rear combination lamp LH (Body side) Rear combination lamp RH (Body side) EVAP control system pressure sensor EVAP canister vent control valve To (B46) (With BOSE system) To (B62) (With BOSE system) (B63) (With BOSE system) Storage lid switch (Open) Trunk lid opener actuator Fuel lid opener actuator Storage lid actuator RH Trunk room lamp switch Storage lid actuator LH Rear wheel sensor Trunk room lamp Body ground To (T36) To (T101) To (B60) (B61) To (T151) Diode မ ၉ GY/8 GY/2 GY/3 GY/4 GY/3 GY/3 W/16 B/24 SB/4 GY/2 SB/4 **W**/4 W/20 GY/4 8/M B/2 B/6 W/2 W/2 W/2 W/2 B/2 W/2 B/2 W/2 W/2 (EL) T10 T14 T15 T16) T20 T21 128 T18 T22 (T23) T24 T29 T30 T36 6 (†) T25 T32 T31 T34 <u></u>8

TAIL NO.2 HARNESS



[20] W/8 : To (T152) [202] BR/2 : High-mounted stop lamp [203] W/4 : 5th bow unlock actuator [204] B/2 : 5th bow closure motor [205] W/6 : Soft top lock switch

Tail No.2 harness

 Tail
 sub-harness-2

 (15)
 W/8
 To (726)

 (152)
 W/8
 To (720)

TKIT0113E

ROOM LAMP HARNESS

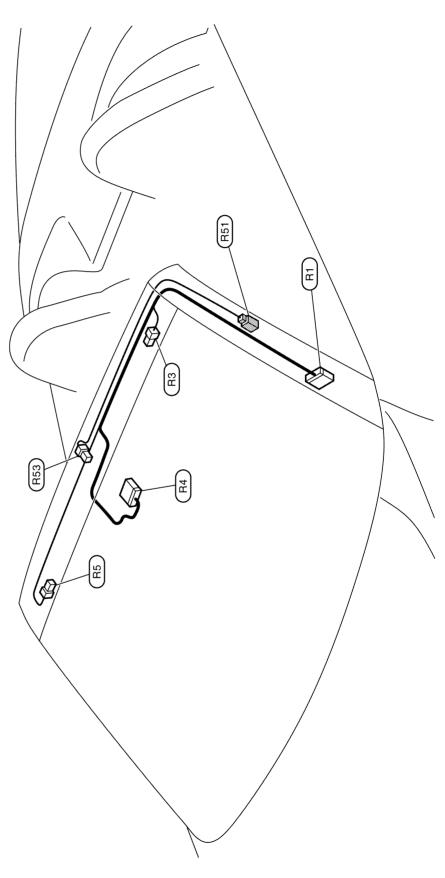
Room lamp sub-harness

 R51
 W/4
 : To (M70)

 R53
 W/4
 : Map lamp

: Vanity mirror lamp (Passenger side) : Vanity mirror lamp (Driver side) : Auto anti-dazzling inside mirror

W/10 W/2 B/10 W/2



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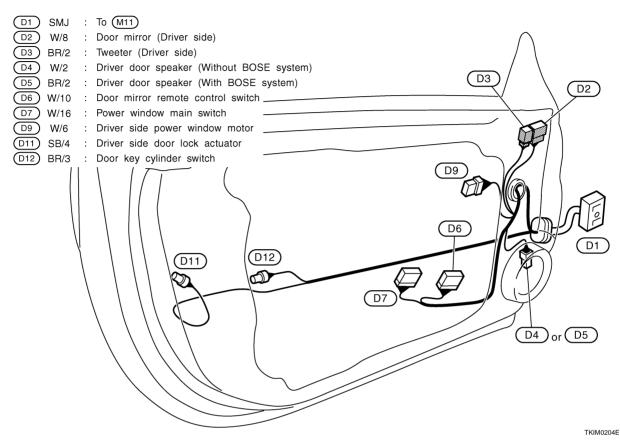
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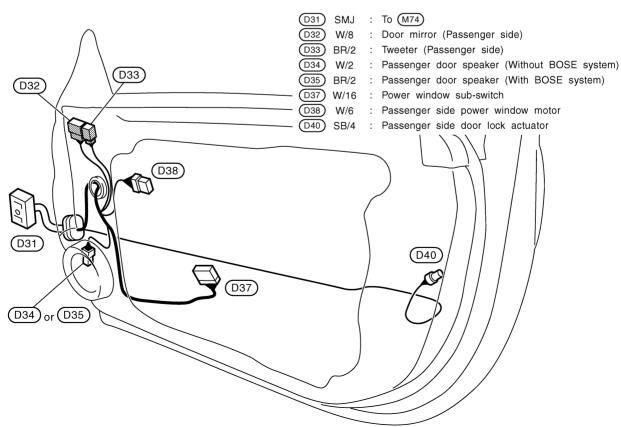
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DOOR HARNESS Driver Side Door



