

PG

SECTION

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

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PRECAUTIONS

< SERVICE INFORMATION >

SERVICE INFORMATION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000003533829

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

WARNING:

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

POWER SUPPLY ROUTING CIRCUIT

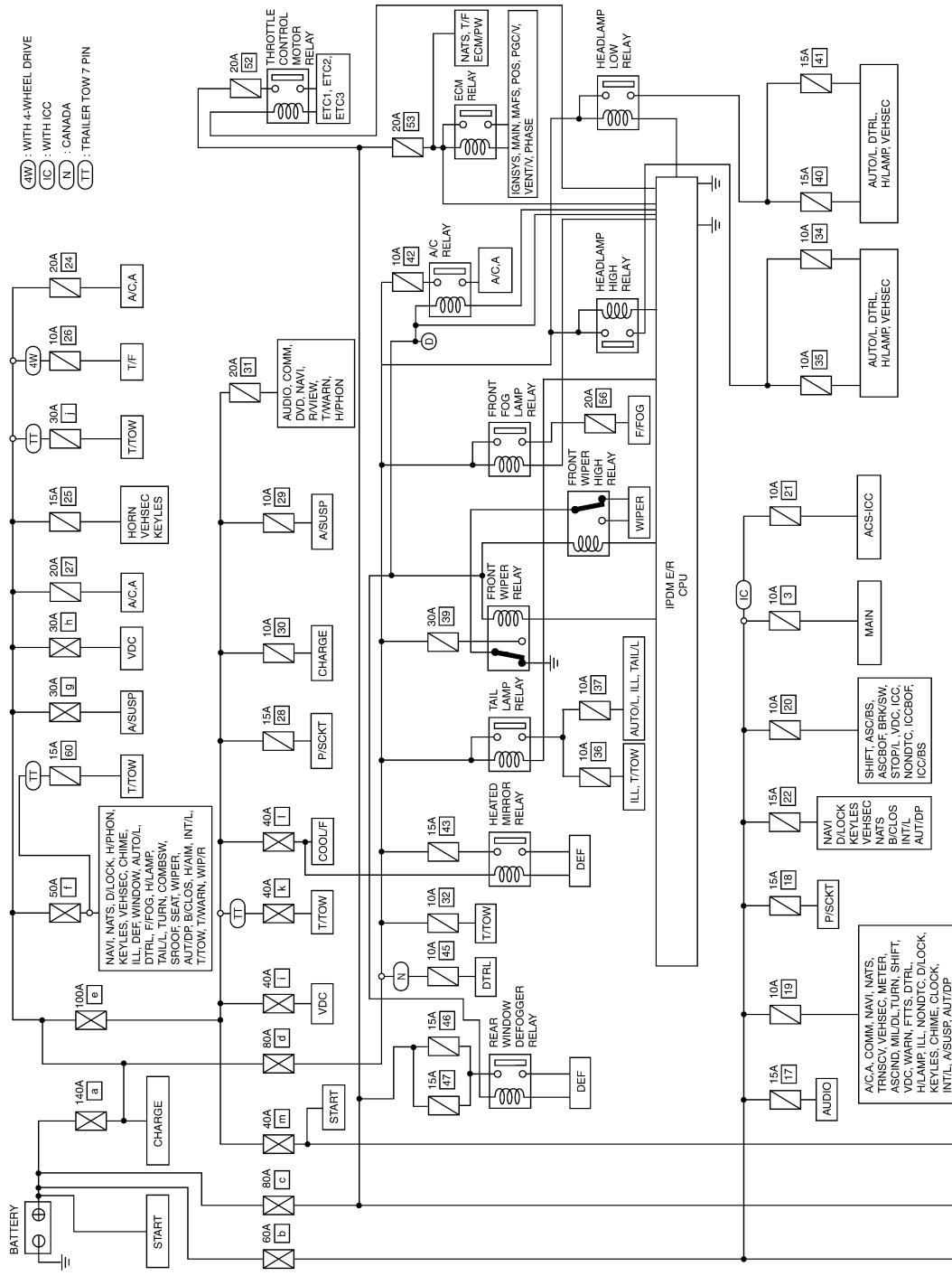
< SERVICE INFORMATION >

POWER SUPPLY ROUTING CIRCUIT

Schematic

INFOID:0000000003533830

For detailed ground distribution, refer to [PG-29. "Ground Distribution".](#)

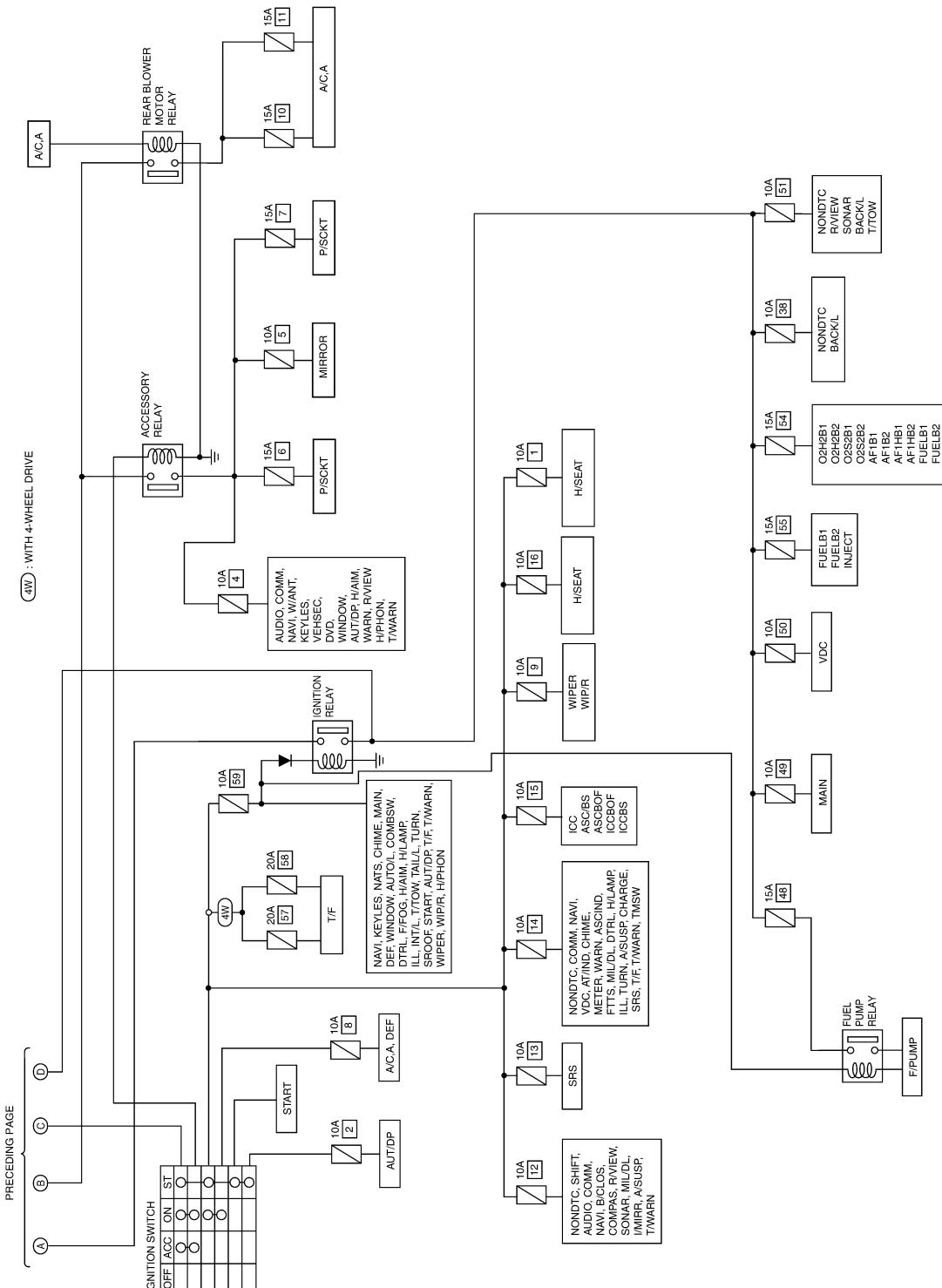


WKWA3818E

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POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >



WKWA5431E

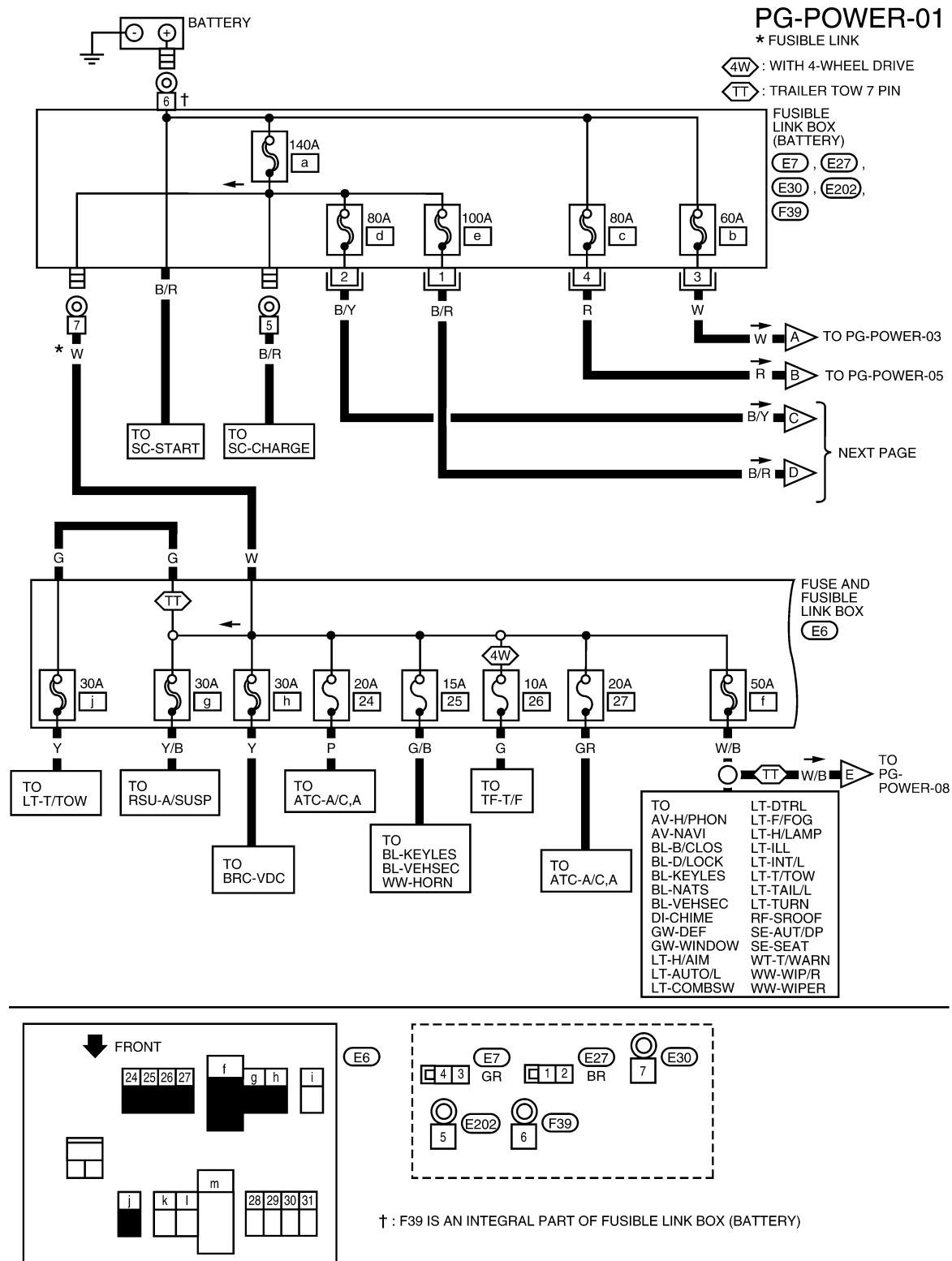
POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

Wiring Diagram - POWER -

INFO ID: 0000000003533831

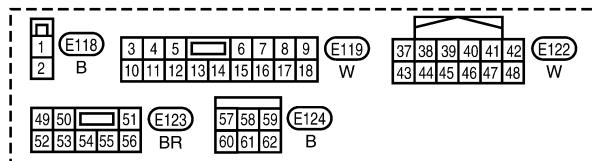
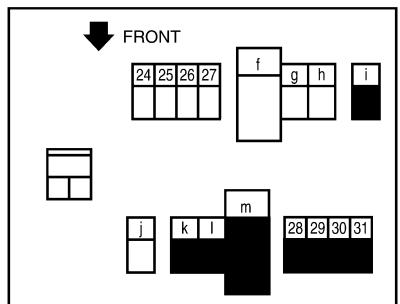
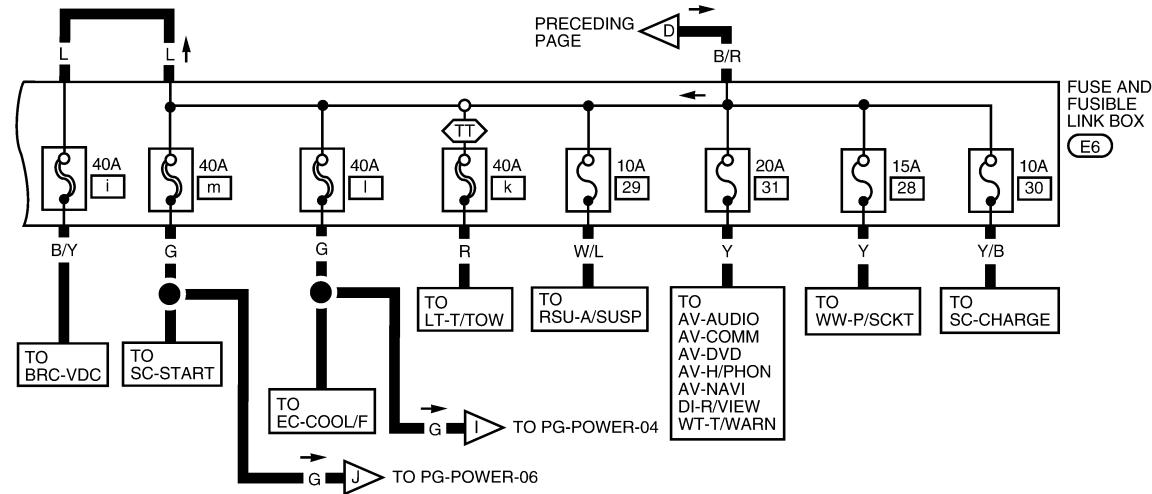
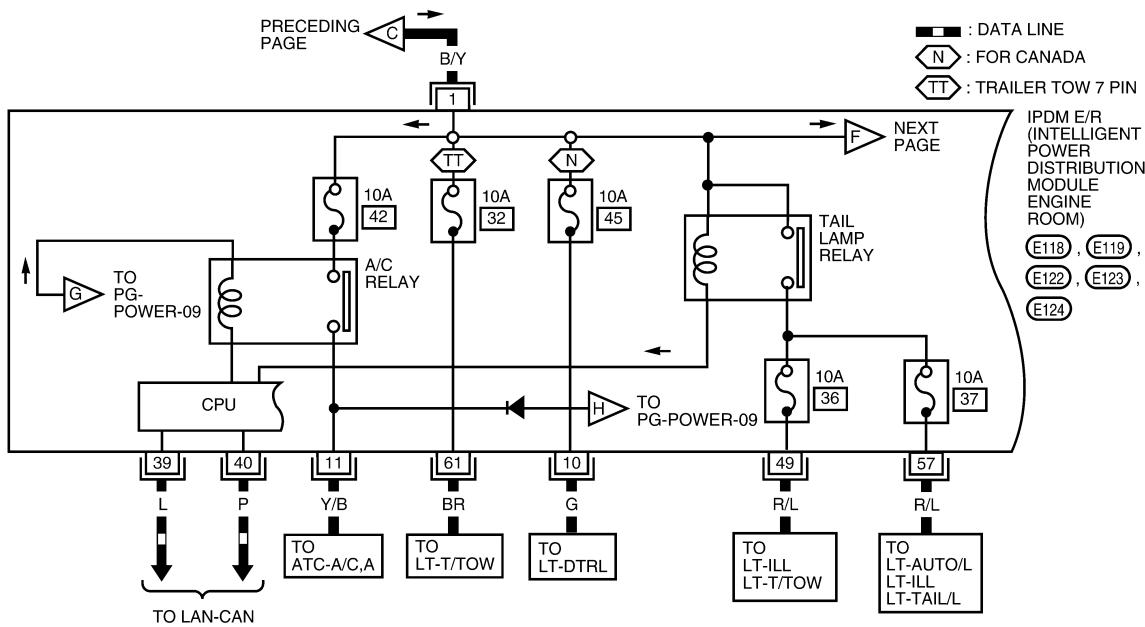
BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION



POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-02

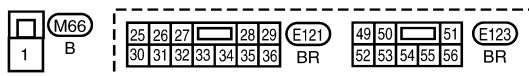
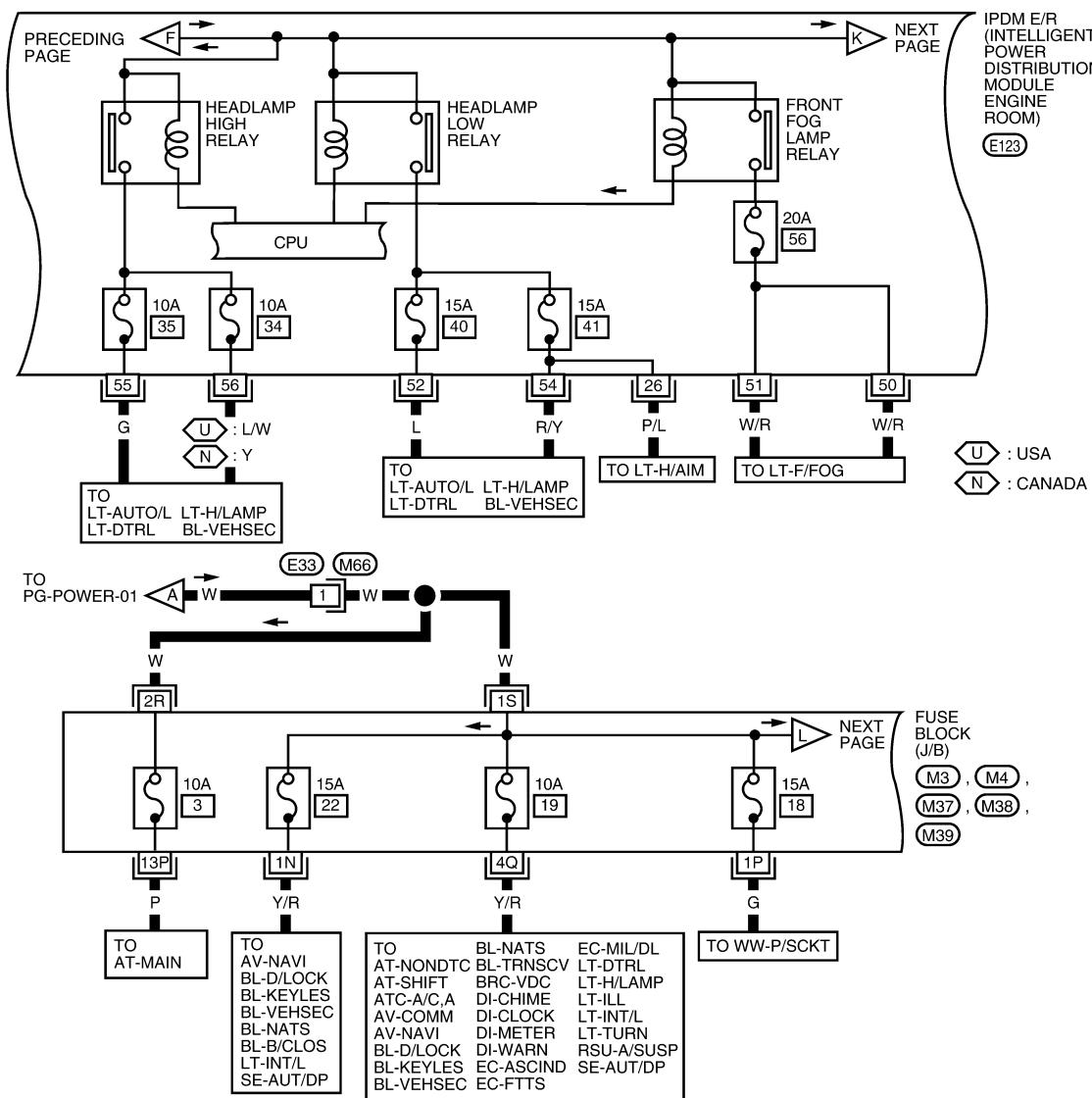


WKWA3821E

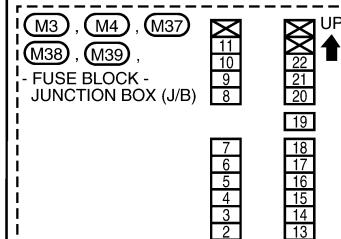
POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-03



REFER TO THE FOLLOWING.



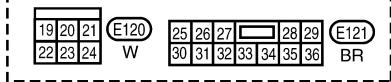
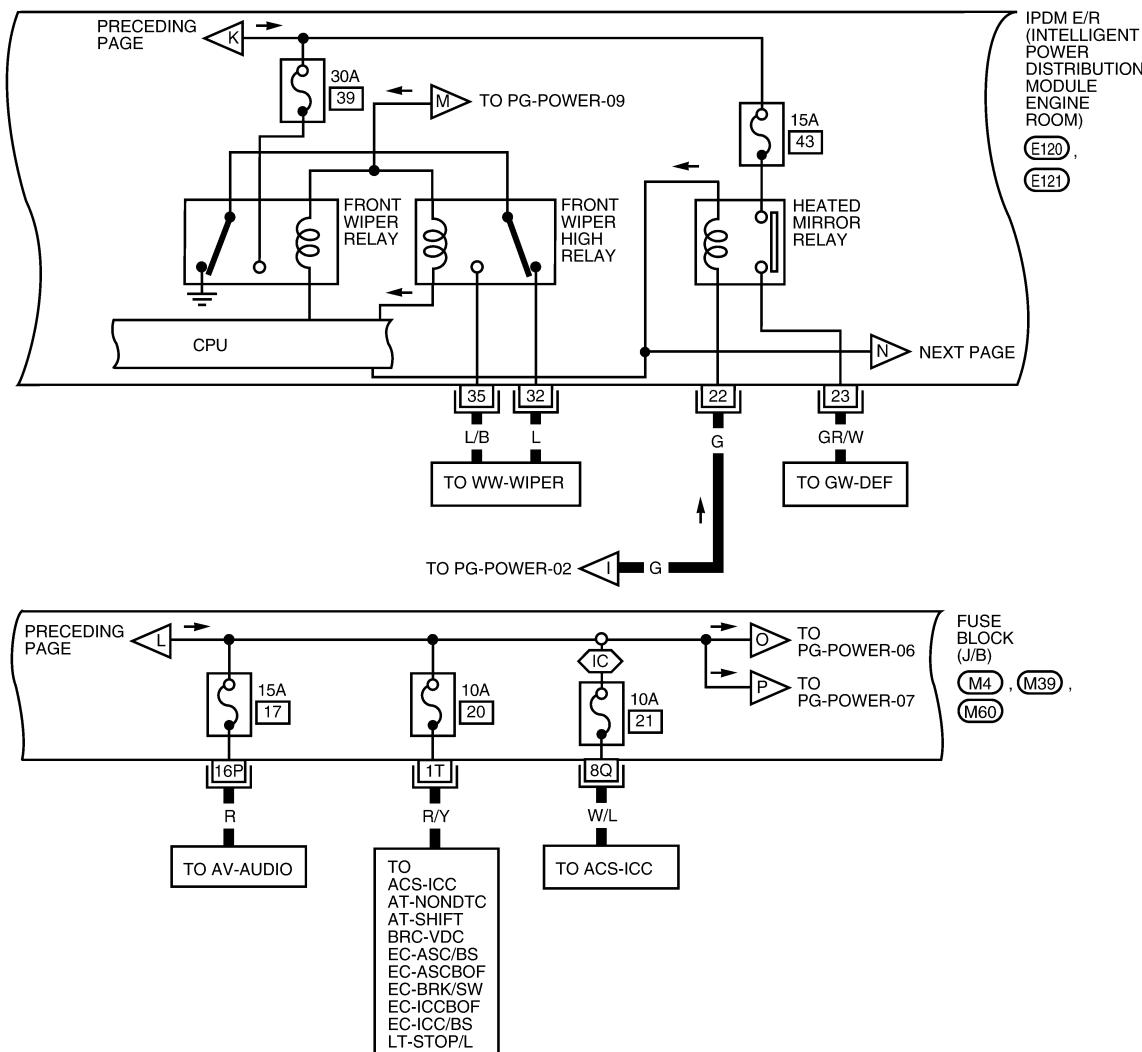
WKWA3822E

POWER SUPPLY ROUTING CIRCUIT

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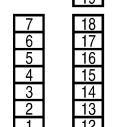
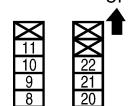
PG-POWER-04

◀(IC) : WITH ICC



REFER TO THE FOLLOWING.

(M4, M39, M60)
- FUSE BLOCK -
JUNCTION BOX (J/B)

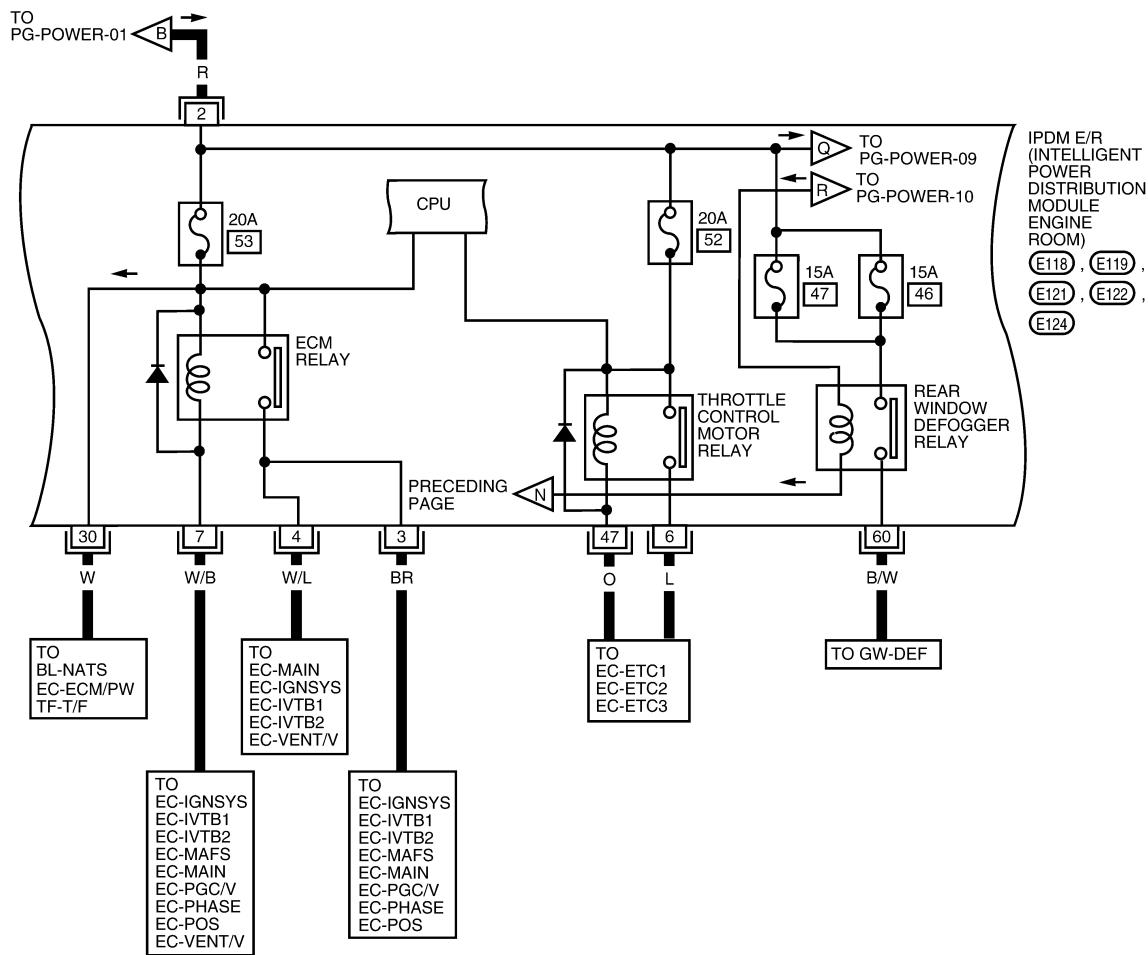


WKWA3823E

POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

PG-POWER-05



1 (E118)	3 4 5 (E119)	6 7 8 9	W	25 26 27 (E121)	28 29 (E122)	37 38 39 40 41 42 (E123)	57 58 59 (E124)
2 B	10 11 12 13 14 15 16 17 18		W	30 31 32 33 34 35 36	BR	43 44 45 46 47 48	60 61 62 B

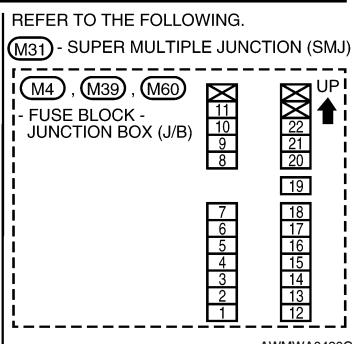
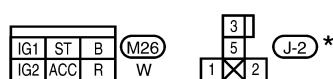
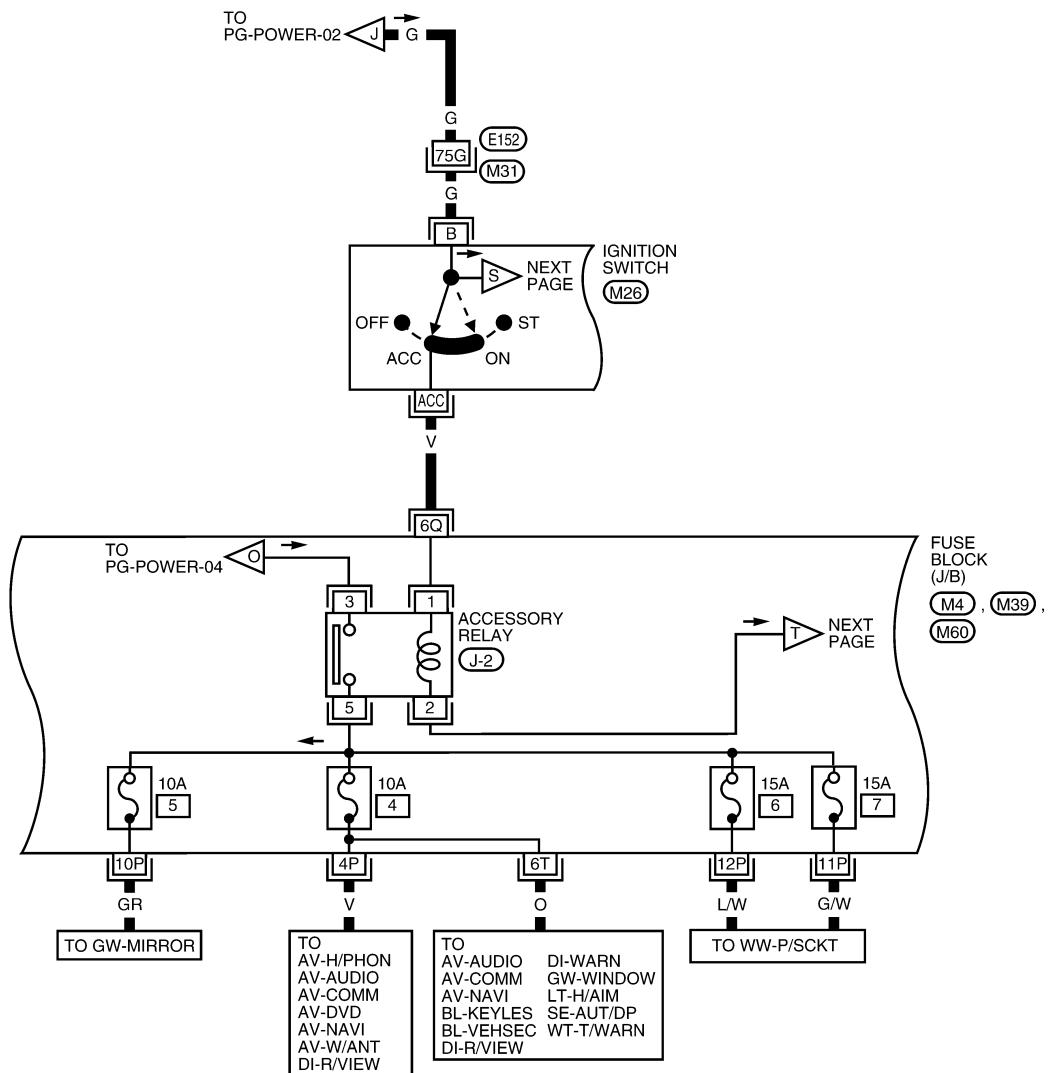
WKWA5481E

POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

ACCESSORY POWER SUPPLY — IGNITION SW. IN ACC OR ON

PG-POWER-06

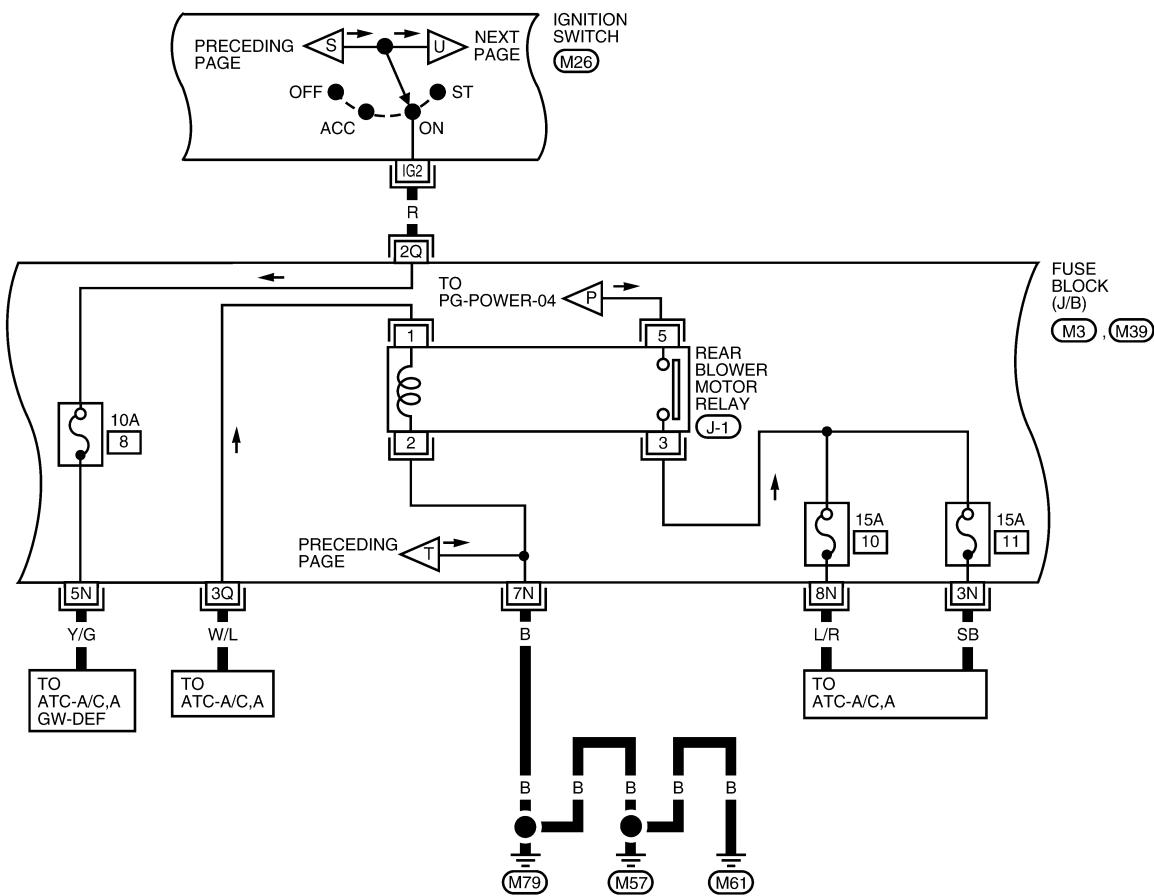


POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

IGNITION POWER SUPPLY — IGNITION SW. IN ON

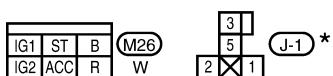
PG-POWER-07



A B C D E F G H I

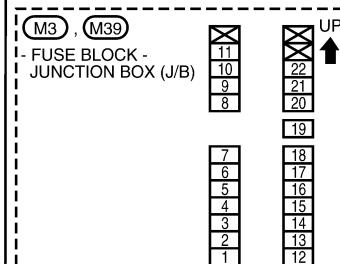
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L M N O P



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

I REFER TO THE FOLLOWING.



WKWA3826E

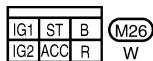
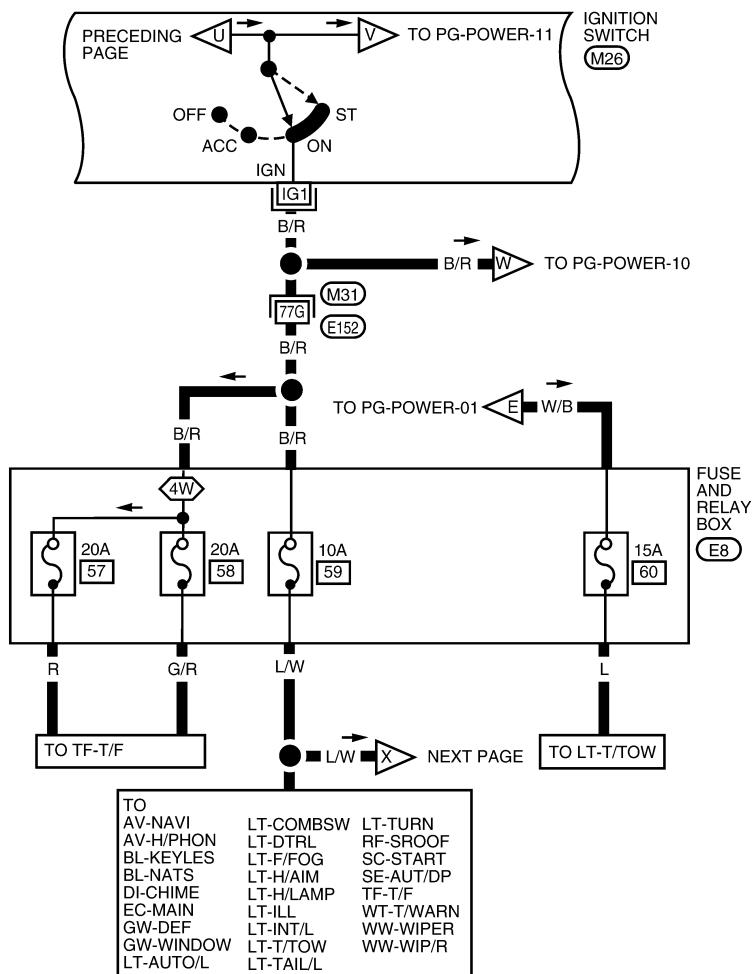
POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

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

PG-POWER-08

 : WITH 4-WHEEL DRIVE



REFER TO THE FOLLOWING.
 (M31) - SUPER MULTIPLE
 JUNCTION (SMJ)

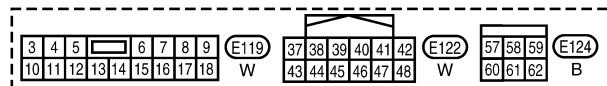
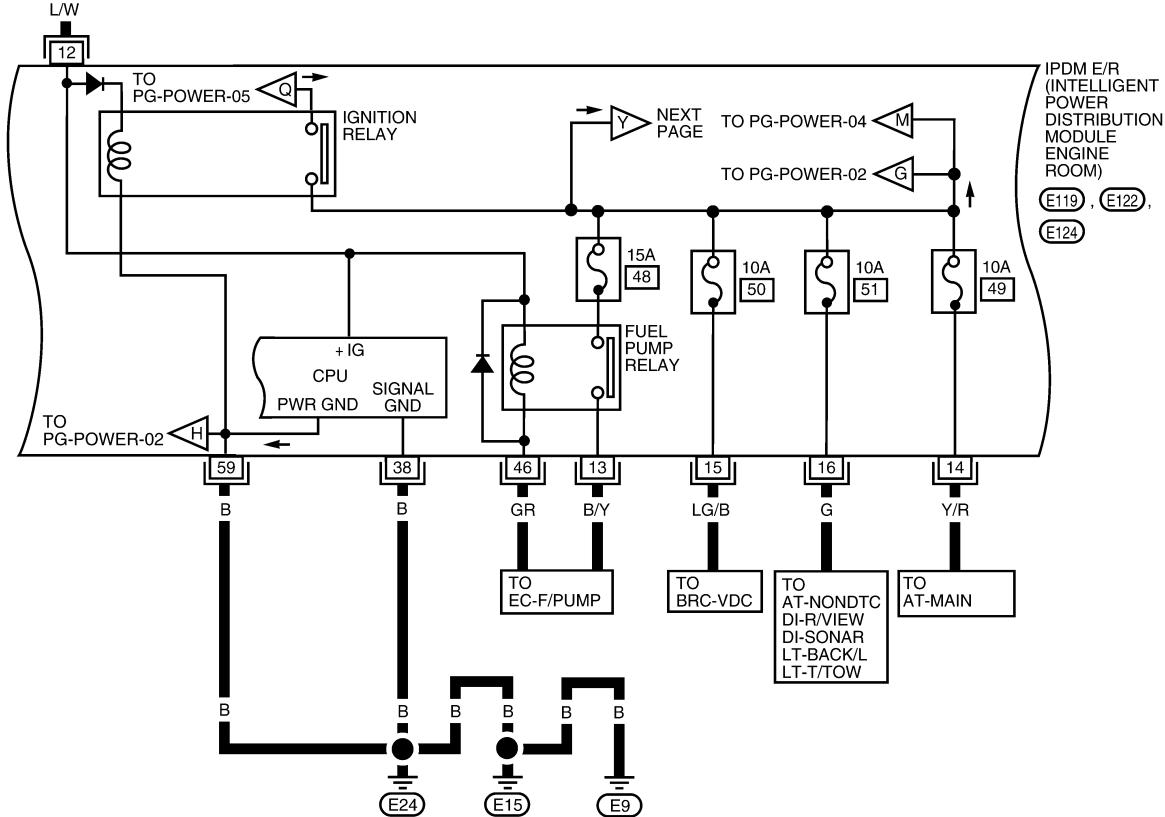
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POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

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PG-POWER-09

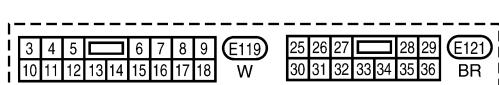
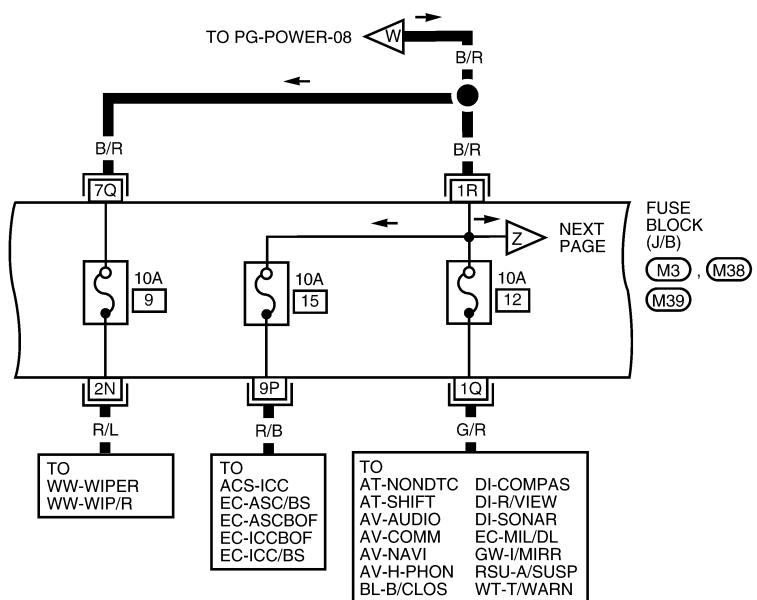
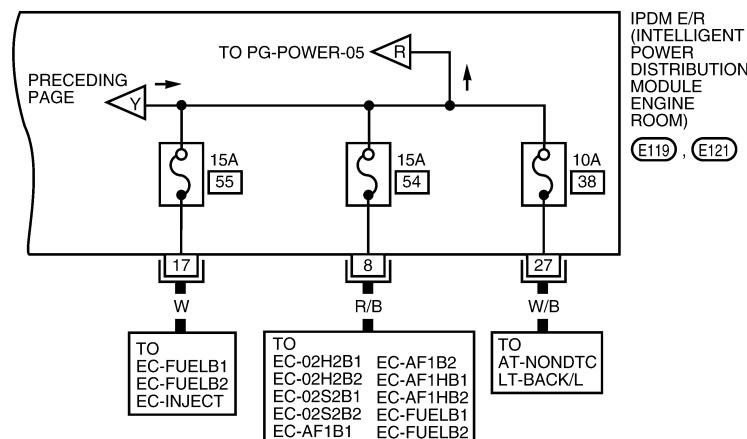


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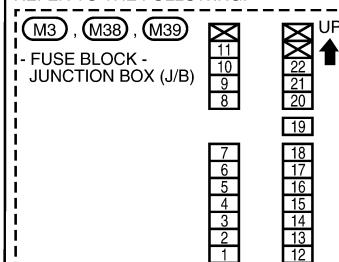
POWER SUPPLY ROUTING CIRCUIT

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PG-POWER-10



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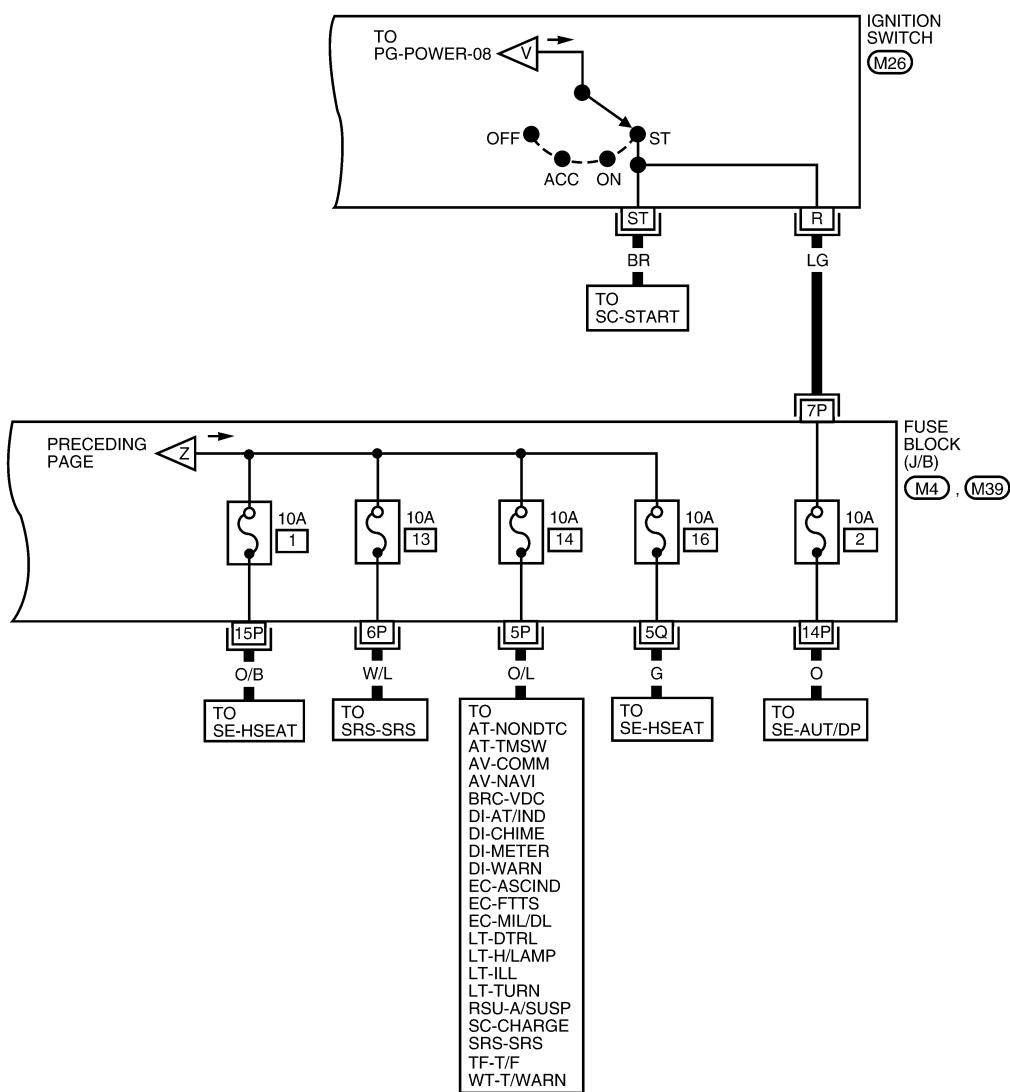


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POWER SUPPLY ROUTING CIRCUIT

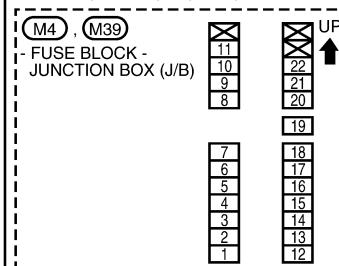
< SERVICE INFORMATION >

PG-POWER-11



IG1	ST	B	(M26)
IG2	ACC	R	W

REFER TO THE FOLLOWING.