Passenger Side Door



TKIM0205E

Wiring Diagram Codes (Cell Codes)

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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
3METER	DI	Triple Meter
A/C	ATC	Air Conditioner
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
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
CLOCK	DI	Clock
COMBSW	LT	Combination Switch
COOL/F	EC	Cooling Fan Control
DEF	GW	Rear Window Defogger
D/LOCK	BL	Power Door Lock
DTRL	LT	Headlamp - With Daytime Light System
ECM/PW	EC	ECM Power Supply for Back-Up
ECTS	EC	Engine Coolant Temperature Sensor
ETC1	EC	Electric Throttle Control Function
ETC2	EC	Electric Throttle Control Motor Relay
ETC3	EC	Electric Throttle Control Motor
F/LID	BL	Fuel Lid Opener
F/PUMP	EC	Fuel Pump
F/ROOF	RF	Soft Top
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
IATS	EC	Intake Air Temperature Sensor
IGNSYS	EC	Ignition System

Code	Section	Wiring Diagram Name
ILL	LT	Illumination
I/MIRR	GW	Inside Mirror (Auto Anti-Dazzling Mirror)
INJECT	EC	Injector
INT/L	LT	Trunk Room Lamp
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	EC	Main Power Supply and Ground Circuit
M/ANT	AV	Manual Antenna
METER	DI	Speedometer, Tachometer, Temp. and Fuel Gauges
MIL/DL	EC	MIL & Data Link Connectors
MIRROR	GW	Power Door Mirror
MMSW	AT	Manual Mode Switch
NATS	BL	Nissan Anti-Theft System
NAVI	AV	Navigation System
NONDTC	AT	Non-Detective Items
O2H1B1	EC	Heated Oxygen Sensor 1 Heater Bank 1
O2H1B2	EC	Heated Oxygen Sensor 1 Heater Bank 2
O2H2B1	EC	Heated Oxygen Sensor 2 Heater Bank 1
O2H2B2	EC	Heated Oxygen Sensor 2 Heater Bank 2
O2S1B1	EC	Heated Oxygen Sensor 1 Bank 1
O2S1B2	EC	Heated Oxygen Sensor 1 Bank 2
O2S2B1	EC	Heated Oxygen Sensor 2 Bank 1
O2S2B2	EC	Heated Oxygen Sensor 2 Bank 2
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHSB1	EC	Camshaft Position Sensor (PHASE) (Bank1)
PHSB2	EC	Camshaft Position Sensor (PHASE) (Bank2)
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (CKPS) (POS)
POWER	AT	Transmission Control Module Power Supply
POWER	PG	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
P/SCKT	WW	Power Socket
PS/SEN	EC	Power Steering Pressure Sensor
ROOM/L	LT	Interior Room Lamp
RP/SEN	EC	Refrigerant Pressure Sensor
SEAT	SE	Power Seat
SEN/PW	EC	Sensor Power Supply
SHIFT	AT	A/T Shift Lock System
SRS	SRS	Supplemental Restraint System
START	SC	Starting System

Code	Section	Wiring Diagram Name							
STOP/L	LT	Stop Lamp							
STSIG	AT	Starting Signal Circuit							
TAIL/L	LT	Parking, License and Tail Lamps							
TCS	BRC	Traction Control System							
TLID	BL	Trunk Lid Opener							
TPS1	EC	Throttle Position Sensor (Sensor 1)							
TPS2	EC	Throttle Position Sensor (Sensor 2)							
TPS3	EC	Throttle Position Sensor							
TRANSCV	BL	Homelink Universal Transceiver							
TURN	LT	Turn Signal and Hazard Warning Lamp							
VEHSEC	BL	Vehicle Security System							
VENT/V	EC	EVAP Canister Vent Control Valve							
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)							
WARN	DI	Warning Lamps							
WINDOW	GW	Power Window							
WIPER	WW	Front Wiper and Washer							