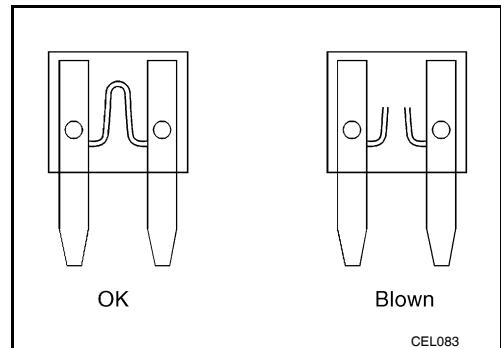
WKWA3830E

POWER SUPPLY ROUTING CIRCUIT

< SERVICE INFORMATION >

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:

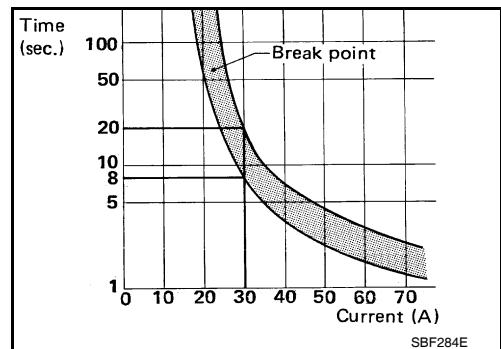
- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of incident.
- Never wrap outside of fusible link with vinyl tape.
- Never let fusible link touch any other wiring harness,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

Circuit Breaker (Built Into BCM)

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

A circuit breaker is used for the following systems:

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



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

< SERVICE INFORMATION >

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

System Description

INFOID:000000003533835

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

CAUTION:

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

SYSTEMS CONTROLLED BY IPDM E/R

1. Lamp control

Using CAN communication lines, it receives signals from the BCM and controls the following lamps:

- Headlamps (Hi, Lo)
- Parking lamps
- Tail and license lamps
- Front fog lamps

2. Wiper control

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

3. Rear window defogger relay control

Using CAN communication lines, it receives signals from the BCM and controls the rear window defogger relay.

4. A/C compressor control

Using CAN communication lines, it receives signals from the ECM and controls the A/C compressor (magnetic clutch).

5. Starter control

Using CAN communication lines, it receives signals from the BCM and controls the starter relay.

6. Cooling fan control

Using CAN communication lines, it receives signals from the ECM and controls the cooling fan relays.

7. Horn control

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

CAN COMMUNICATION LINE CONTROL

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

1. Fail-safe control

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

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

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

< SERVICE INFORMATION >

IPDM E/R STATUS CONTROL

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

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

CAN Communication System Description

INFOID:0000000003533836

Refer to [LAN-4](#).

Function of Detecting Ignition Relay Malfunction

INFOID:0000000003533837

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

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

NOTE:

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

CONSULT-II Function (IPDM E/R)

INFOID:0000000003533838

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

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

CONSULT-II Start Procedure

Refer to [GI-36, "CONSULT-II Start Procedure"](#).

SELF-DIAGNOSTIC RESULTS

Display Item List

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

< SERVICE INFORMATION >

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

NOTE:

The details for display of the period are as follows:

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

DATA MONITOR

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

All Signals, Main Signals, Selection From Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
Motor fan request	MOTOR FAN REQ	1/2/3/4	X	X	X	Signal status input from ECM
Compressor re-request	AC COMP REQ	ON/OFF	X	X	X	Signal status input from ECM
Parking, license, and tail lamp request	TAIL & CLR REQ	ON/OFF	X	X	X	Signal status input from BCM
Headlamp low beam request	HL LO REQ	ON/OFF	X	X	X	Signal status input from BCM
Headlamp high beam request	HL HI REQ	ON/OFF	X	X	X	Signal status input from BCM
Front fog request	FR FOG REQ	ON/OFF	X	X	X	Signal status input from BCM
Front wiper request	FR WIP REQ	STOP/1LOW/LOW/HI	X	X	X	Signal status input from BCM
Wiper auto stop	WIP AUTO STOP	ACT P/STOP P	X	X	X	Output status of IPDM E/R
Wiper protection	WIP PROT	OFF/Block	X	X	X	Control status of IPDM E/R
Starter request	ST RLY REQ	ON/OFF	X		X	Status of input signal <small>NOTE</small>
Ignition relay status	IGN RLY	ON/OFF	X	X	X	Ignition relay status monitored with IPDM E/R
Rear defogger request	RR DEF REQ	ON/OFF	X	X	X	Signal status input from BCM
Oil pressure switch	OIL P SW (*1)	OPEN/CLOSE	X		X	Signal status input from IPDM E/R
Hood switch	HOOD SW	OFF	X			Signal status input from IPDM E/R

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

< SERVICE INFORMATION >

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
Theft warning horn request	THFT HRN REQ	ON/OFF	X		X	Signal status input from BCM
Horn chirp	HORN CHIRP	ON/OFF	X		X	Output status of IPDM E/R
Daytime running lamp request	DTRL REQ	ON/OFF	X		X	Signal status input from BCM

NOTE:

- Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is in ACC position, display may not be correct.
- (*1) This item is displayed, but does not function.

CAN DIAG SUPPORT MNTR

Refer to [LAN-4](#).

ACTIVE TEST

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

Auto Active Test

INFOID:0000000003533839

DESCRIPTION

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

OPERATION PROCEDURE

1. Close hood and front door RH, and lift wiper arms away from windshield (to prevent glass damage by wiper operation).
2. Turn ignition switch OFF.
3. Turn ignition switch ON and, within 20 seconds, press front door switch LH 10 times. Then turn ignition switch OFF.
4. Turn ignition switch ON within 10 seconds after ignition switch OFF.
5. When auto active test mode is actuated, horn chirps once.
6. After a series of operations is repeated three times, auto active test is completed.

NOTE:

When auto active test mode is actuated, horn chirps once.

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

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

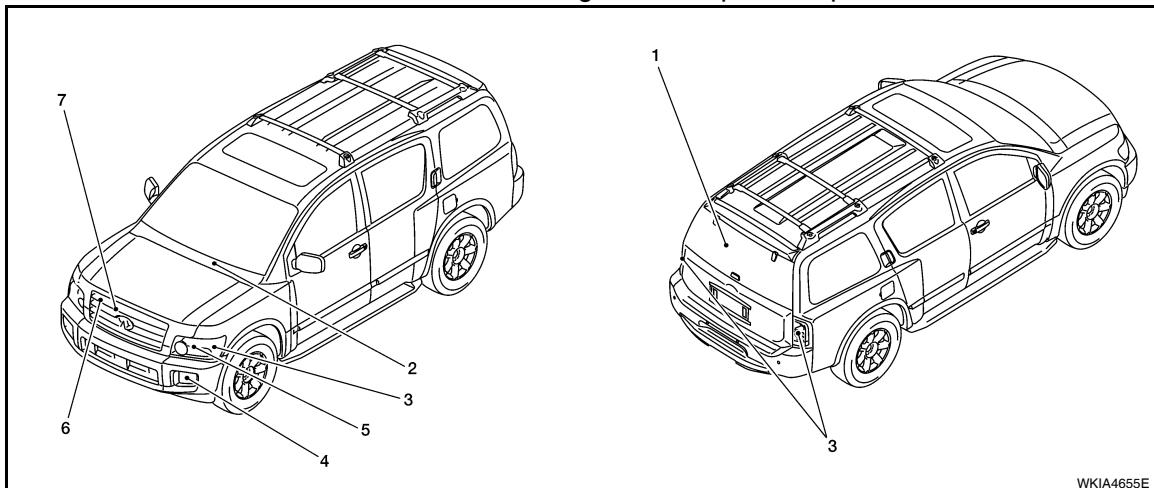
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CAUTION:

Be sure to perform [BL-25, "Door Switch Check"](#) when the auto active test cannot be performed.

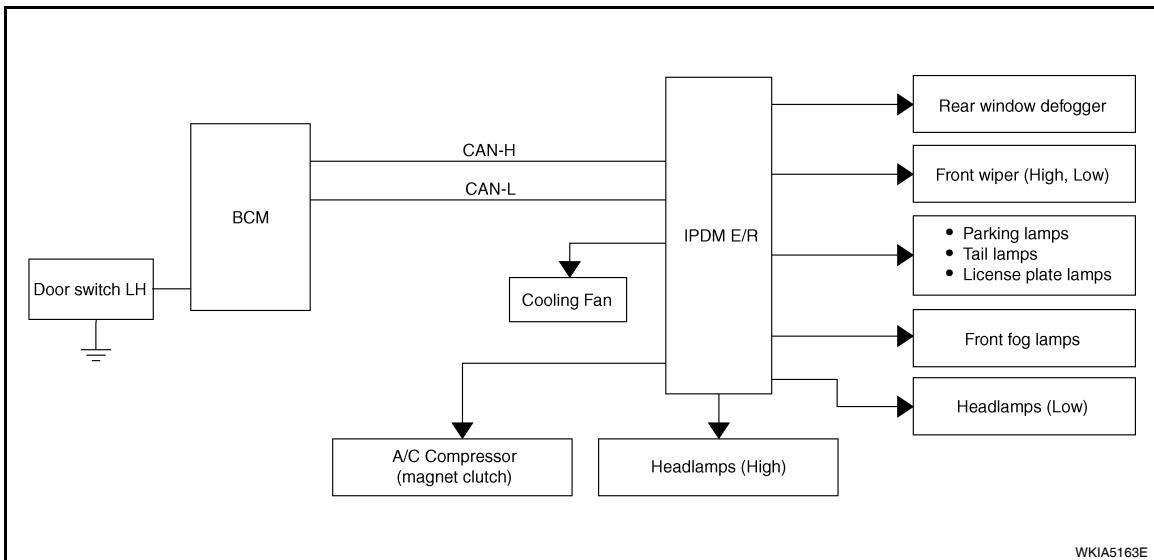
INSPECTION IN AUTO ACTIVE TEST MODE

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



Item Number	Test Item	Operation Time/Frequency
1	Rear window defogger	10 seconds
2	Front wipers	LOW 5 seconds then HIGH 5 seconds
3	Tail, license, and parking lamps	10 seconds
4	Front fog lamps	10 seconds
5	Headlamps	Low on for 10 seconds. High on-off five times.
6	A/C compressor (magnetic clutch)	ON-OFF 5 times
7	Cooling fan	10 seconds

Concept of Auto Active Test



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

Diagnosis chart in auto active test mode

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

< SERVICE INFORMATION >

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

Terminal and Reference Value for IPDM E/R

INFOID:000000003533840

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)
				Ignition switch	Operation or condition	
1	B/Y	Battery power supply	Input	OFF	—	Battery voltage
2	R	Battery power supply	Input	OFF	—	Battery voltage
3	BR	ECM relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
4	W/L	ECM relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
6	L	Throttle control motor relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
7	W/B	ECM relay control	Input	—	Ignition switch ON or START	0V
					Ignition switch OFF or ACC	Battery voltage
8	R/B	Fuse 54	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
10	G	Daytime light relay control	Output	ON	Daytime light system active	0V
					Daytime light system inactive	Battery voltage
11	Y/B	A/C compressor	Output	ON or START	A/C switch ON or defrost A/C switch	Battery voltage
					A/C switch OFF or defrost A/C switch	0V

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

< SERVICE INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)	
				Ignition switch	Operation or condition		
12	L/W	Ignition switch supplied power	Input	—	OFF or ACC	0V	
					ON or START	Battery voltage	
13	B/Y	Fuel pump relay	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
14	Y/R	Fuse 49	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
15	LG/B	Fuse 50	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
16	G	Fuse 51	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
17	W	Fuse 55	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
19	W/R	Starter motor	Output	START	—	Battery voltage	
21	BR	Ignition switch supplied power	Input	—	OFF or ACC	0V	
					START	Battery voltage	
22	G	Battery power supply	Output	OFF	—	Battery voltage	
23	GR/W	Door mirror defogger output signal	Output	—	When rear defogger switch is ON	Battery voltage	
					When rear defogger switch is OFF	0V	
24	L/B	Cooling fan relay	Output	—	Conditions correct for cooling fan operation	Battery voltage	
					Conditions not correct for cooling fan operation	0V	
26	P/L	Headlamp aiming motors	Output	—	Lighting switch 2nd position, or AUTO, headlamp aiming switch in position	OFF	Battery voltage
						ON	0V
27	W/B	Fuse 38	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
30	W	Fuse 53	Output	—	Ignition switch ON or START	Battery voltage	
					Ignition switch OFF or ACC	0V	
32	L	Wiper low speed signal	Output	ON or START	Wiper switch	OFF	Battery voltage
						LO or INT	0V
35	L/B	Wiper high speed signal	Output	ON or START	Wiper switch	OFF, LO, INT	Battery voltage
						HI	0V
38	B	Ground	Input	—	—	—	0V
39	L	CAN-L	—	ON	—	—	—
40	P	CAN-H	—	ON	—	—	—
41	Y/B	Hood switch	Input	—	Hood closed	OFF	0V
					Hood open	ON	Battery voltage

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

< SERVICE INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)
				Ignition switch	Operation or condition	
43	L/Y	Wiper auto stop signal	Input	ON or START	Wiper switch OFF, LO, INT	Battery voltage
44	BR	Daytime light relay control	Input	ON	Daytime light system active	0V
					Daytime light system inactive	Battery voltage
45	G/W	Horn relay control	Input	ON	When door locks are operated using key fob (OFF → ON)*1	Battery voltage → 0V
46	GR	Fuel pump relay control	Input	—	Ignition switch ON or START	0V
					Ignition switch OFF or ACC	Battery voltage
47	O	Throttle control motor relay control	Input	—	Ignition switch ON or START	0V
					Ignition switch OFF or ACC	Battery voltage
48	B/R	Starter relay (inhibit switch)	Input	ON or START	Selector lever in "P" or "N"	0V
					Selector lever any other position	Battery voltage
49	R/L	Trailer tow relay	Output	ON	Lighting switch must be in the 1st position	0V
					ON	Battery voltage
50	W/R	Front fog lamp (LH)	Output	ON or START	Lighting switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	0V
					ON	Battery voltage
51	W/R	Front fog lamp (RH)	Output	ON or START	Lighting switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	0V
					ON	Battery voltage
52	L	LH low beam head-lamp	Output	—	Lighting switch in 2nd position	Battery voltage
54	R/Y	RH low beam head-lamp	Output	—	Lighting switch in 2nd position	Battery voltage
55	G	LH high beam head-lamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position	Battery voltage
56	L/W*2 Y*3	LH high beam head-lamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position	Battery voltage
57	R/L	Parking, license, and tail lamp	Output	ON	Lighting switch 1st position	0V
					ON	Battery voltage
59	B	Ground	Input	—	—	0V
60	B/W	Rear window defogger relay	Output	ON or START	Rear defogger switch ON	Battery voltage
					Rear defogger switch OFF	0V

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

< SERVICE INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value (Approx.)
				Ignition switch	Operation or condition	
61	BR	Fuse 32	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V

*1: When horn reminder is ON

*2: L/W is for U.S.A.

*3: Y is for Canada

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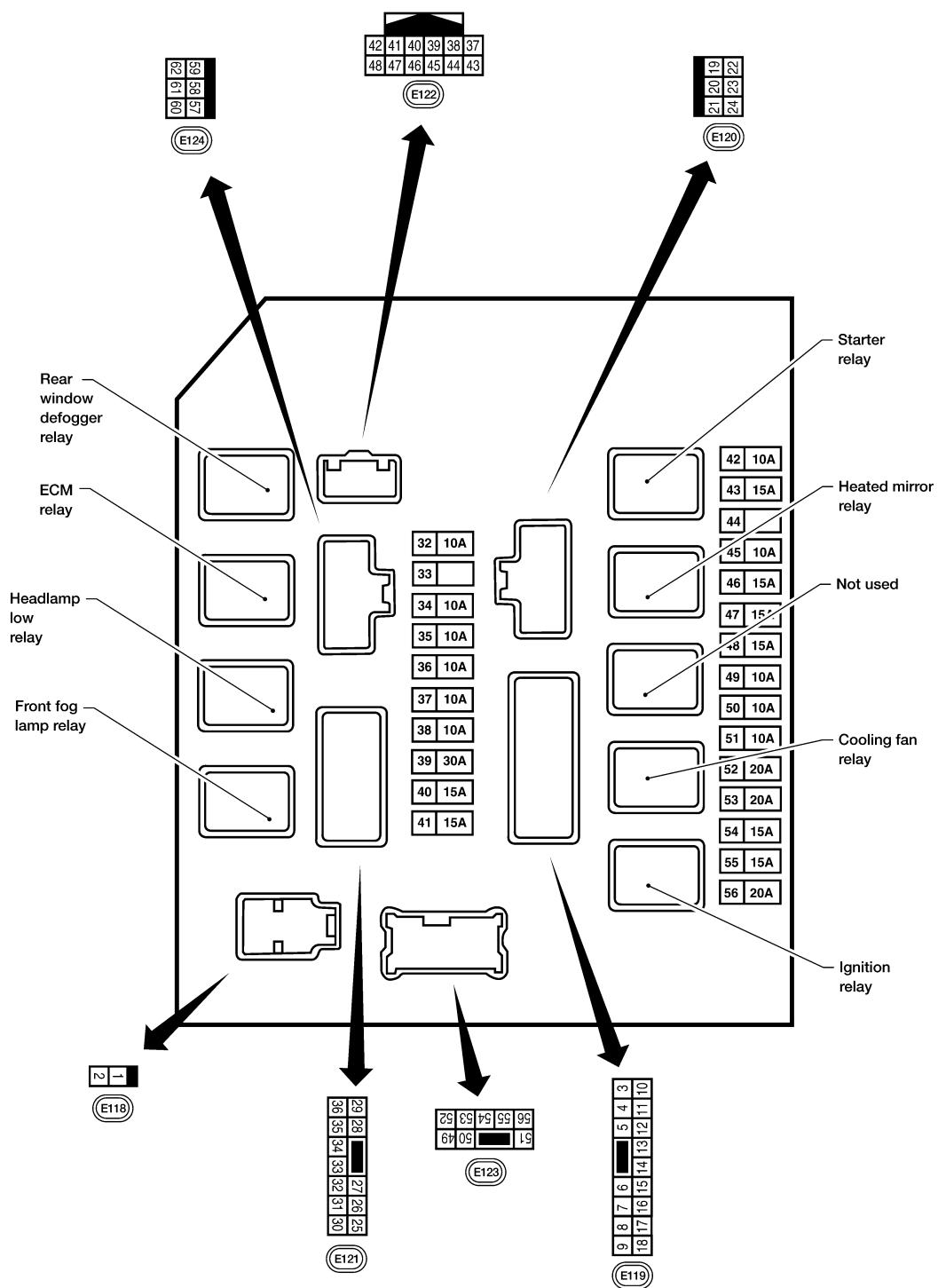
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< SERVICE INFORMATION >

IPDM E/R Terminal Arrangement

INFOID:0000000003533841



WKIA5845E

IPDM E/R Power/Ground Circuit Inspection

INFOID:0000000003533842

1. FUSE AND FUSIBLE LINK INSPECTION

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

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

< SERVICE INFORMATION >

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

OK or NG

OK >> GO TO 2.

NG >> Replace fuse or fusible link.

2. POWER CIRCUIT INSPECTION

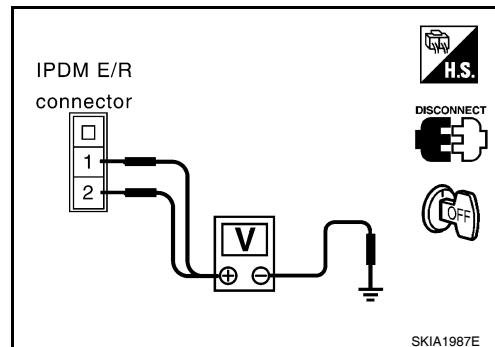
1. Disconnect IPDM E/R harness connector E118.
2. Check voltage between IPDM E/R harness connector E118 terminals 1, 2 and ground.

Battery voltage should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair or replace IPDM E/R power circuit harness.



3. GROUND CIRCUIT INSPECTION

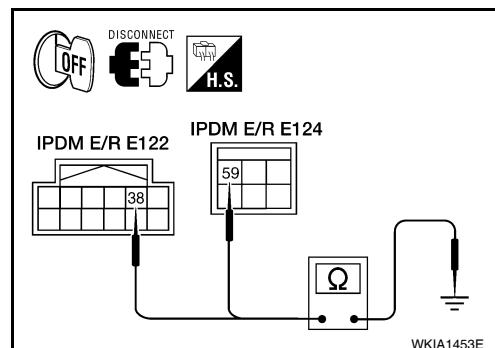
1. Disconnect IPDM E/R harness connectors E122 and E124.
2. Check continuity between IPDM E/R harness connector E122 terminal 38, and E124 terminal 59 and ground.

Continuity should exist.

OK or NG

OK >> Inspection End.

NG >> Repair or replace IPDM E/R ground circuit harness.



Inspection with CONSULT-II (Self-Diagnosis)

INFOID:000000003533843

CAUTION:

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

1. SELF-DIAGNOSIS RESULT CHECK

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

CONSULT-II Display	CONSULT-II display code	TIME		Details of diagnosis result
		CRNT	PAST	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	—	—	—	No malfunction
CAN COMM CIRC	U1000	X	X	Any of items listed below have errors: • TRANSMIT DIAG • ECM • BCM/SEC

NOTE:

The Details for Display for the Period are as follows:

- CRNT: Error currently detected by IPDM E/R.

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

< SERVICE INFORMATION >

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

Contents displayed

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

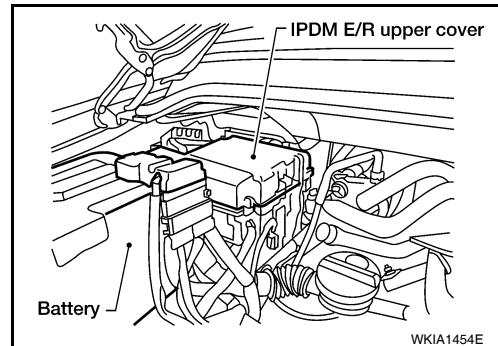
CAN COMM CIRC>>Print out the self-diagnosis result and refer to [LAN-40](#).

Removal and Installation of IPDM E/R

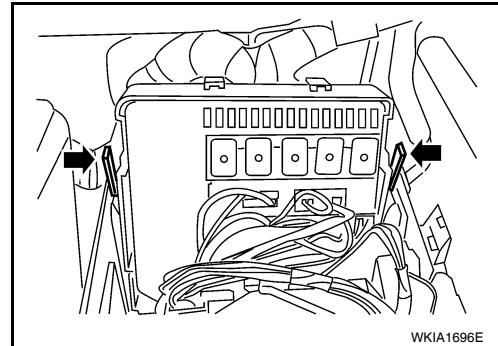
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REMOVAL

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



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



INSTALLATION

Installation is in the reverse order of removal.

GROUND CIRCUIT

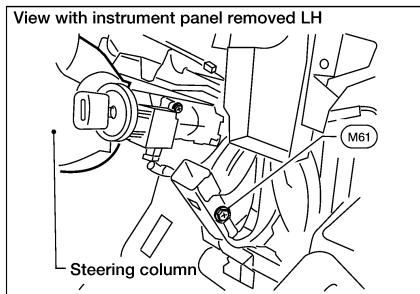
< SERVICE INFORMATION >

GROUND CIRCUIT

Ground Distribution

INFOID:0000000003533845

Main Harness



CONNECTOR NUMBER	CONNECT TO
(M5)	Illumination control switch
(M16)	ADP Steering switch
(M20)	BCM (Terminal No. 67)
(M21)	NATS antenna amp
(M22)	Data link connector (Terminal No. 4)
(M22)	Data link connector (Terminal No. 5)
(M24)	Combination meter (Terminal No. 17)
(M28)	Combination switch (Terminal No. 12)
(M35)	Air bag diagnosis sensor
(M47)	Steering angle sensor
(M112)	BOSE speaker amp (Terminal No. 17)
(M122)	Variable blower control
(M139)	Diode-1
(M148)	Headlamp aiming switch
(D107)	Door mirror RH (door mirror defogger)
(M203)	A/T device (Terminal No. 2)
(M203)	A/T device (Terminal No. 8)

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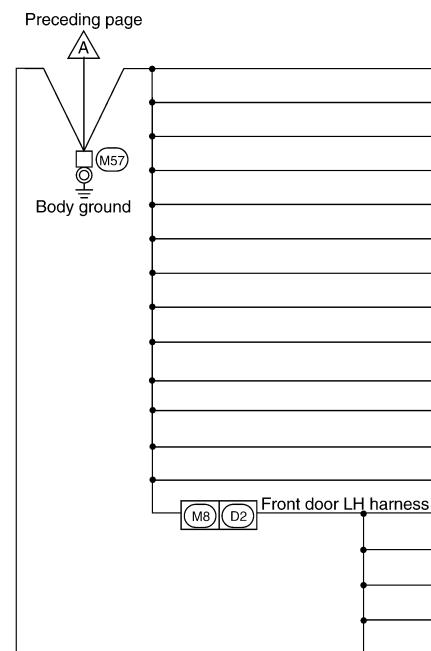
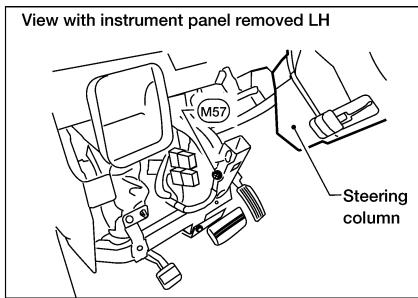
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WKIA4657E

GROUND CIRCUIT

< SERVICE INFORMATION >



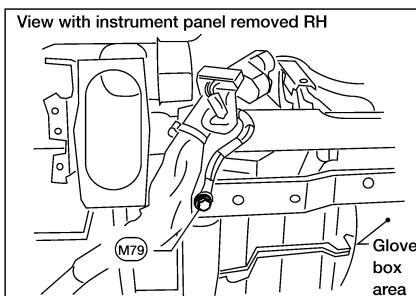
CONNECTOR NUMBER	CONNECT TO
(M34)	Automatic drive positioner control unit (Terminal No. 40)
(M34)	Automatic drive positioner control unit (Terminal No. 48)
(M51)	Trailer tow relay 1
(M76)	Electric brake (pre-wiring)
(M87)	Rear power vent window relay (open)
(M89)	Rear power vent window relay (close)
(M92)	Power liftgate switch
(M93)	Display unit (Terminal No. 1)
(M94)	Display control unit (Terminal No. 3)
(M94)	Display control unit (Terminal No. 13)
(M96)	Pedal adjusting switch
(M116)	Rear sonar system OFF switch (Terminal No. 6)
(M116)	Rear sonar system OFF switch (Terminal No. 2)
(D4)	Door mirror LH (door mirror defogger)
(D5)	Seat memory switch
(D8)	Main power window and door lock/unlock switch (Terminal No. 17)
(D10)	Door mirror remote control switch
(D14)	Front door lock assembly LH

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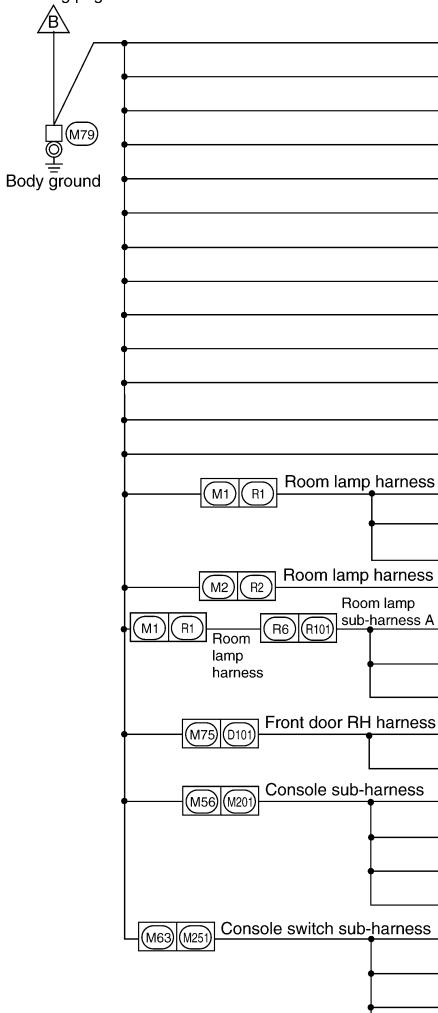
WKIA4658E

GROUND CIRCUIT

< SERVICE INFORMATION >



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CONNECTOR NUMBER	CONNECT TO
(M3)	Fuse block J/B (Terminal No. 7N)
(M13)	Front passenger air bag off indicator
(M49)	Front air control (Terminal No. 1)
(M52)	Rear blower switch (front)
(M53)	Front power socket LH
(M54)	Front power socket RH (for cigarette lighter)
(M55)	Hazard switch
(M59)	Glove box lamp
(M67)	Tow mode switch (Terminal No. 2)
(M67)	Tow mode switch (Terminal No. 6)
(M81)	Shift lock control unit
(M98)	AV switch
(M149)	Clock
(R3)	Vanity lamp LH
(R7)	Auto anti-dazzling inside mirror
(R8)	Vanity lamp RH
(R4)	Sunroof motor
(R102)	Front room/map lamp assembly
(R103)	Rear power vent window switch
(R106)	HOMELINK universal transceiver
(D105)	Power window and door lock/unlock switch RH
(D107)	Door mirror RH (door mirror defogger)
(M206)	DVD player (Terminal No. 22)
(M207)	Console power socket
(M208)	Rear heated seat switch LH
(M209)	Rear heated seat switch RH
(M232)	Front heated seat switch RH
(M233)	VDC OFF switch
(M234)	Tow mode switch (Terminal No. 2)
(M234)	Tow mode switch (Terminal No. 6)
(M235)	Front heated seat switch LH

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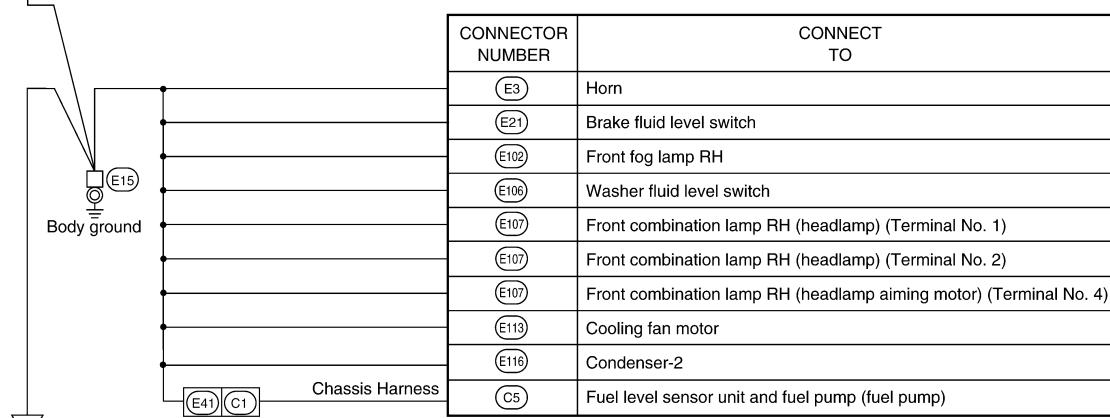
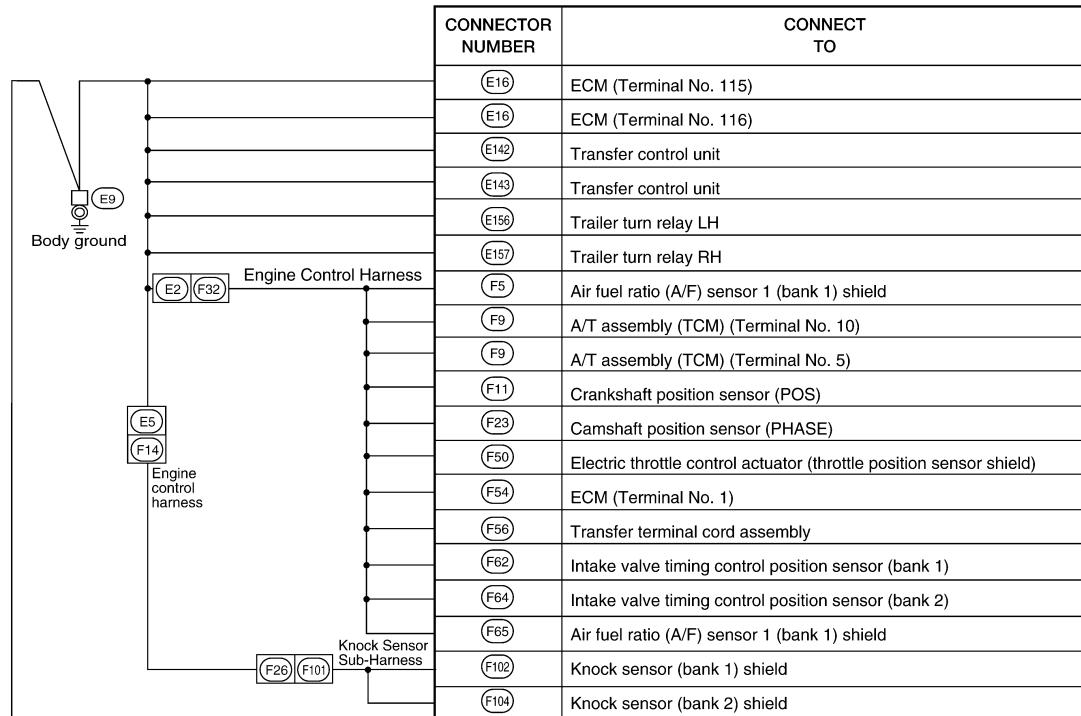
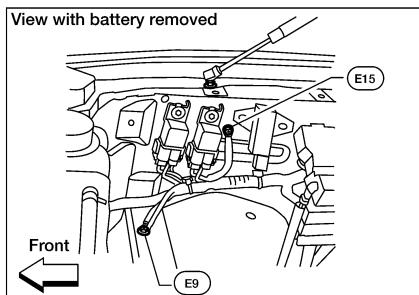
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GROUND CIRCUIT

< SERVICE INFORMATION >

Engine Room Harness

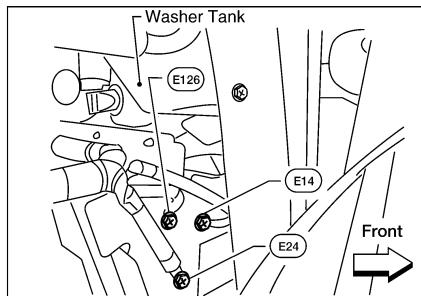


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WKIA5804E

GROUND CIRCUIT

< SERVICE INFORMATION >



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

Body ground
E24

CONNECTOR NUMBER	CONNECT TO
(E6)	Hood switch
(E11)	Front combination lamp LH (headlamp) (Terminal No. 1)
(E11)	Front combination lamp LH (headlamp) (Terminal No. 2)
(E11)	Front combination lamp LH (headlamp aiming motor) (Terminal No. 4)
(E23)	Front wiper motor
(E42)	ICC sensor
(E101)	Front fog lamp LH
(E103)	Daytime light relay
(E122)	IPDM E/R
(E124)	IPDM E/R
(E134)	ICC brake hold relay

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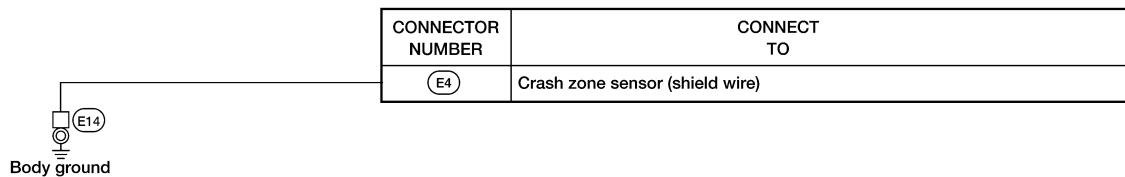
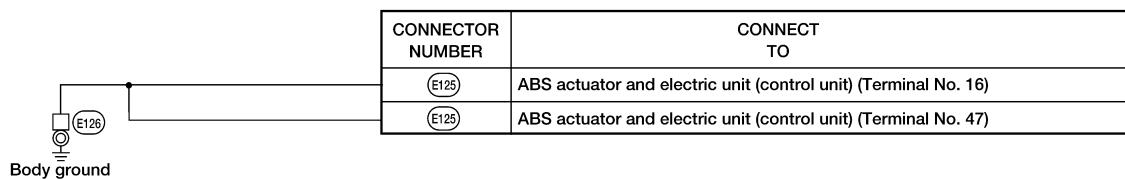
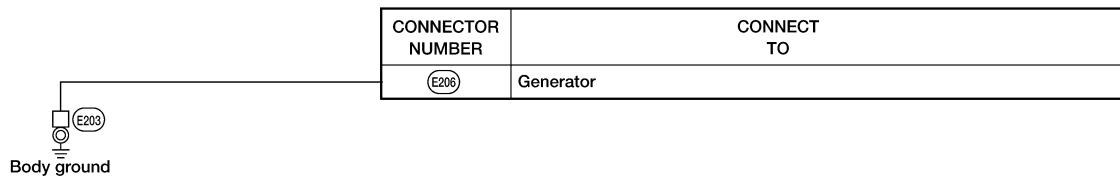
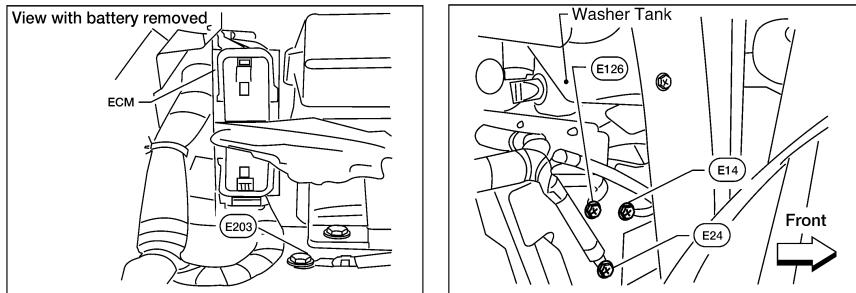
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WKIA4661E

GROUND CIRCUIT

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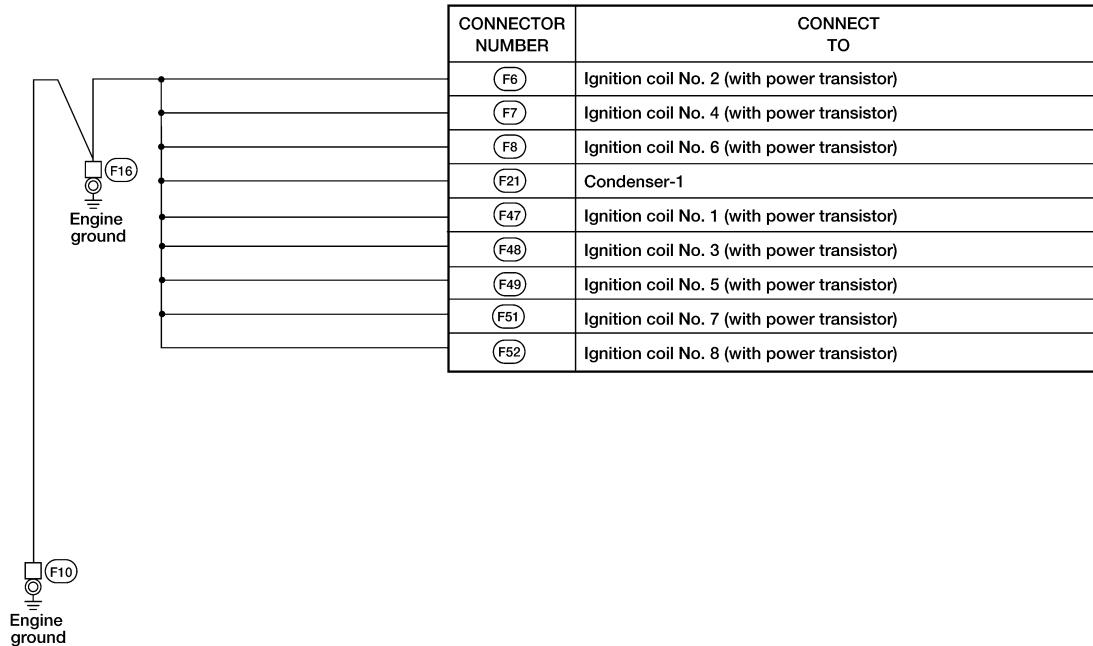
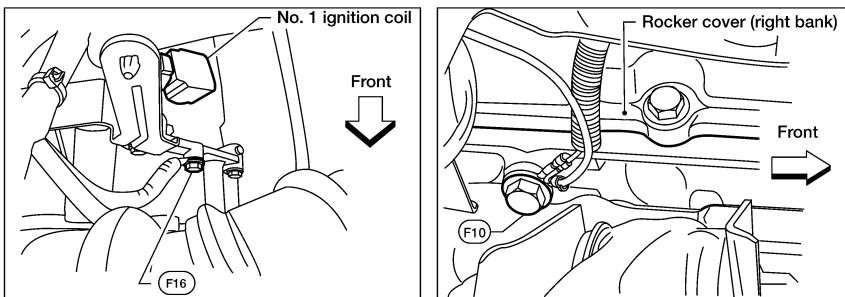


WKIA5805E

GROUND CIRCUIT

< SERVICE INFORMATION >

Engine Control Harness



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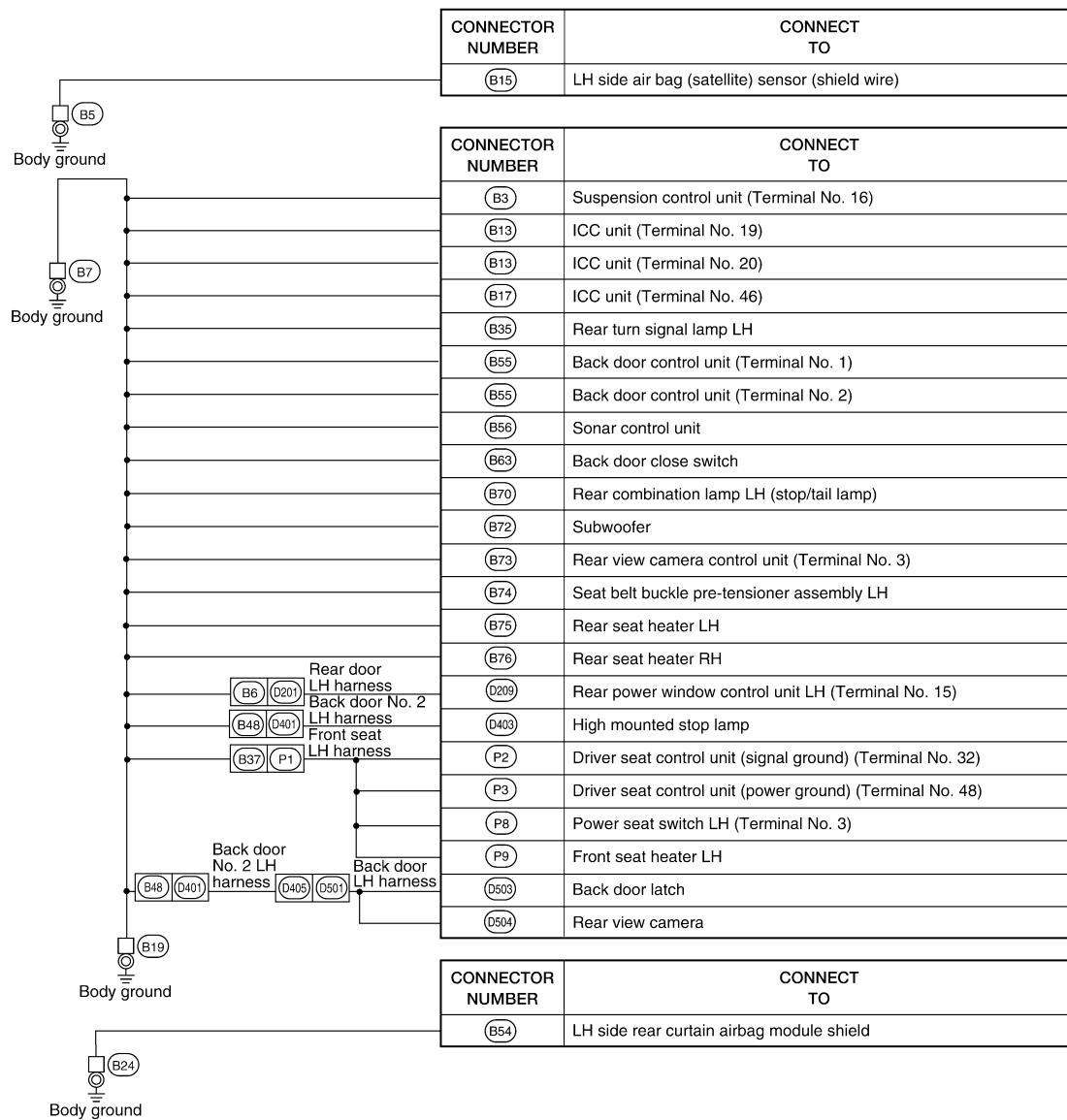
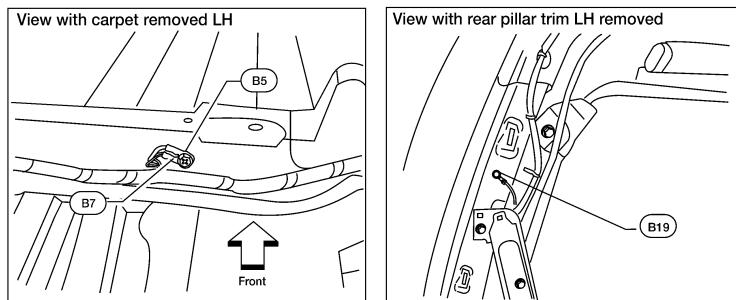
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GROUND CIRCUIT