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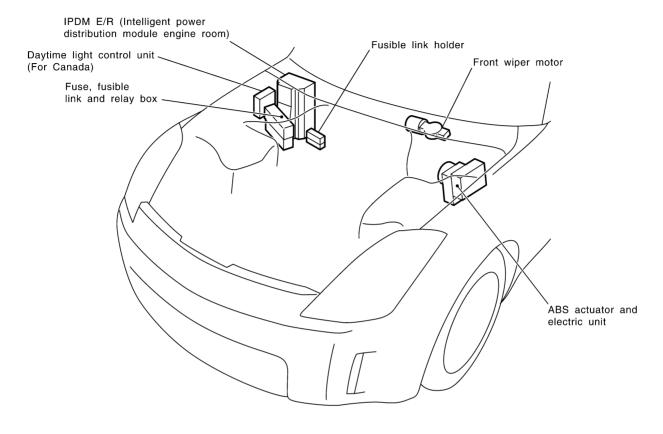
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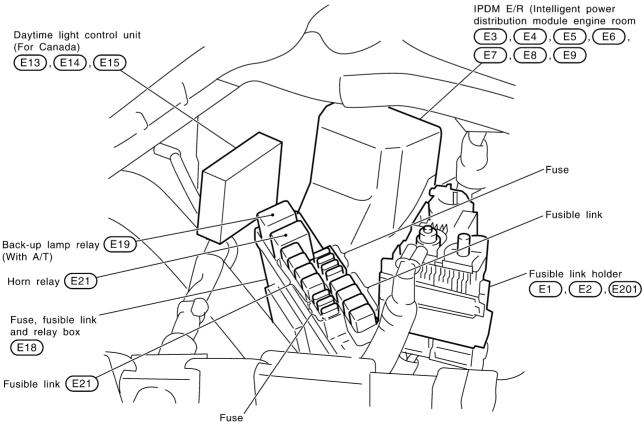
ELECTRICAL UNITS LOCATION

PFP:25230

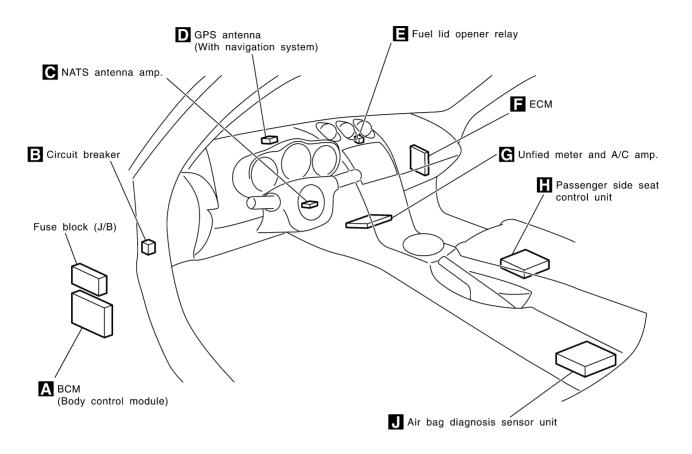
Electrical Units Location ENGINE COMPARTMENT

AKS0012S





PASSENGER COMPARTMENT



A Behind the dash side lower LH finisher Fuse block (J/B) rear view Blower relay Fuse block (J/B) M4),(M5),(E101) (E102), (E103), (E104) ___ /____ всм Accessory relay (Body control module) (M2), (M3),