< SERVICE INFORMATION >

Body Harness

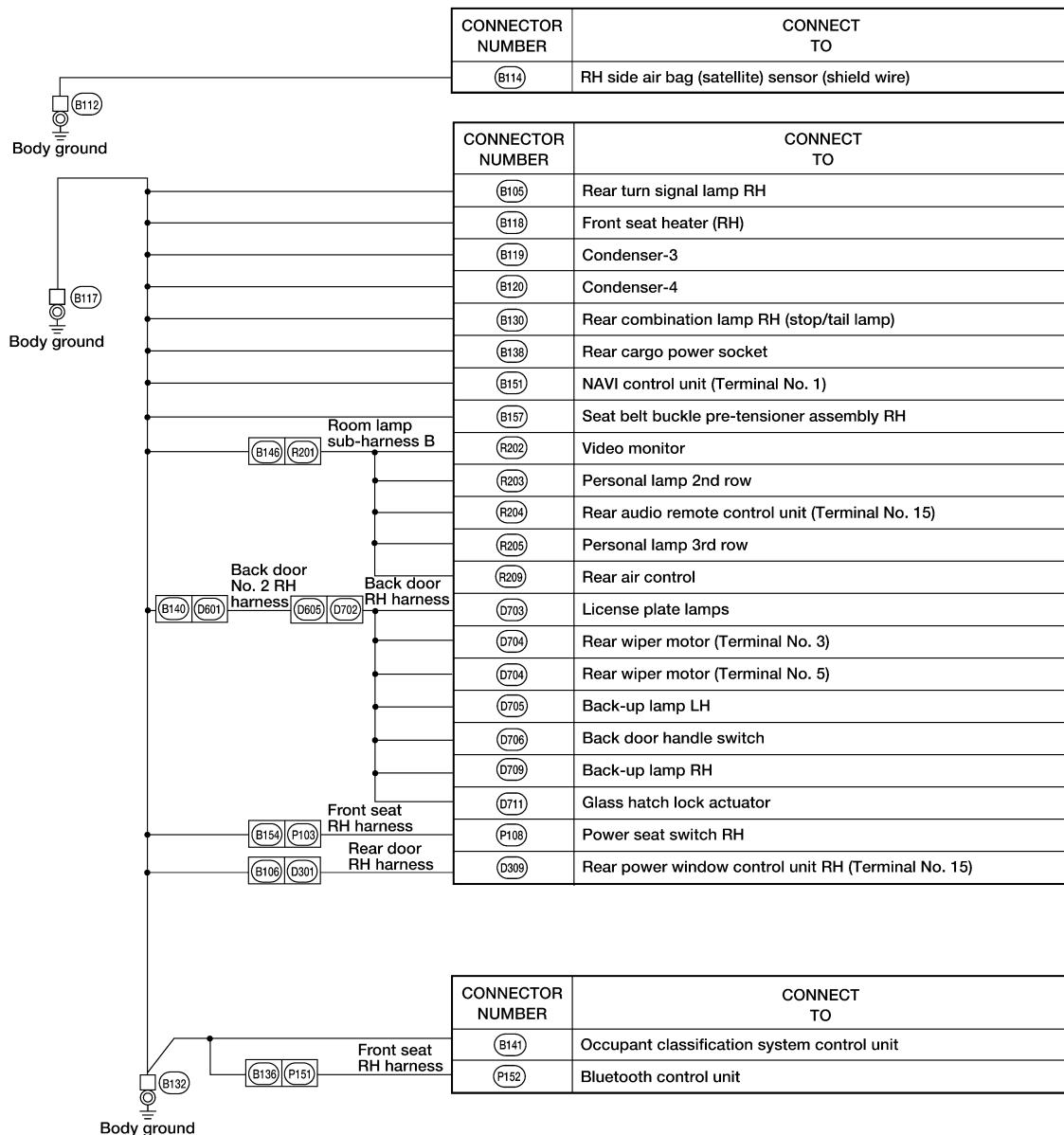
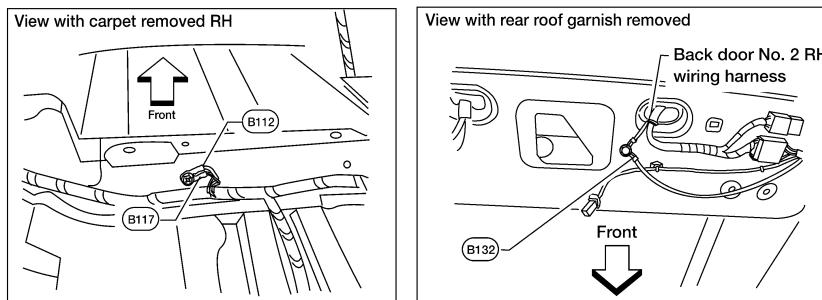


AWMIA0931GB

GROUND CIRCUIT

< SERVICE INFORMATION >

Body No. 2 Harness



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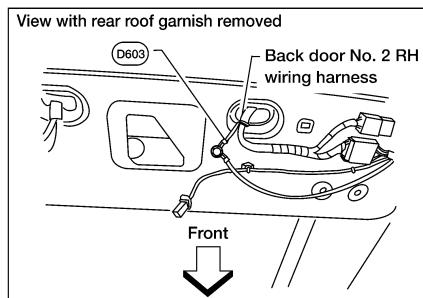
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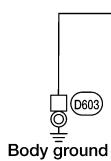
GROUND CIRCUIT

< SERVICE INFORMATION >

Back Door No. 2 RH Harness



CONNECTOR NUMBER	CONNECT TO
(D604)	Rear window defogger



WKIA4666E

HARNESS

< SERVICE INFORMATION >

HARNESS

Harness Layout

INFOID:0000000003533846

HOW TO READ HARNESS LAYOUT

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

- Main Harness
- Engine Room Harness LH View (Engine Compartment)
- Engine Room Harness RH View (Engine Compartment)
- Engine Control Harness
- Chassis Harness and Rear Sonar Sensor Sub-harness
- Body Harness
- Body No. 2 Harness

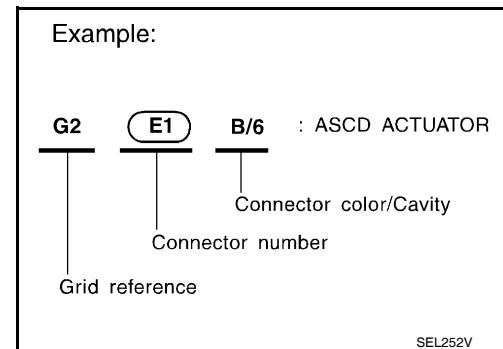
To use the grid reference

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

CONNECTOR SYMBOL

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

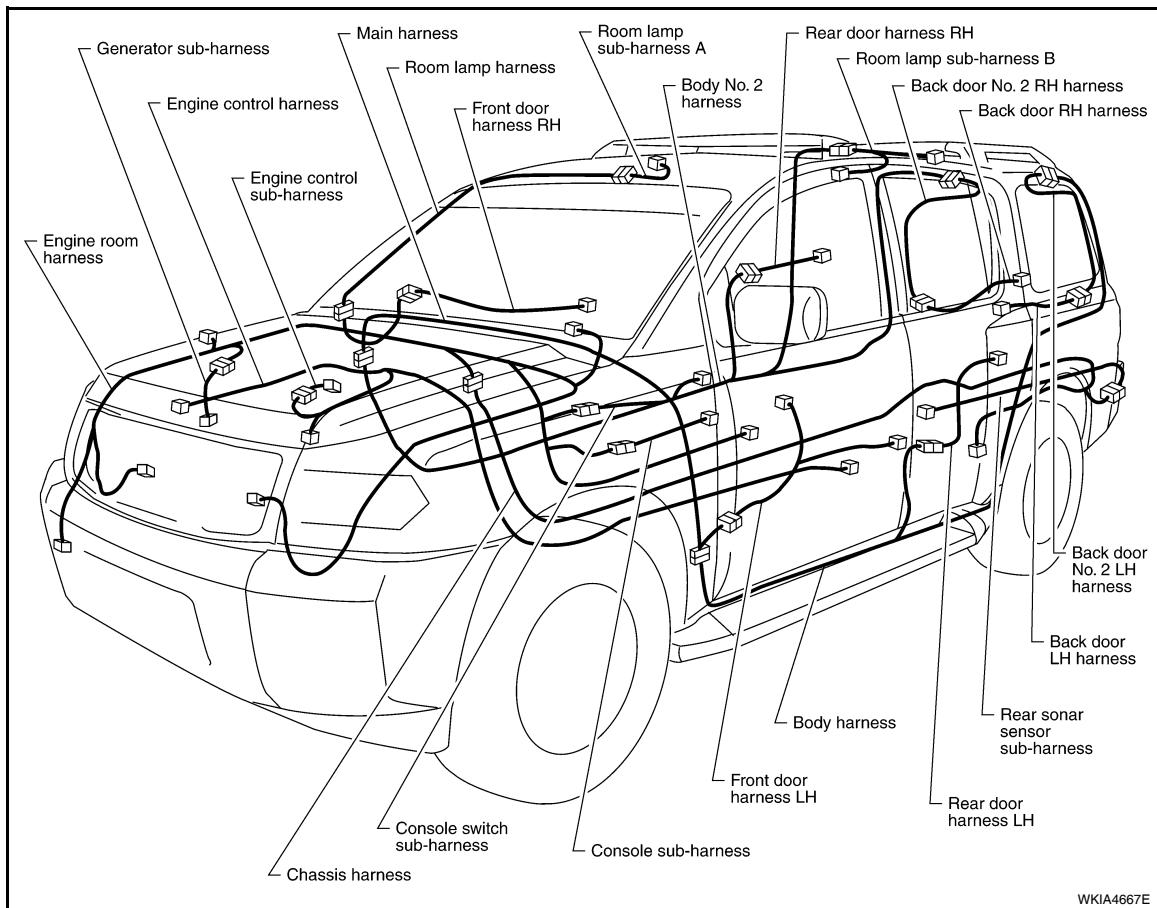
Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
• Cavity: 4 or Less • Relay connector				
• Cavity: From 5 to 8				
• Cavity: 9 or More				
• Ground terminal etc.	—	—	—	



HARNESS

< SERVICE INFORMATION >

OUTLINE

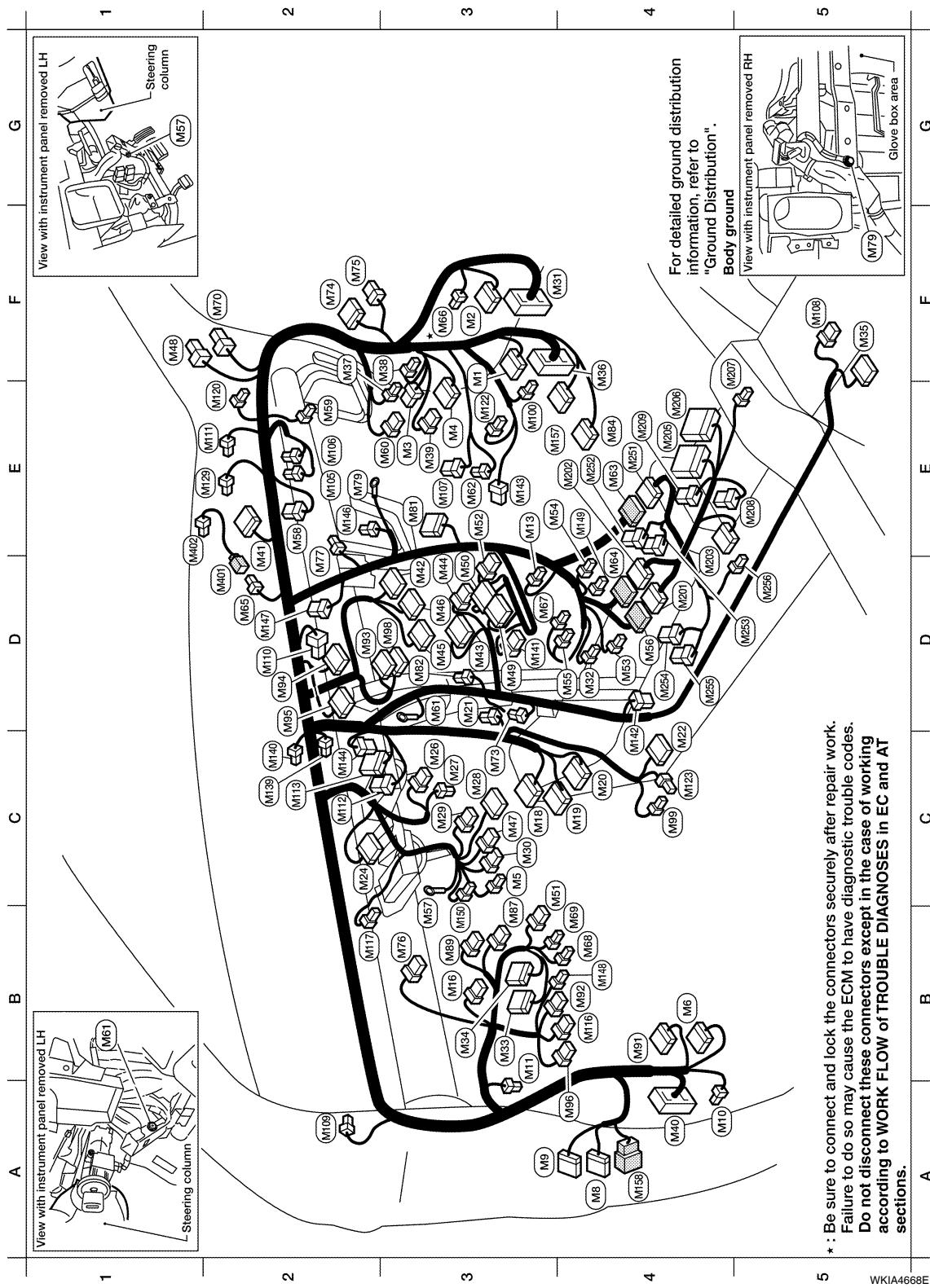


WKIA4667E

HARNESS

< SERVICE INFORMATION >

MAIN HARNESS



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HARNESS

< SERVICE INFORMATION >

F3 (W1) W/16	To (R1)	E3 (M52)	E3 : Rear blower switch (front)	F5 (W10) B/6
F3 (W2) W/12	To (R2)	D4 (M53)	B2 : Front power socket LH	A2 (W10) BR/2
E3 (M3) W/8	Fuse block (J/B)	E3 (M54)	B2 : Front power socket RH (for cigarette lighter)	D2 (W11) BR/2
E3 (M4) W/16	Fuse block (J/B)	D4 (M55)	W/4 : Hazard switch	E2 (W11) BR/2
C3 (M5) W/3	Illumination control switch	D4 (M56)	W/16 : To (E20)	C2 (W112) W/8
B4 (W6) W/10	To (E10)	B3 (M57)	-	C2 (W113) L/24
A4 (W8) W/16	To (S2)	E2 (M58)	B6 : Intake door motor	B4 (W116) GR/8
A3 (M9) BR/24	To (D1)	E2 (M59)	BR/2 : Glove box lamp	B2 (W117) B/2
A4 (W10) Y/4	To (E28)	E3 (M60)	W/6 : Fuse block (J/B)	E2 (W120) W/4
B3 (M11) B/1	Parking brake switch	D3 (W61)	-	E3 (W122) W/4
E3 (M13) W/3	Front passenger air bag off indicator	E3 (M62)	B2 : Front blower motor	C4 (W123) W/2
B3 (M16) GR/6	ADP steering switch	E4 (M63)	BR/20 : To (E25)	E2 (W129) BR/1
C3 (M18) W/40	BCM (body control module)	D4 (M64)	BR/24 : To (W20)	E2 (W130) V/1
C4 (M19) W/15	BCM (body control module)	D2 (M65)	W/4 : To (M40)	C2 (W138) B/2
C4 (M20) B/15	BCM (body control module)	F3 (M66)	* B1 : To (E33)	C2 (W140) B/2
D3 (M21) W/4	NATS antenna amp.	D4 (M67)	GR/8 : Tow mode switch	D3 (W141) W/8
C4 (M22) W/16	Data link connector	B4 (M68)	W/2 : Tilt motor	C4 (W142) B/6
C2 (M24) W/40	Combination meter	B4 (M69)	W/3 : Tilt motor	E3 (W143) B/6
C3 (M26) W/6	Ignition switch	F2 (M70)	BR/1 : To (M50) (with Sirius satellite radio)	C2 (W144) B/6
C3 (M27) W/4	Key switch and key lock solenoid	F2 (M70)	BR/1 : To (M50) (with XM satellite radio)	E2 (W145) GR/2
C3 (M28) W/16	Combination switch	F2 (M70)	V/1 : To (M50) : Back-up lamp relay	D2 (W147) B/6
C3 (M29) Y/6	Combination switch (spiral cable)	F2 (M71)	BR/6 : To (M70)	E4 (W148) W/4
C3 (M30) GR/8	Combination switch (spiral cable)	F2 (M71)	BR/20 : To (M70)	E4 (W149) W/4
F3 (M31) SMJ	To (E152)	F2 (M75)	W/10 : To (D10)	B3 (W150) W/2
D4 (M32) W/4	In-vehicle sensor	B3 (M76)	W/6 : Electric brake (pre-wiring)	E4 (W151) W/20
B3 (M33) W/32	Automatic drive positioner control unit	D2 (M77)	Y/4 : Front passenger air bag module (service replacement)	E4 (W152) W/10 : To (D3)
B3 (M34) W/16	Air bag diagnosis sensor unit	E2 (M78)	-	Console sub-harness
F5 (M35) Y/28	Air bag diagnosis sensor unit	E3 (M81)	GR/10 : Body ground	D4 (W201) W/16 : To (M56)
F4 (M36) SMJ	To (E149)	D3 (M82)	GR/2 : Shift lock control unit	E4 (W202) BR/24 : To (M64)
F2 (M37) B/1	Fuse block (J/B)	E3 (M84)	W/16 : Circuit breaker-2	D4 (W203) W/12 : A/T device
F2 (M38) B/2	Fuse block (J/B)	B3 (M87)	B5 : Rear power vent window relay (open)	E4 (W205) GR/16 : DVD player
E3 (M39) W/8	Fuse block (J/B)	B3 (M89)	B5 : Rear power vent window relay (close)	E4 (W206) L/16 : DVD player
A4 (M40) SMJ	To (B89)	B4 (M91)	W/16 : To (E25)	F4 (W207) B/2 : Console power socket
E2 (M41) W/16	Satellite radio tuner (or pre-wiring for satellite radio)	B4 (M92)	GR/6 : Power lifigate switch	E5 (W208) BR/6 : Rear heated seat switch LH
D3 (M42) W/16	Audio unit	D2 (M93)	W/24 : Display unit	E4 (W209) BR/6 : Rear heated seat switch RH
D3 (M43) W/10	Audio unit	D2 (M94)	W/24 : Display control unit	E4 (W210) BR/20 : To (M65)
D3 (M44) W/6	Audio unit	C2 (M95)	W/32 : Display control unit	E4 (W222) BR/6 : Front heated seat switch RH
D3 (M45) W/16	Audio unit	A4 (M96)	BR/6 : Pedal adjusting switch	D5 (W225) GR/6 : VDC OFF switch
D3 (M46) W/20	Audio unit	D3 (M98)	W/24 : AV switch	D4 (W255) GR/8 : Tow mode switch
C3 (M47) W/8	Steering angle sensor	C4 (M99)	BR/2 : Foot lamp LH	D4 (W255) BR/6 : Front heated seat switch LH
F1 (M48) BR/2	To (M89)	E3 (M100)	BR/2 : Foot lamp RH	D5 (W255) B/2 : A/T device illumination
D3 (M49) B/26	Front air control	E2 (M105)	Y/2 : Front passenger air bag module	Optical sensor sub-harness
D3 (M50) W/18	Front air control	E2 (M106)	O/2 : Front passenger air bag module	D2 (M407) W/4 : To (M65)
B3 (M51) L/4	Trailer tow relay 1	E3 (M107)	BR/6 : Front blower motor relay	E2 (M407) B/4 : Optical sensor

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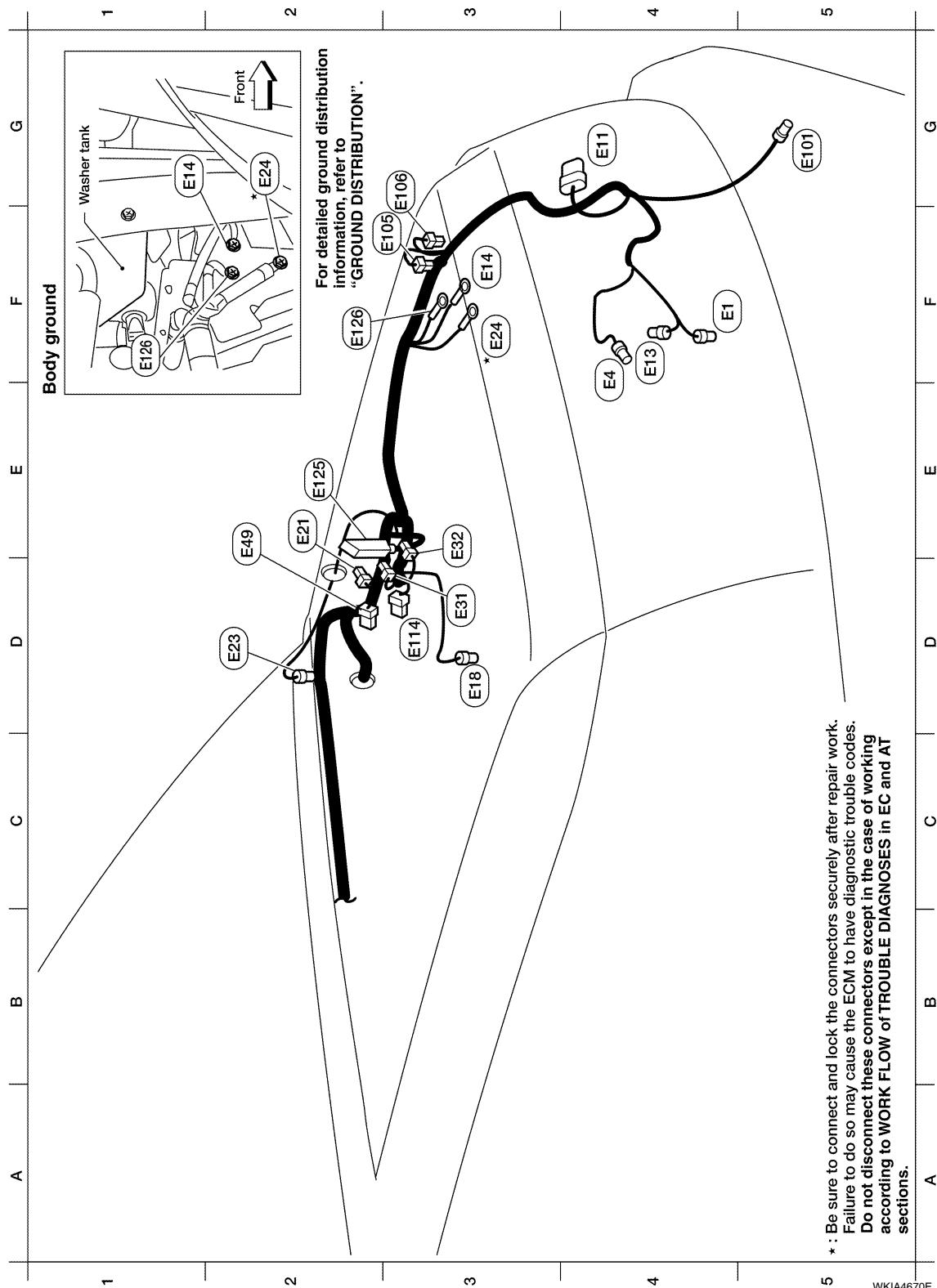
* : Refer to previous page

ENGINE ROOM HARNESS (LH VIEW)

HARNESS

< SERVICE INFORMATION >

Engine Compartment



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

Be sure to connect and lock the connectors securely after repair work.
If 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.

WKIA4670E

HARNESS

< SERVICE INFORMATION >

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

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* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.

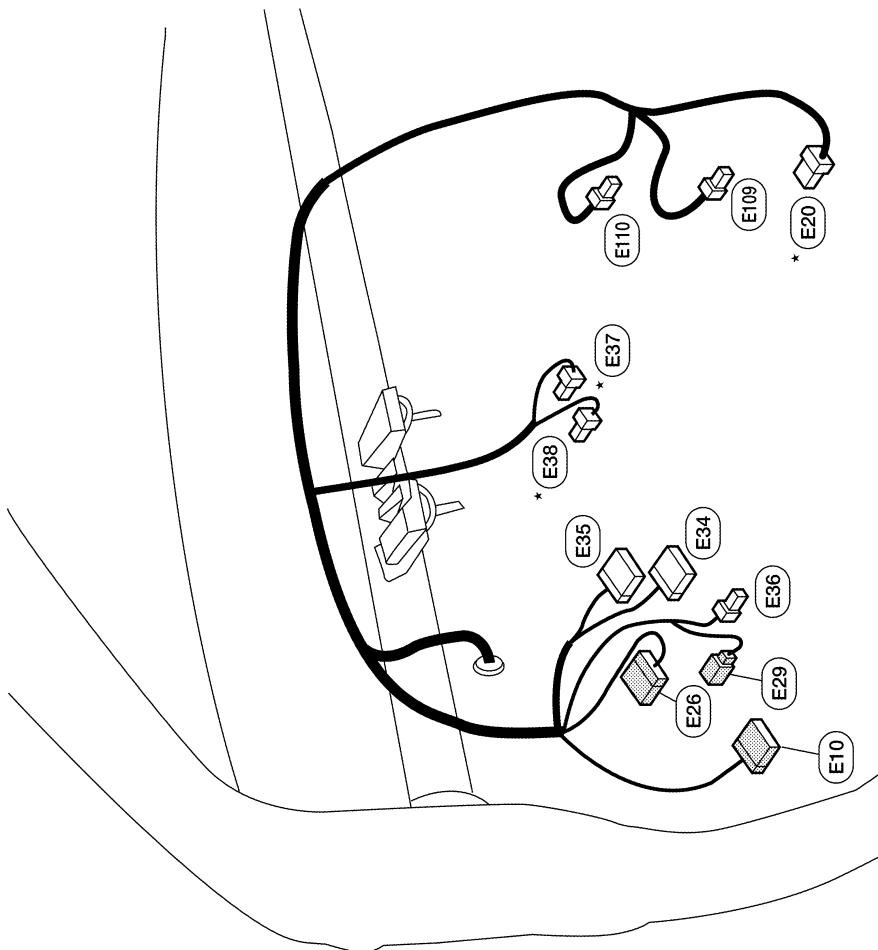
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNESS

< SERVICE INFORMATION >

Passenger Compartment

(E10)	W/10	: To (M6)
* (E20)	B/8	: Accelerator pedal position (APP) sensor
(E26)	W/16	: To (M9)
(E29)	Y/4	: To (M10)
(E34)	W/24	: To (B40)
(E35)	W/12	: To (B41)
(E36)	W/2	: To (B42)
* (E37)	BR/2	: ASCD brake switch (with ASCD)
* (E37)	BR/2	: ICC brake switch (with ICC)
* (E38)	W/4	: Stop lamp switch
(E109)	W/2	: Pedal adjusting motor
(E110)	W/3	: Pedal adjusting motor



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

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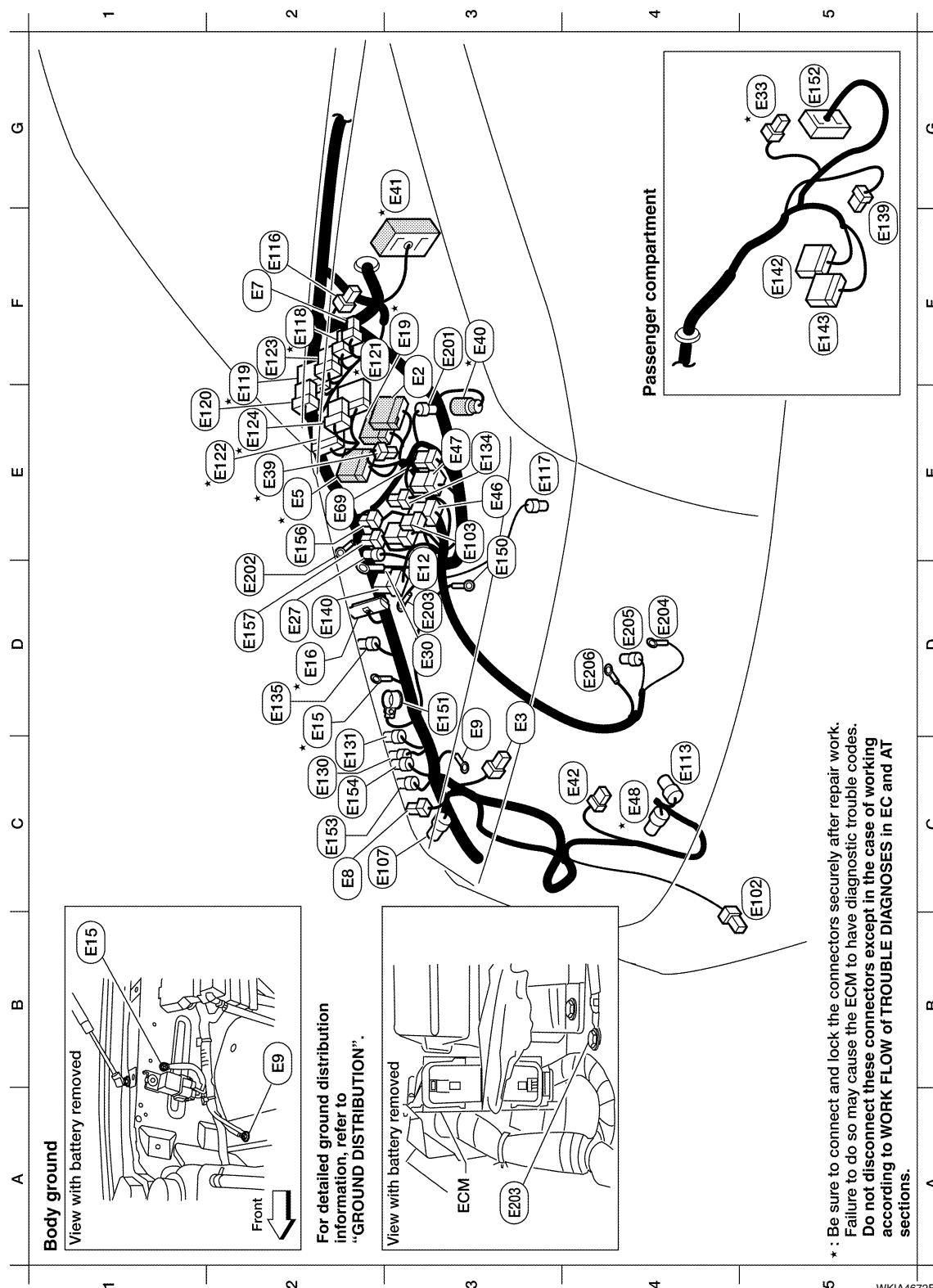
ENGINE ROOM HARNESS (RH VIEW)

WKIA4671E

Harness

< SERVICE INFORMATION >

Engine Compartment



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

HARNESS

< SERVICE INFORMATION >

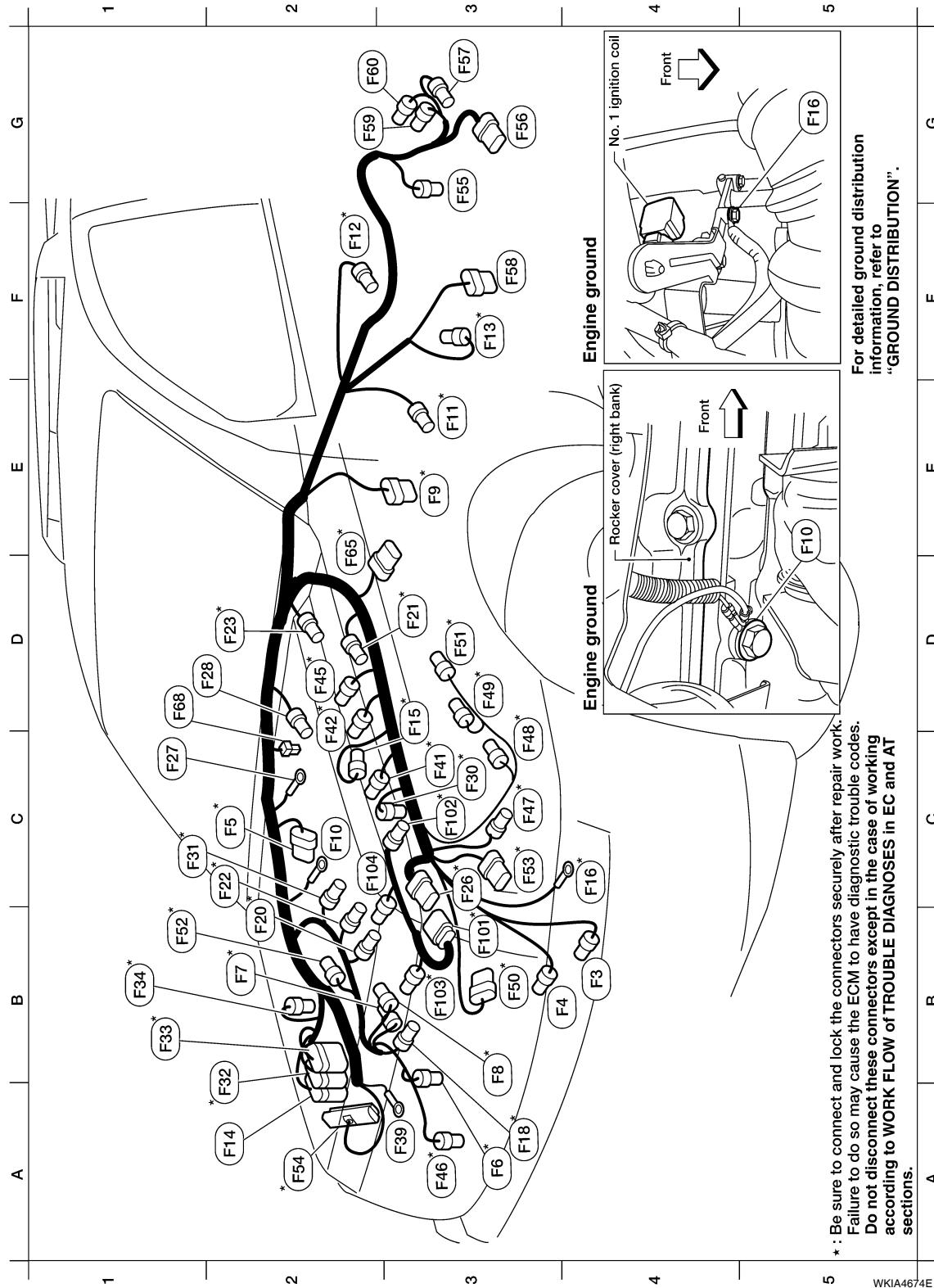
E3	(E2) W/16	: To (F32)	F2	(E123) BR/8	: IPDM E/R (intelligent power distribution module engine room)
D3	(E3) B/2	: Horn	E2 *	(E124) B/6	: IPDM E/R (intelligent power distribution module engine room)
E2 *	(E5) W/24	: To (F14)	C2	(E130) W/2	: Compressor motor relay
F2	(E7) GR/2	: Fusible link box (battery)	C2	(E131) W/2	: Compressor motor relay
C2	(E8) W/2	: Hood switch	E3	(E134) GR/7	: ICC brake hold relay
C3 *	(E9) -	: Body ground	D2	(E135) GR/2	: Transfer dropping resistor
D3	(E12) B/5	: Stop lamp relay	F5	(E138) W/8	: To (B10)
C2 *	(E15) -	: Body ground	D2	(E140) BR/6	: Trailer tow relay 2
D2 *	(E16) B/32	: ECM	F5	(E142) W/24	: Transfer control unit
D2	(E27) BR/2	: Fusible link box (battery)	F5	(E143) GR/24	: Transfer control unit
D2	(E30) -	: Fusible link box (battery)	D3	(E150) -	: Engine ground
G5 *	(E33) B/1	: To (M66)	D3	(E151) -	: Negative battery cable
E2 *	(E39) W/2	: To (F34)	G5	(E152) SMJ	: To (M31)
F3 *	(E40) GR/3	: To (E20)	C2	(E153) GR/2	: Transfer motor relay
G3 *	(E41) SMJ	: To (C1) (located RH rear of engine compartment)	C2	(E154) GR/2	: Transfer motor relay
C4	(E42) B/6	: ICC sensor	E2	(E156) L/4	: Trailer turn relay LH
E3	(E46) B/5	: Transfer shift high relay	D2	(E157) L/4	: Trailer turn relay RH
E3	(E47) B/5	: Transfer shift low relay	C3	(E161) B/3	: Battery current sensor
C4 *	(E48) B/3	: Refrigerant pressure sensor	Generator sub-harness		
E2	(E69) L/4	: Transfer shutoff relay	F3	(E201) GR/3	: To (E40)
C5	(E102) B/3	: Front turn/fog lamp RH	D2	(E202) -	: Fusible link box (battery)
E3	(E103) B/5	: Daytime light relay	D3	(E203) -	: Body ground
C2	(E107) B/8	: Front combination lamp RH	D4	(E204) -	: Generator
C4	(E113) W/2	: Cooling fan motor	D4	(E205) B/3	: Generator
F2 *	(E116) W/2	: Condenser-2	D4	(E206) -	: Generator
E3	(E117) GR/2	: Front wheel sensor RH			
F2	(E118) B/2	: IPDM E/R (intelligent power distribution module engine room)			
E2 *	(E119) W/16	: IPDM E/R (intelligent power distribution module engine room)			
E2	(E120) W/6	: IPDM E/R (intelligent power distribution module engine room)	*	Be sure to connect and lock the connectors securely after repair work.	
F3 *	(E121) BR/12	: IPDM E/R (intelligent power distribution module engine room)		Failure to do so may cause the ECM to have diagnostic trouble codes.	
E2 *	(E122) W/12	: IPDM E/R (intelligent power distribution module engine room)		Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.	

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< SERVICE INFORMATION > ENGINE CONTROL HARNESS



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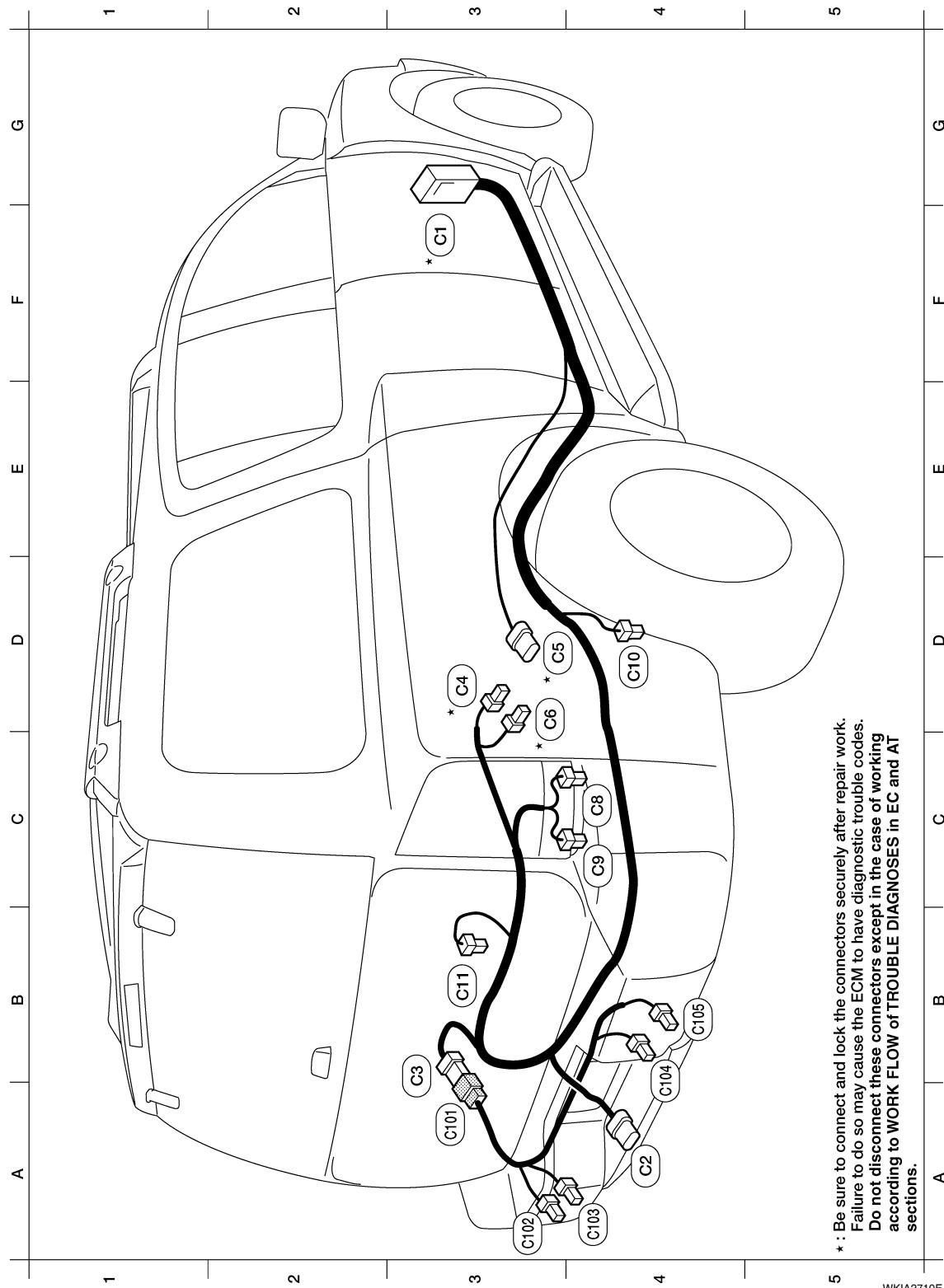
B4	F3	B/1	: A/C compressor	C3	* F ₄₈	GR/3	: Ignition coil No. 3 (with power transistor)
B4	F4	GR/1	: Oil pressure switch	D3	* F ₄₉	GR/3	: Ignition coil No. 5 (with power transistor)
C2 *	F5	B/6	: Air fuel ratio (A/F) sensor 1 (bank 2)	B3	* F ₅₀	B/6	: Electric throttle control actuator
A3 *	F6	GR/3	: Ignition coil No. 2 (with power transistor)	D3	* F ₅₁	GR/3	: Ignition coil No. 7 (with power transistor)
B2 *	F7	GR/3	: Ignition coil No. 4 (with power transistor)	B1	* F ₅₂	GR/3	: Ignition coil No. 8 (with power transistor)
A3 *	F8	GR/3	: Ignition coil No. 6 (with power transistor)	C3	* F ₅₃	B/6	: Mass air flow sensor
E3 *	F8	G/10	: A/T assembly	A2	* F ₅₄	B/81	: ECM
C2 *	F10	-	: Engine ground	G3	F ₅₅	B/2	: ATP switch (4WD only)
E3 *	F11	B/3	: Crankshaft position sensor (POS)	G3	F ₅₆	B/8	: Transfer terminal cord assembly (4WD only)
F2 *	F12	G/4	: Heated oxygen sensor 2 (bank 2)	G3	F ₅₇	B/2	: Transfer motor (4WD only)
F3	F13	G/4	: Heated oxygen sensor 2 (bank 1)	F3	F ₅₈	GR/6	: Transfer control device (4WD only)
A2	F14	W/24	: To E ₆	G2	F ₅₉	B/2	: Wait detection switch (4WD only)
C3 *	F15	L/2	: EVAP canister purge volume control solenoid valve	G2	F ₆₀	GR/2	: Neutral-4LO switch (4WD only)
C4 *	F16	-	: Engine ground	D2	* F ₆₅	B/6	: Air fuel ratio (A/F) sensor 1 (bank 1)
A3 *	F18	GR/2	: Fuel injector No. 2	D1	F ₆₈	B/2	: Water valve
B2 *	F20	GR/2	: Fuel injector No. 4	Engine control sub-harness			
D3 *	F21	GR/2	: Condenser-1	B3	* F ₇₀	B/6	: To F ₂₆
C2 *	F22	GR/2	: Fuel injector No. 6	C3	* F ₇₀	B/2	: Knock sensor (bank 1)
D2 *	F23	B/3	: Camshaft position sensor (PHASE)	B3	* F ₇₃	GR/2	: Engine coolant temperature sensor
C3 *	F26	B/6	: To F ₇₀	C2	(F ₇₄)	B/2	: Knock sensor (bank 2)
C1	F27	B/1	: Starter motor	WKIA5811E			
D2	F28	GR/1	: Starter motor				
C3 *	F30	GR/2	: Fuel injector No. 1				
C1 *	F31	GR/2	: Fuel injector No. 8				
A2 *	F32	W/16	: To E ₂				
B1 *	F33	W/16	: To E ₁₉				
B1 *	F34	W/2	: To E ₃₉				
A3	F38	-	: Fusible link box (battery)				
C3 *	F41	GR/2	: Fuel injector No. 3				
C2 *	F42	GR/2	: Fuel injector No. 5				
D2 *	F45	GR/2	: Fuel injector No. 7				
A3 *	F46	B/3	: Power steering pressure sensor				
C3 *	F47	GR/3	: Ignition coil No. 1 (with power transistor)				

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

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< SERVICE INFORMATION >

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

WKIA2710E

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< SERVICE INFORMATION >

F3 *	(C1)	SMJ	: To (E41) (located RH rear of engine compartment)
A4	(C2)	B/7	: Trailer
B3	(C3)	GR/6	: To (C10)
D3 *	(C4)	GR/3	: EVAP control system pressure sensor
D4 *	(C5)	GR/5	: Fuel level sensor unit and fuel pump
C3 *	(C6)	B/2	: EVAP canister vent control valve
C4	(C8)	B/3	: Height sensor
C4	(C9)	B/4	: Suspension air compressor
D4	(C10)	BR/2	: Rear wheel sensor RH
B3	(C11)	BR/2	: Rear wheel sensor LH

Rear sonar sensor sub-harness

A3	(C10)	GR/6	: To (C3)
A3	(C102)	B/3	: Rear sonar sensor LH outer
A4	(C103)	B/3	: Rear sonar sensor LH inner
B4	(C104)	B/3	: Rear sonar sensor RH inner
B4	(C105)	B/3	: Rear sonar sensor RH outer

WKIA4676E

* : Be sure to connect and lock the connectors securely after repair work.
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Do not disconnect these connectors except in the case of working
according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT
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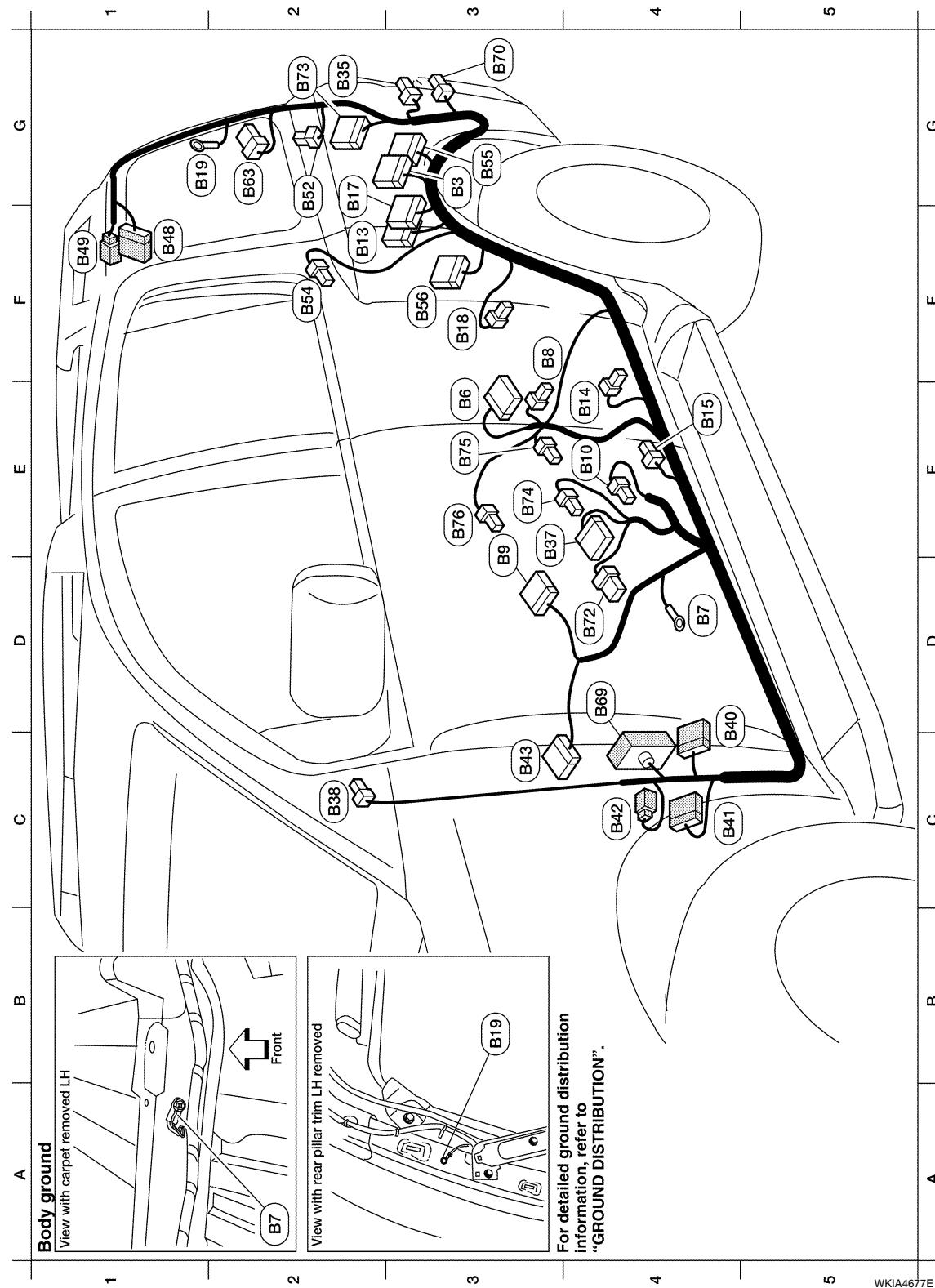
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< SERVICE INFORMATION >