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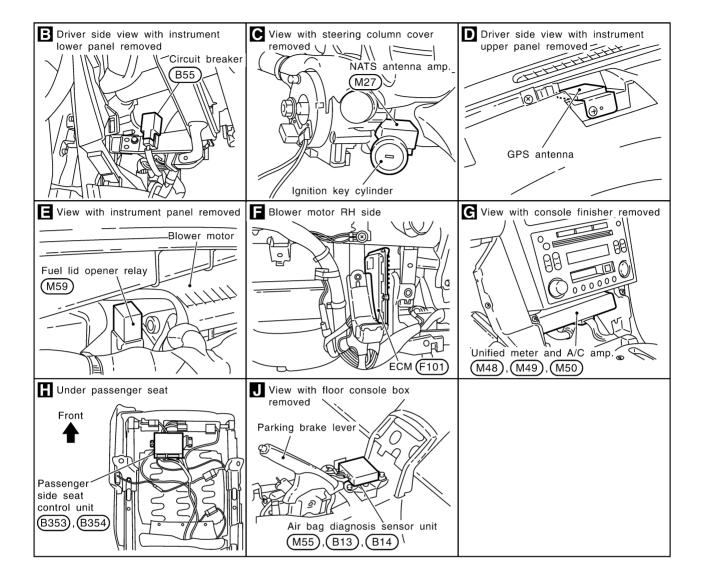
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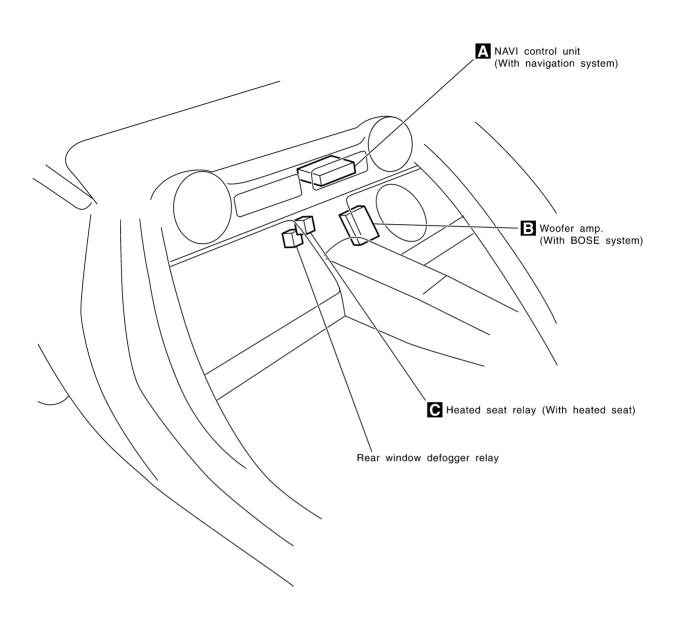
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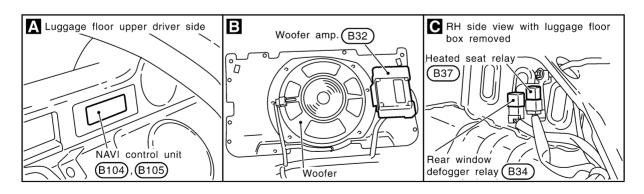
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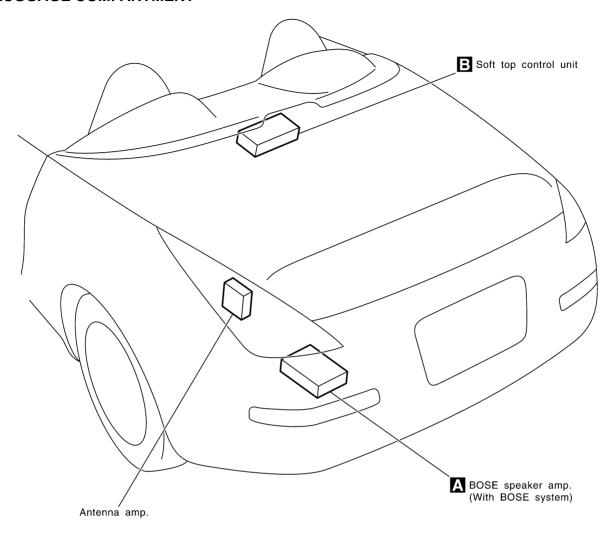
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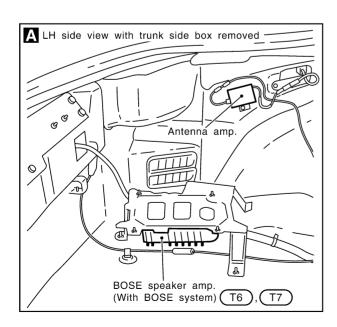
G

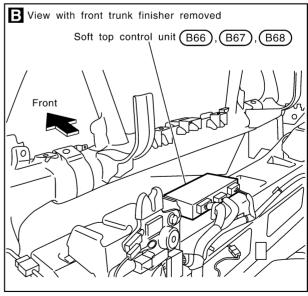
Н

РG

LUGGAGE COMPARTMENT







CKIT0350E

HARNESS CONNECTOR

HARNESS CONNECTOR

PFP:00011

Description

HARNESS CONNECTOR (TAB-LOCKING TYPE)