BODY HARNESS



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< SERVICE INFORMATION >

G3	<u>B3</u> W/16	: Suspension control unit	G2	<u>B73</u> W/16	: Rear view camera control unit
E3	<u>B6</u> W/18	: To <u>B201</u>	E3	<u>B74</u> Y/4	: Seat belt buckle pre-tensioner assembly LH
D4	<u>B7</u> -	: Body ground	E3	<u>B75</u> W/3	: Rear seat heater LH
F3	<u>B8</u> W/3	: Front door switch LH	E3	<u>B76</u> W/3	: Rear seat heater RH
D3	<u>B9</u> Y/12	: Air bag diagnosis sensor unit			
E4	<u>B10</u> Y/2	: Front LH side air bag module			
F2	<u>B13</u> W/24	: ICC unit			
E4	<u>B14</u> Y/2	: Front LH seat belt pre-tensioner			
E4	<u>B15</u> Y/2	: LH side air bag (satellite) sensor			
G2	<u>B17</u> GR/24	: ICC unit			
F3	<u>B18</u> W/3	: Rear door switch LH			
G1	<u>B19</u> -	: Body ground			
G2	<u>B35</u> B/3	: Rear combination lamp LH			
E4	<u>B37</u> W/16	: To <u>P1</u>			
C2	<u>B38</u> Y/2	: LH side front curtain air bag module			
C4	<u>B40</u> W/24	: To <u>E34</u>			
C4	<u>B41</u> W/12	: To <u>E35</u>			
C4	<u>B42</u> W/2	: To <u>E36</u>			
C3	<u>B43</u> W/12	: To <u>B11</u>			
F1	<u>B48</u> W/16	: To <u>B401</u>			
F1	<u>B49</u> W/2	: To <u>B402</u>			
G2	<u>B52</u> W/2	: Rear power vent window motor LH			
F2	<u>B54</u> Y/2	: LH side rear curtain air bag module			
G3	<u>B55</u> W/26	: Back door control unit			
F3	<u>B56</u> W/16	: Sonar control unit			
G2	<u>B63</u> W/6	: Back door close switch			
D4	<u>B69</u> SMJ	: To <u>M10</u>			
G3	<u>B70</u> GR/3	: Rear combination lamp LH (stop/tail)			
D4	<u>B72</u> BR/6	: Subwoofer			

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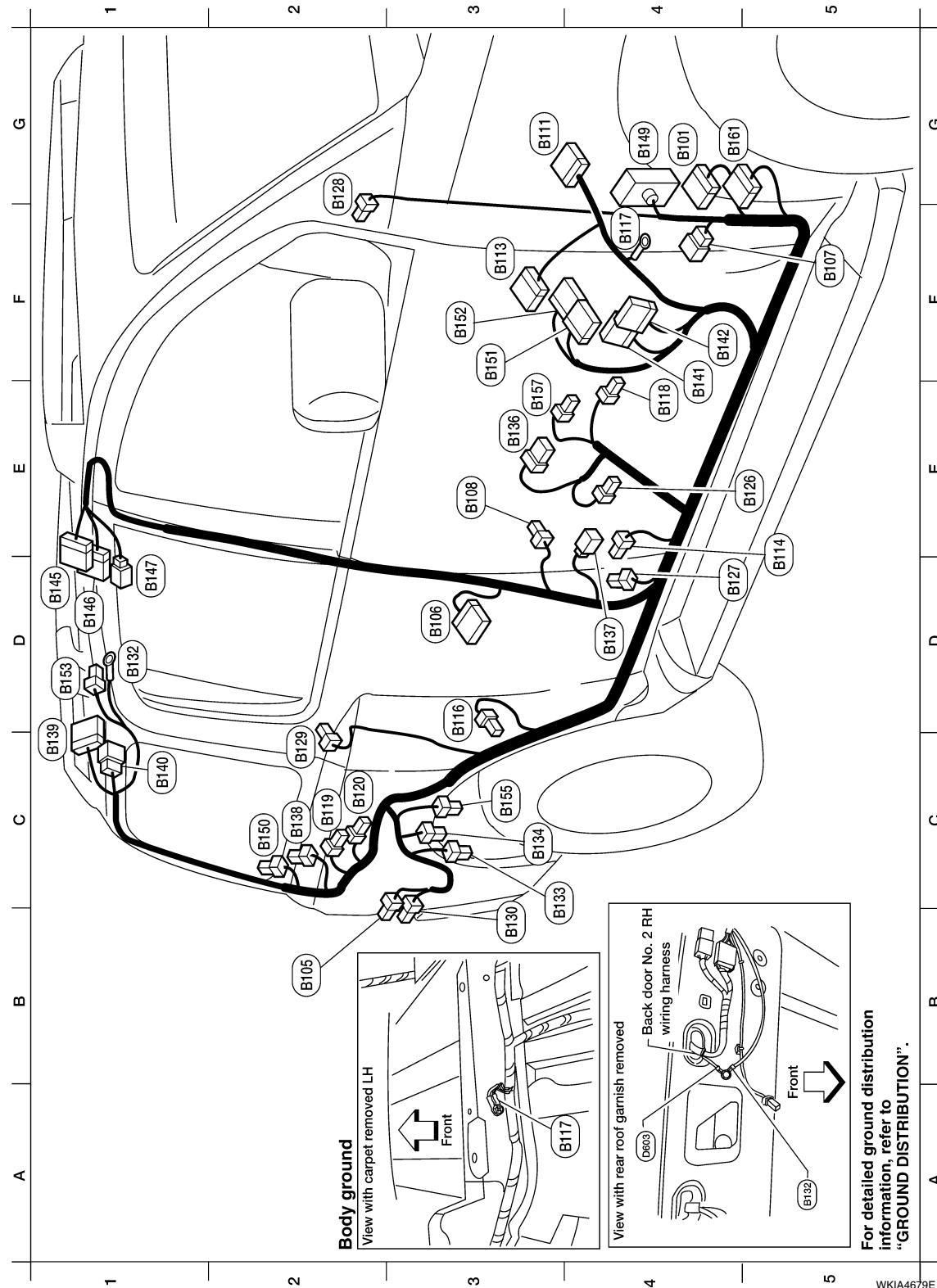
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HARNESS

< SERVICE INFORMATION >

BODY NO. 2 HARNESS



HARNESS

< SERVICE INFORMATION >

G4 (B10)	W/16	: To (M84)	G4 (B149)	SMJ	: To (M36)
B2 (B105)	B/3	: Rear combination lamp RH	C2 (B150)	W/2	: Rear power vent window motor RH
D3 (B106)	W/18	: To (B30)	F5 (B151)	W/40	: NAVI control unit
F5 (B107)	W/8	: To (E139)	F5 (B152)	W/32	: NAVI control unit
E3 (B108)	W/3	: Front door switch RH	D1 (B153)	W/2	: Cargo lamp
G3 (B111)	W/12	: To (B43)	C3 (B155)	B/6	: Air mix door motor (rear)
F3 (B113)	Y/12	: Air bag diagnosis sensor unit	E3 (B157)	Y/4	: Seat belt buckle pre-tensioner assembly RH
E5 (B114)	Y/2	: RH side air bag (satellite) sensor	G5 (B161)	W/20	: To (M57)
C3 (B116)	W/3	: Rear door switch RH			
F4 (B117)	-	: Body ground			
F4 (B118)	W/3	: Front seat heater RH			
C2 (B119)	W/2	: Condenser-3			
C2 (B120)	W/2	: Condenser-4			
E5 (B126)	Y/2	: Front RH side air bag module			
D5 (B127)	Y/2	: Front RH seat belt pre-tensioner			
G2 (B128)	Y/2	: RH side rear curtain air bag module			
C2 (B129)	Y/2	: RH side front curtain air bag module			
B3 (B130)	GR/3	: Rear combination lamp RH (stop/tail)			
D1 (B132)	-	: Body ground			
C3 (B133)	W/4	: Rear blower motor resistor			
C3 (B134)	W/2	: Rear blower motor			
E3 (B136)	W/8	: To (P55)			
D4 (B137)	W/3	: Belt tension sensor			
C2 (B138)	B/2	: Rear cargo power socket			
C1 (B139)	W/16	: To (B692)			
C1 (B140)	W/6	: To (B691)			
F4 (B141)	W/32	: Blue tooth control unit			
F4 (B142)	GR/1	: Blue tooth control unit			
D1 (B145)	W/16	: To (B230)			
D1 (B146)	BR/24	: To (B205)			
D1 (B147)	W/4	: To (B207)			

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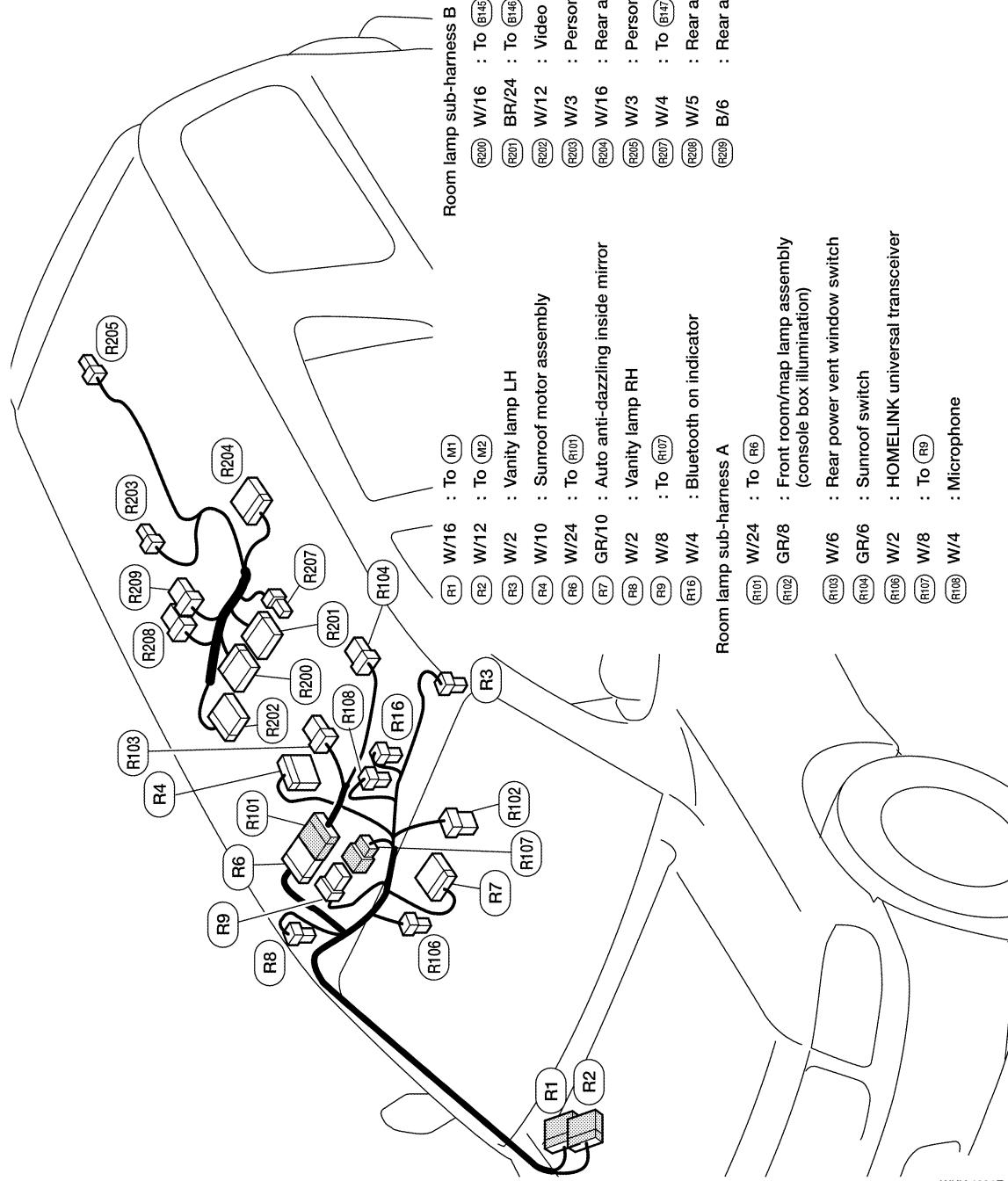
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HARNESS

< SERVICE INFORMATION >

ROOM LAMP HARNESS

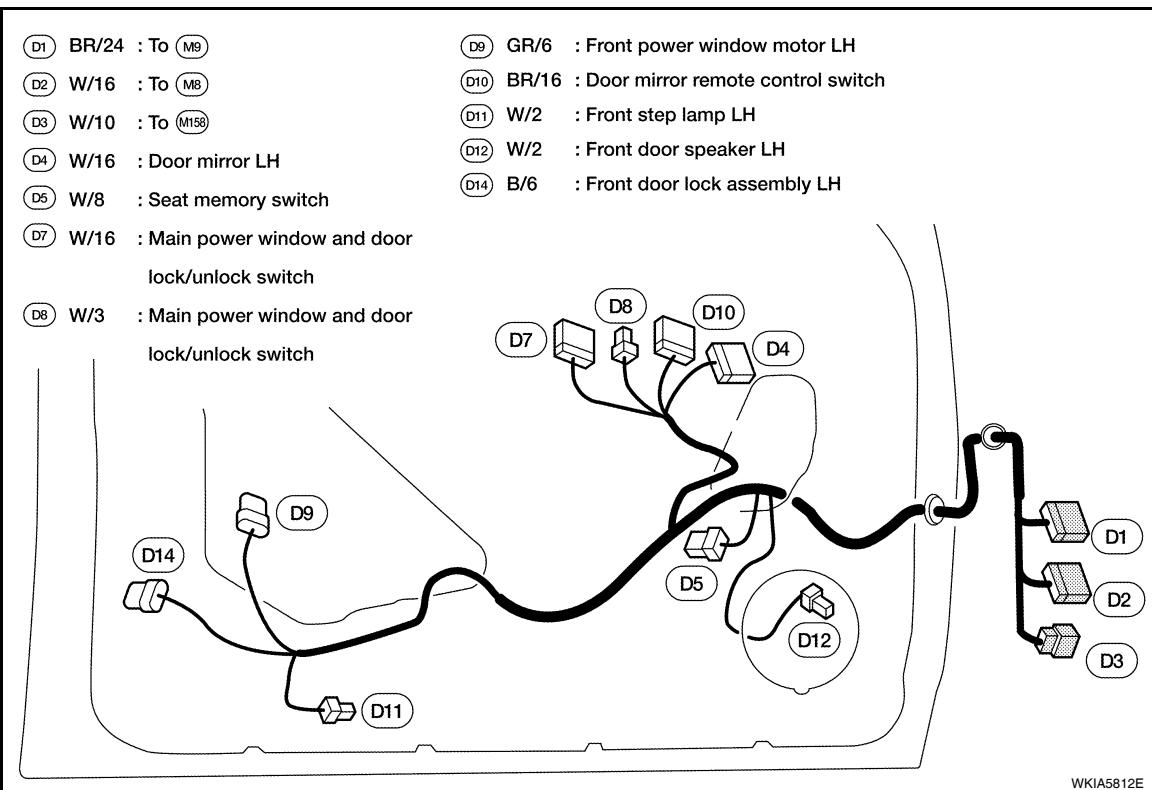


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HARNESS

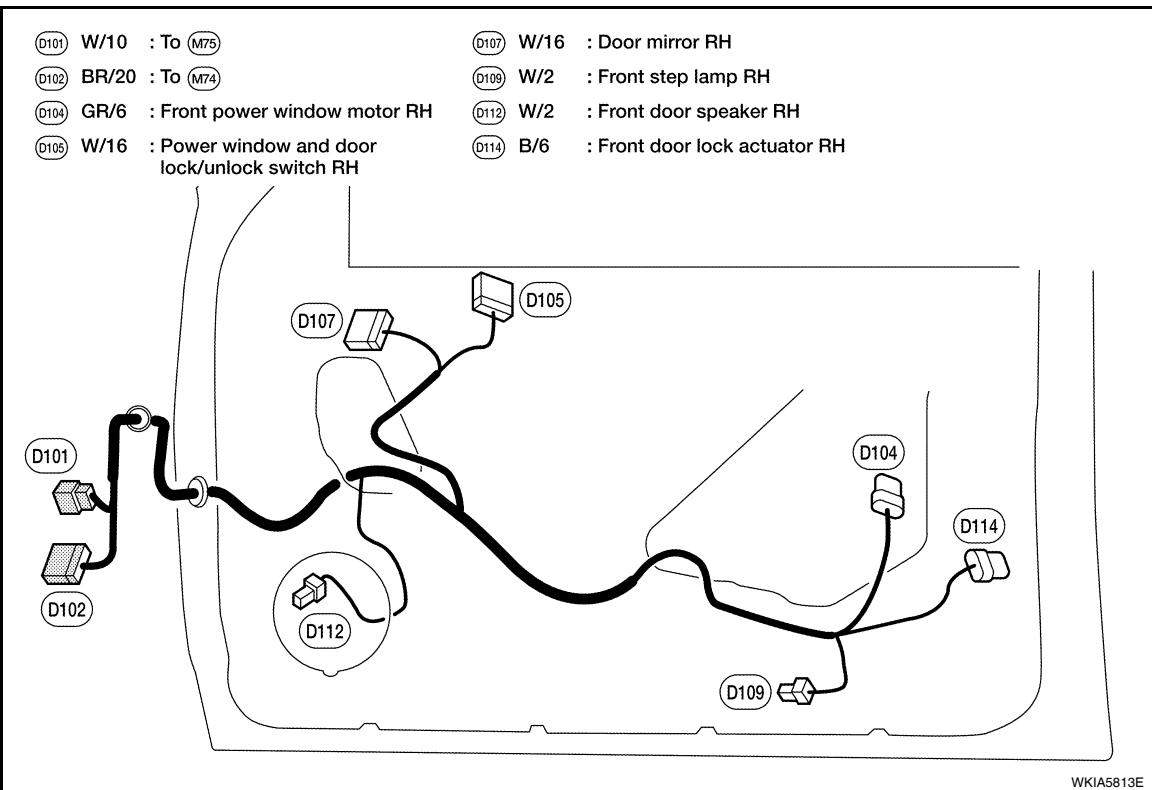
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FRONT DOOR LH HARNESS



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FRONT DOOR RH HARNESS

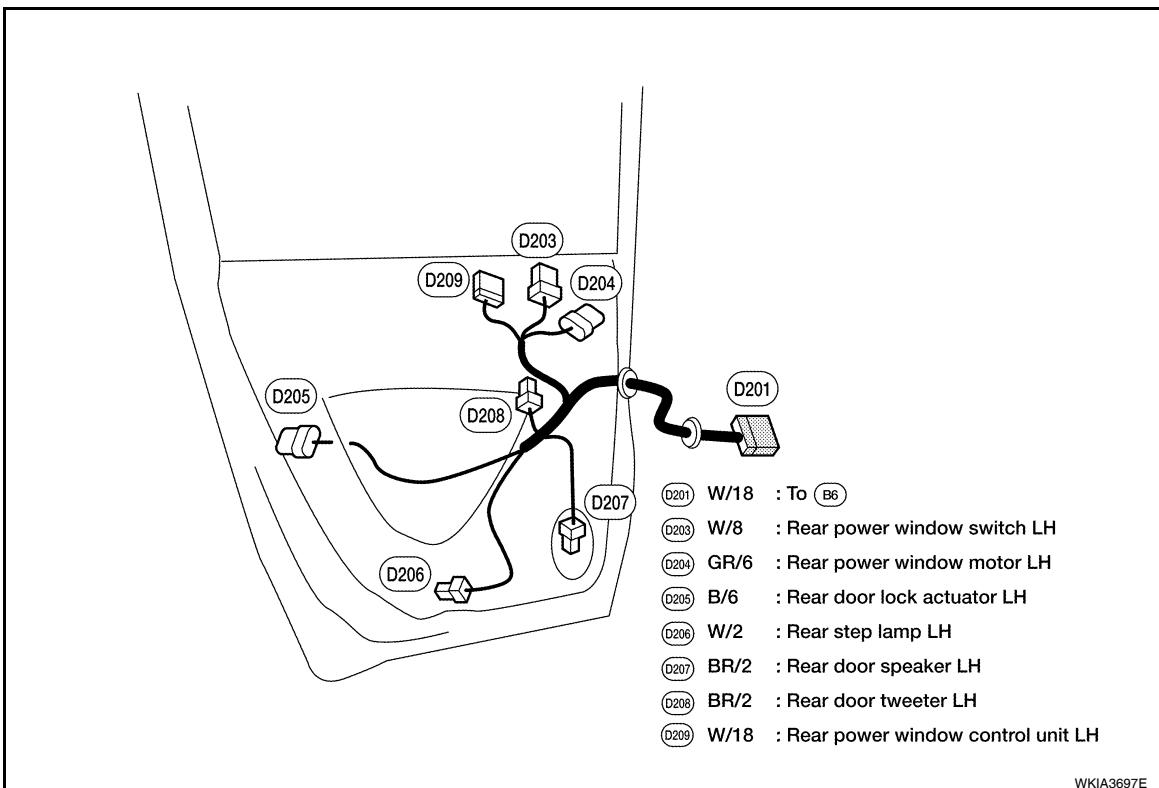


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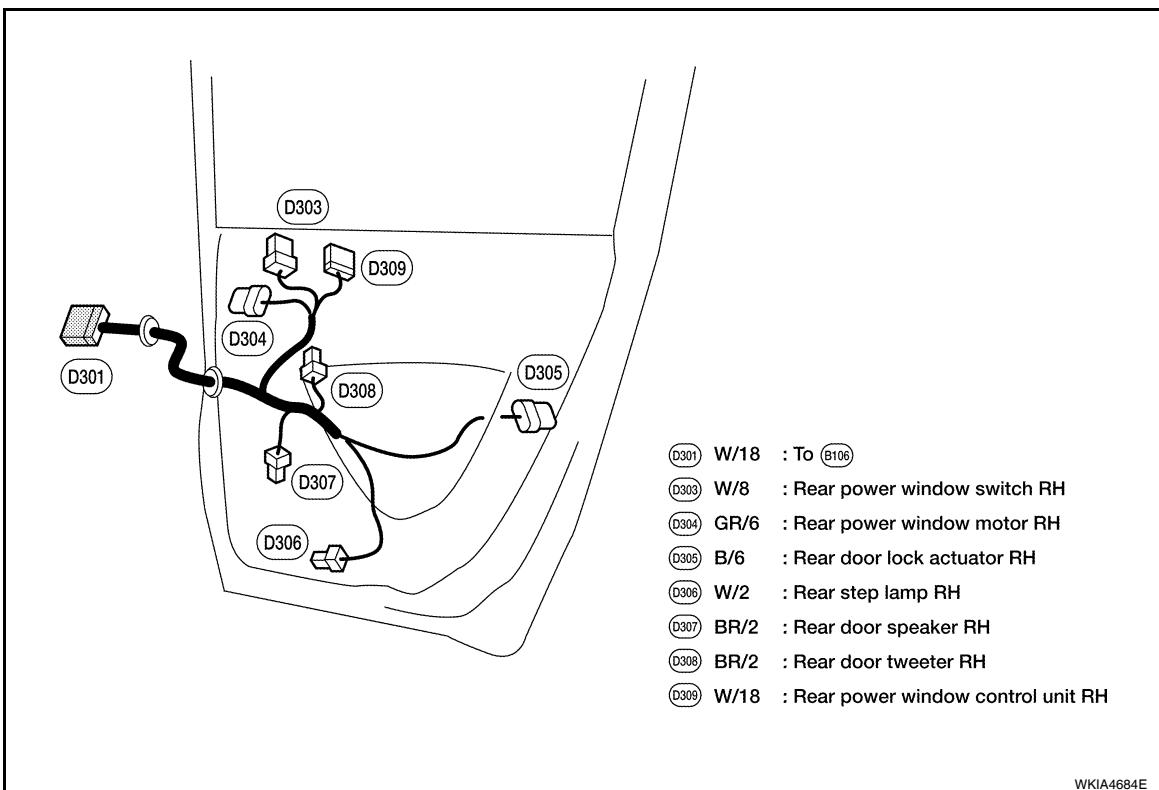
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< SERVICE INFORMATION >