AKS0012T

Α

В

С

D

F

G

Н

PG

M

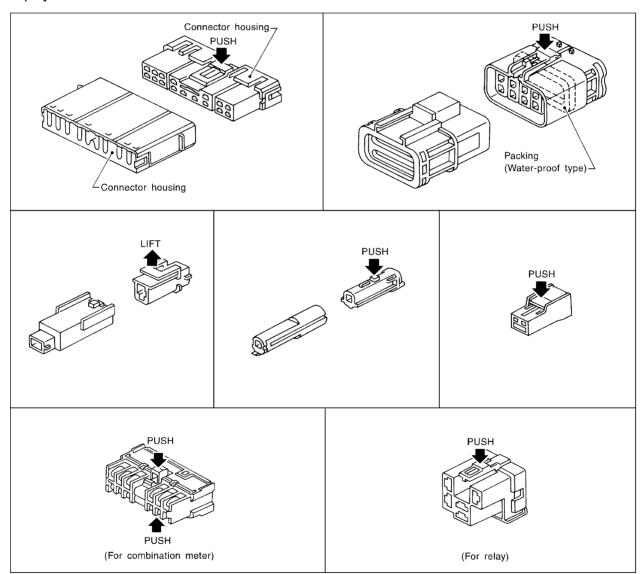
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

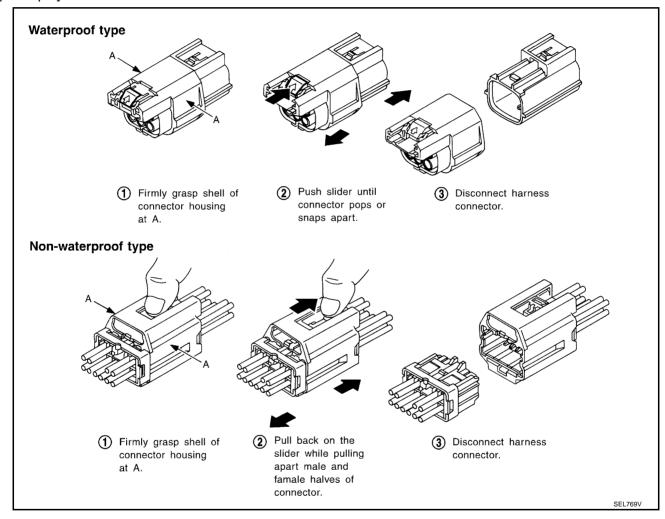
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

- 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]



ELECTRICAL UNITS

ELECTRICAL UNITS PFP:00011 Α **Terminal Arrangement** AKS0012V В ECM (F101) 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 106 107 108 109 110 111 112 113 119 120 121 4 5 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 98 99 100 101 102 103 104 105 117 | 118 3
 62
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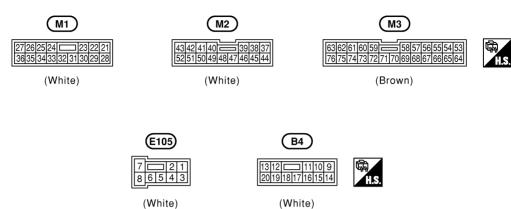
 81
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 64
 63
 90 91 92 93 94 95 96 97 D 115 2 114 116 1 82 83 84 85 86 87 88 89 (Black) F ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (E51) G 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 (Gray) Н UNIFIED METER AND A/C AMP. (M48)(M50) (M49) J

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | (Gray) (Gray) (White)

PG

ELECTRICAL UNITS

BCM (BODY CONTROL MODULE)



SMJ (SUPER MULTIPLE JUNCTION)

SMJ (SUPER MULTIPLE JUNCTION) Terminal Arrangement

ENGINE ROOM HARNESS

PFP:B4341

AKS0012W

Α

В

D

Е

G

Н

J

PG

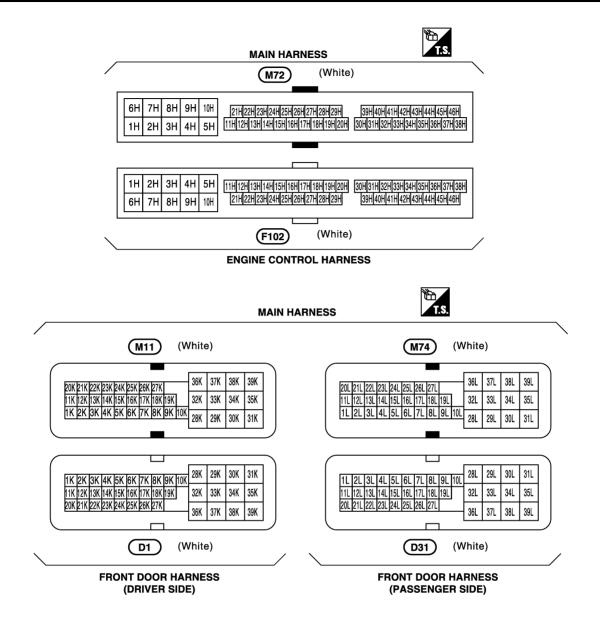
MAIN HARNESS (M15) (White) (M12)(White) (M73) (White) 65M 66M 67M 68M 69M 65G 66G 67G 68G 69G 65J 66J 67J 68J 69J 60J 61J 62J 63J 64J 60G 61G 62G 63G 64G 60M 61M 62M 63M 64M 52G|53G|54G|55G|56G|57G|58G|59G 52J | 53J | 54J | 55J | 56J | 57J | 58J | 59J 52M|53M|54M|55M|56M|57M|58M|59M 45G 46G 47G 48G 49G 50G 51G 45J 46J 47J 48J 49J 50J 51J 45M46M47M48M49M50M51M 36G|37G|38G|39G|40G|41G|42G|43G|44G| 36J 37J 38J 39J 40J 41J 42J 43J 44J 36M37M38M39M40M41M42M43M44M 28G|29G|30G|31G|32G|33G|34G|35G 28J 29J 30J 31J 32J 33J 34J 35J 28M29M30M31M32M33M34M35M [19G|20G|21G|22G|23G|24G|25G|26G|27G| 19J 20J 21J 22J 23J 24J 25J 26J 27J 19M|20M|21M|22M|23M|24M|25M|26M|27M 11G 12G 13G 14G 15G 16G 17G 18G 117 127 137 147 127 167 177 187 11M12M13M14M15M16M17M18M 6G 7G 8G 9G 10G 6J 7J 8J 9J 10J 6M 7M 8M 9M 10M 1G 2G 3G 4G 5G 1J 2J 3J 4J 5J 1M 2M 3M 4M 5M 1G 2G 3G 4G 5G 6G 7G 8G 9G 10G 1J 2J 3J 4J 5J 2M 3M 4M 5M 6J 7J 8J 9J 10J 6M 7M 8M 9M 10M 11G|12G|13G|14G|15G|16G|17G|18G 11J 12J 13J 14J 15J 16J 17J 18J 11M|12M|13M|14M|15M|16M|17M|18M| 19G|20G|21G|22G|23G|24G|25G|26G|27G 19J 20J 21J 22J 23J 24J 25J 26J 27J 19M|20M|21M|22M|23M|24M|25M|26M|27M| 28G|29G|30G|31G|32G|33G|34G|35G| 28J 29J 30J 31J 32J 33J 34J 35J 28M29M30M31M32M33M34M35M 36G|37G|38G|39G|40G|41G|42G|43G|44G 36J 37J 38J 39J 40J 41J 42J 43J 44J 36M37M38M39M40M41M42M43M44M 45J 46J 47J 48J 49J 50J 51J 52J 53J 54J 55J 56J 57J 58J 59J 45G|46G|47G|48G|49G|50G|51G 45M46M47M48M49M50M51M 52G 53G 54G 55G 56G 57G 58G 59G 52M53M54M55M56M57M58M59M 60G 61G 62G 63G 64G 60J 61J 62J 63J 64J 60M 61M 62M 63M 64M 65G 66G 67G 68G 69G 65J 66J 67J 68J 69J 65M 66M 67M 68M 69M (White) (White) (E108) (B1) (B101) (White)

BODY HARNESS

M

BODY HARNESS NO.2

SMJ (SUPER MULTIPLE JUNCTION)



CKIT0158E

STANDARDIZED RELAY

STANDARDIZED RELAY

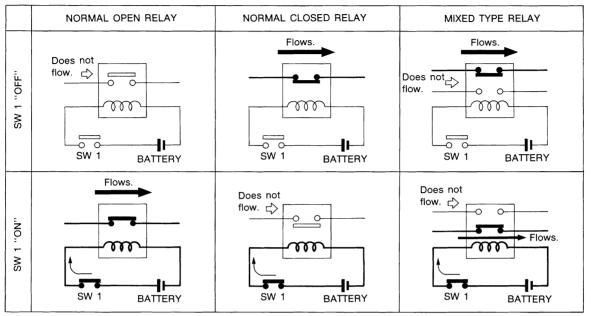
PFP:00011

AKS0012X

Description

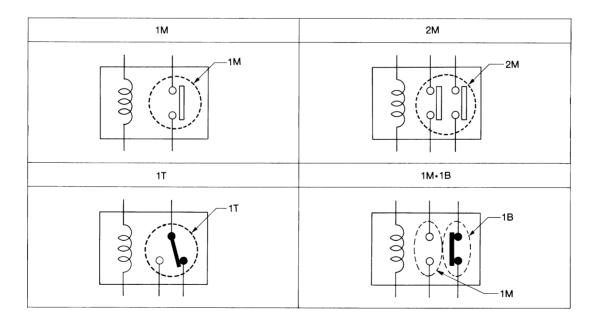
NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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



TYPE OF STANDARDIZED RELAYS

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



SEL882H

PG-71

С

D

Α

В

Е

F

G

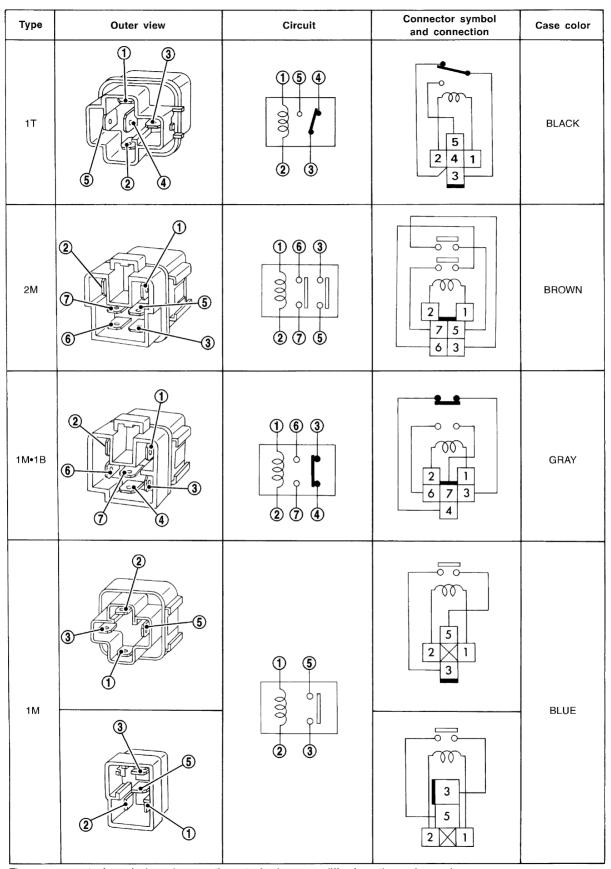
SEL881H

Н

J

PG

STANDARDIZED RELAY



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

SEL188W

FUSE BLOCK - JUNCTION BOX (J/B)

FUSE BLOCK - JUNCTION BOX (J/B) PFP:24350 Α **Terminal Arrangement** AKS0012Y To main harness В 7A 6A 5A 4A 3A 2A 1A ■ 2B 1B M5 M4 8B 7B 6B 5B 4B 16A 15A 14A 13A 12A 11A 10A 9A 8A С D Е F G 9 10 A 15 A 10 A 15 A 10 A 15 A Н 20 10 A 19 10 A 21 10 A 10 A 15 A 15 Spare fuse J To engine room harness 6D 2D 3C 2C 1C 5D 8C 7C 6C 5C 4C PG (E102 4D 3D 1D M Accessory Blower relay relay (E103) (E104)

CKIT0363E

To engine room harness

FUSE, FUSIBLE LINK AND RELAY BOX

FUSE, FUSIBLE LINK AND RELAY BOX

PFP:24382

Terminal Arrangement

AKS0012Z