REAR DOOR LH HARNESS



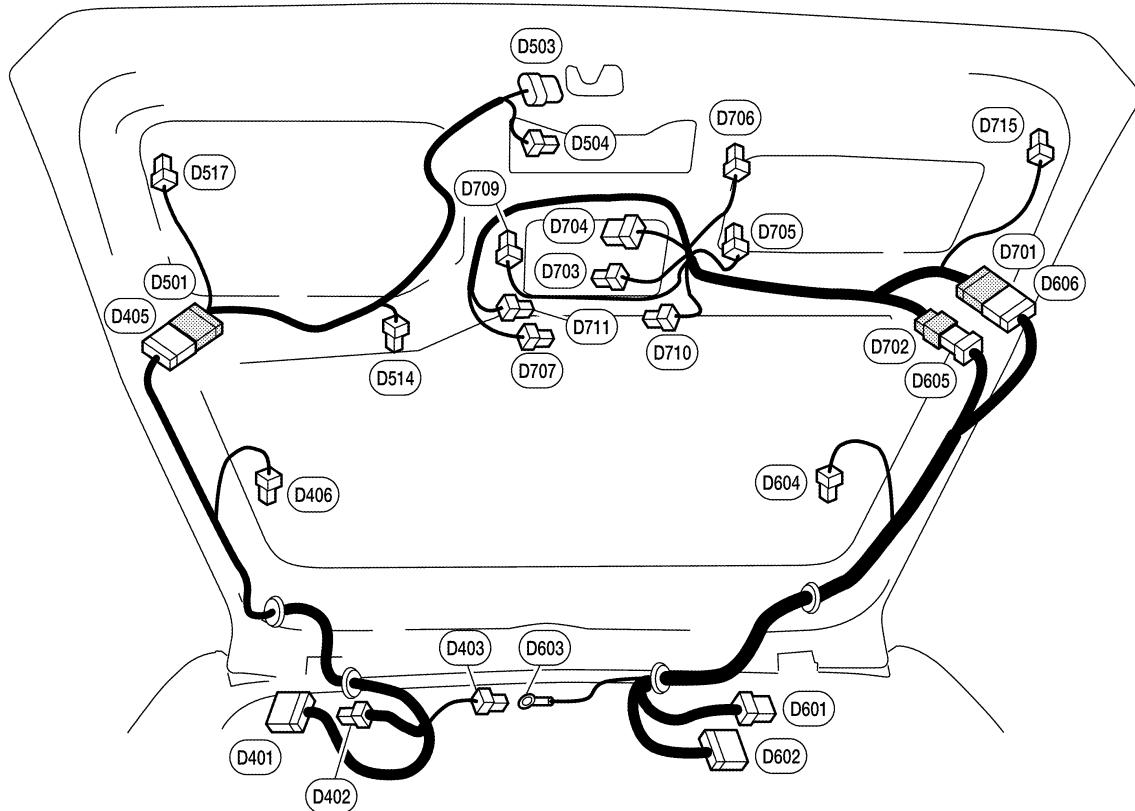
REAR DOOR RH HARNESS



HARNESS

< SERVICE INFORMATION >

BACK DOOR HARNESS



Back door No. 2 LH harness

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

Back door LH harness

- (D501) W/16 : To (D406)
- (D503) W/8 : Back door latch (door ajar switch)
- (D504) W/4 : Rear view camera
- (D514) BR/2 : Back door warning chime
- (D517) BR/2 : Pinch strip LH

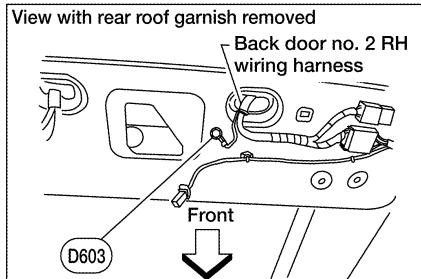
Back door No. 2 RH harness

- (D601) W/6 : To (B140)
- (D602) W/16 : To (B139)
- (D603) - : Body ground
- (D604) B/1 : Rear window defogger (ground)
- (D605) W/6 : To (D702)
- (D606) W/16 : To (D701)

Back door RH harness

- (D701) W/16 : To (D606)
- (D702) W/6 : To (D605)
- (D703) W/2 : License plate lamps
- (D704) W/6 : Rear wiper motor
- (D705) B/2 : Back-up lamp LH
- (D706) W/4 : Back door handle switch
- (D707) B/1 : Glass hatch ajar switch
- (D709) B/2 : Back-up lamp RH
- (D710) W/4 : Glass hatch switch
- (D711) W/4 : Glass hatch lock actuator
- (D715) BR/2 : Pinch strip RH

Body ground



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

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Wiring Diagram Codes (Cell Codes)

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

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

HARNESS

< SERVICE INFORMATION >

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

HARNESS

< SERVICE INFORMATION >

ICC/BS	EC	ICC Steering Switch	A
ICC/SW	EC	ICC Brake Switch	
I/MIRR	GW	Inside Mirror (Auto Anti-Dazzling Mirror)	
IATS	EC	Intake Air Temperature Sensor	B
IGNSYS	EC	Ignition System	
ILL	LT	Illumination	
INJECT	EC	Injector	C
INT/L	LT	Room/Map, Vanity, Cargo, Personal, Foot, Step, and Puddle Lamps	
KEYLES	BL	Remote Keyless Entry System	D
KS	EC	Knock Sensor	
MAFS	EC	Mass Air Flow Sensor	
MAIN	EC	Main Power Supply and Ground Circuit	E
METER	DI	Speedometer, Tachometer, Temp. and Fuel Gauges	
MIL/DL	EC	Malfunction Indicator Lamp	F
MIRROR	GW	Door Mirror	
NATS	BL	Nissan Anti-Theft System	G
NAVI	AV	Navigation System	
O2H2B1	EC	Rear Heated Oxygen Sensor 2 Heater Bank 1	H
O2H2B2	EC	Rear Heated Oxygen Sensor 2 Heater Bank 2	
O2S2B1	EC	Heated Oxygen Sensor 2 Bank 1	
O2S2B2	EC	Heated Oxygen Sensor 2 Bank 2	
P/SCKT	WW	Power Socket	
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve	
PHASE	EC	Camshaft Position Sensor (PHASE) (Bank 1)	
PNP/SW	EC	Park/Neutral Position Switch	
POS	EC	Crankshaft Position Sensor (POS)	I
POWER	PG	Power Supply Routing	
PRE/SE	EC	EVAP Control System Pressure Sensor	J
PS/SEN	EC	Power Steering Pressure Sensor	
R/VIEW	DI	Rear View Monitor	
RP/SEN	EC	Refrigerant Pressure Sensor	L
SEN/PW	EC	Sensor Power Supply	
SHIFT	AT	A/T Shift Lock System	
SONAR	DI	Rear Sonar System	
SROOF	RF	Sunroof	M
SRS	SRS	Supplemental Restraint System	
START	SC	Starting System	
STOP/L	LT	Stop Lamp	N
T/TOW	LT	Trailer Tow	
T/WARN	WT	Low Tire Pressure Warning System	
TAIL/L	LT	Parking, License and Tail Lamps	O
T/F	TF	Transfer Case	
TPS1	EC	Throttle Position Sensor	
TPS2	EC	Throttle Position Sensor	P
TPS3	EC	Throttle Position Sensor	
TRNSCV	BL	HOMELINK® Universal Transceiver	
TURN	LT	Turn Signal and Hazard Warning Lamps	
VDC	BRC	Vehicle Dynamic Control System	
VEHSEC	BL	Vehicle security (theft warning) system	
VENT/V	EC	EVAP Canister Vent Control Valve	
W/ANT	AV	Audio Antenna	
WARN	DI	Warning Lamps	

HARNESS

< SERVICE INFORMATION >

WINDOW	GW	Power Window
WIP/R	WW	Rear Wiper and Washer
WIPER	WW	Front Wiper and Washer

ELECTRICAL UNITS LOCATION

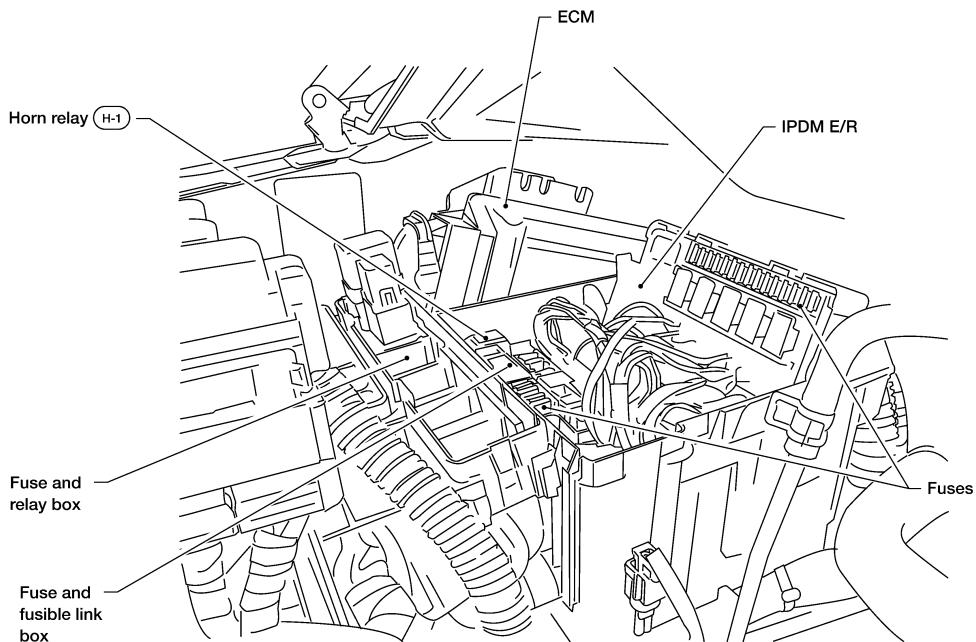
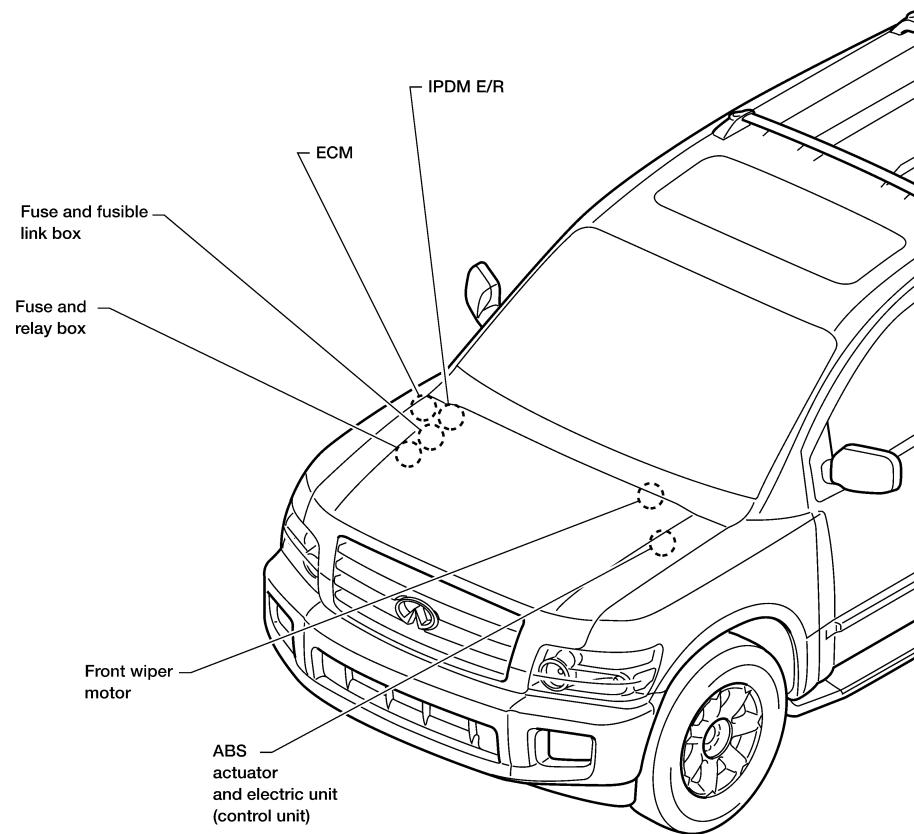
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ELECTRICAL UNITS LOCATION

Electrical Units Location

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ENGINE COMPARTMENT



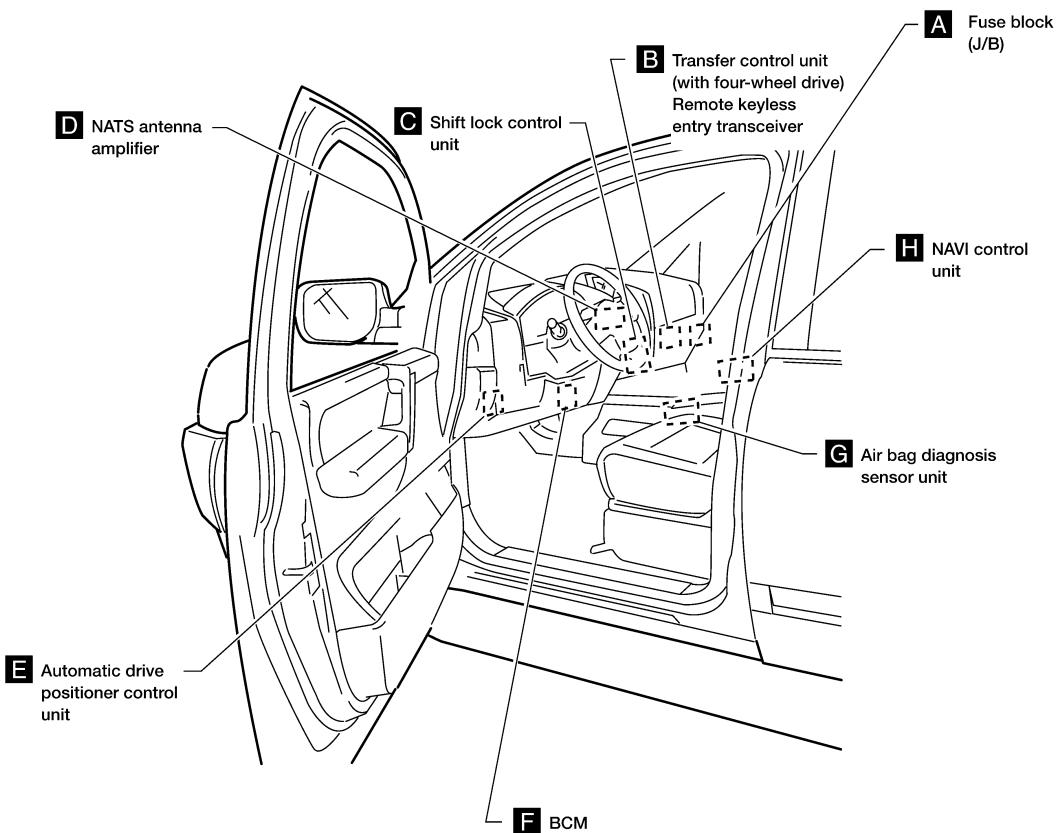
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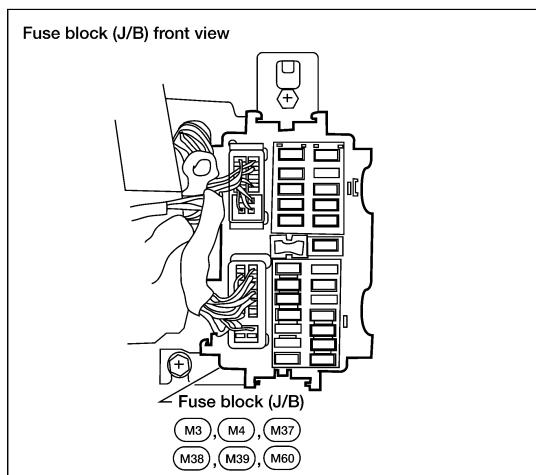
WKIA2014E

ELECTRICAL UNITS LOCATION

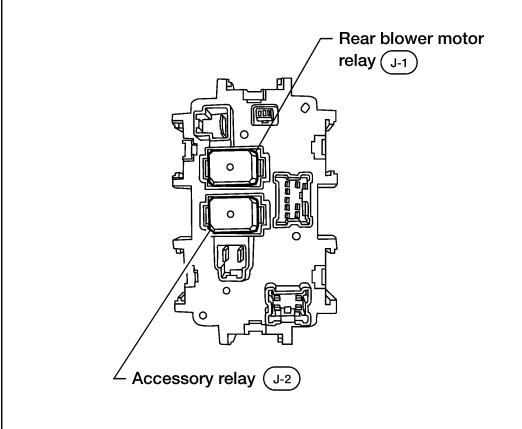
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PASSENGER COMPARTMENT



A Instrument panel side RH



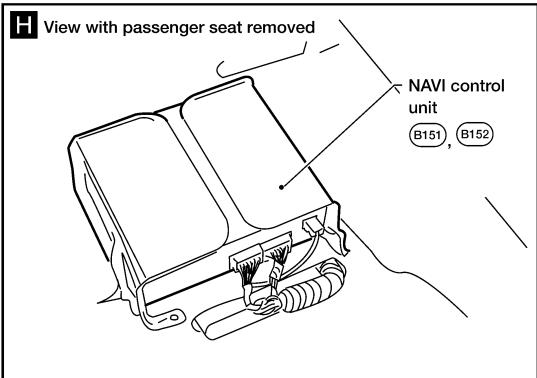
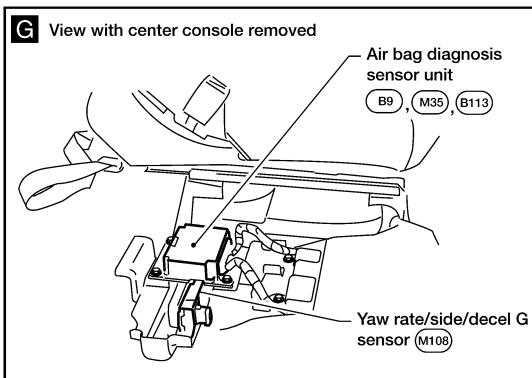
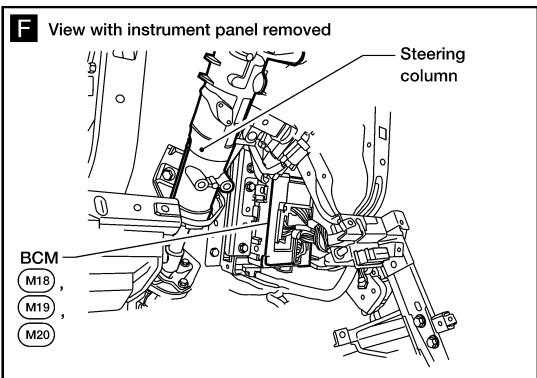
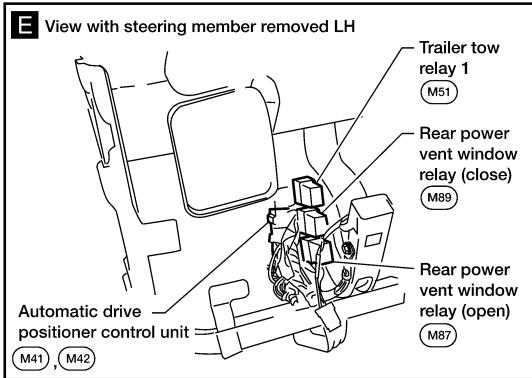
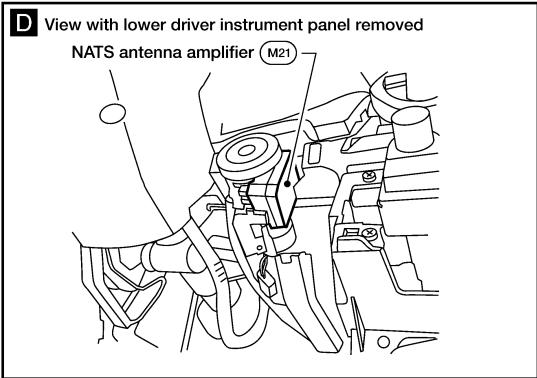
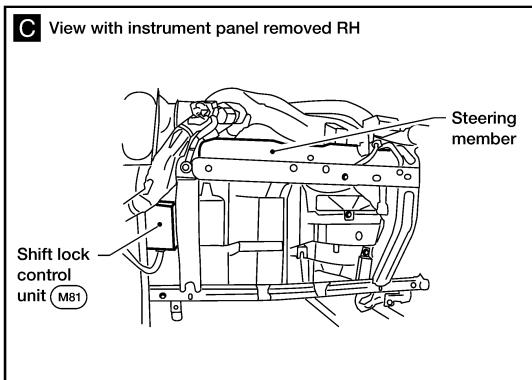
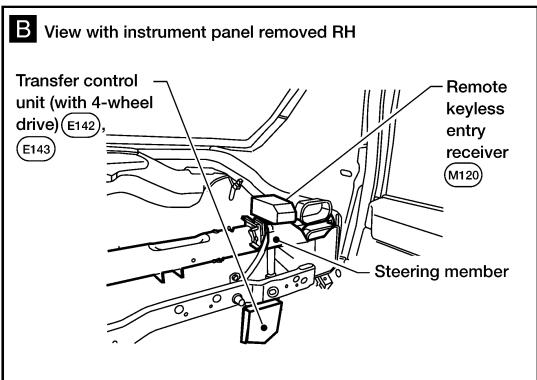
Fuse block (J/B) rear view



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ELECTRICAL UNITS LOCATION

< SERVICE INFORMATION >



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HARNESS CONNECTOR

< SERVICE INFORMATION >

HARNESS CONNECTOR

Description

INFOID:0000000003533849

HARNESS CONNECTOR (TAB-LOCKING TYPE)

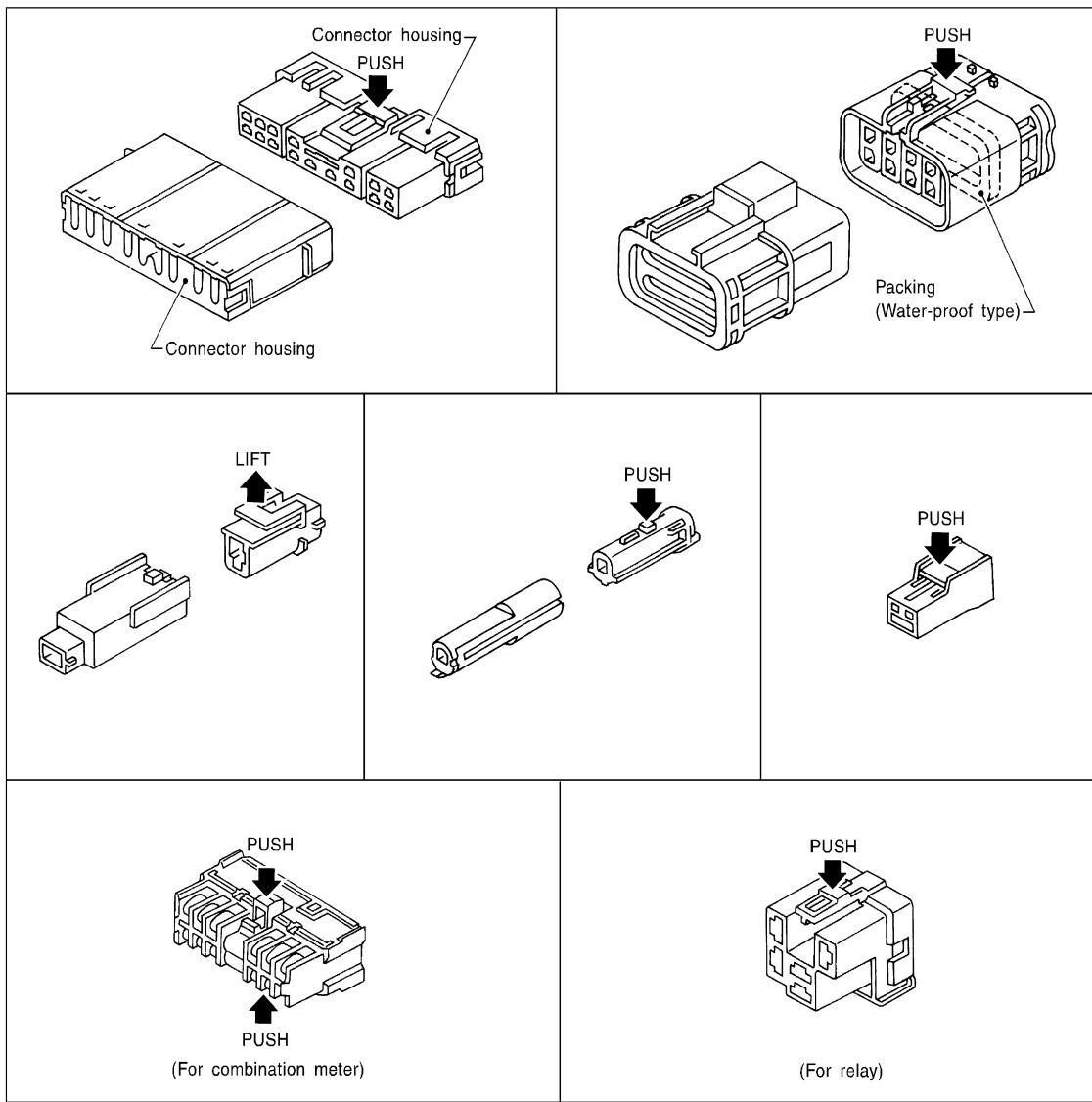
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

CAUTION:

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

[Example]



SEL769DA

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

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

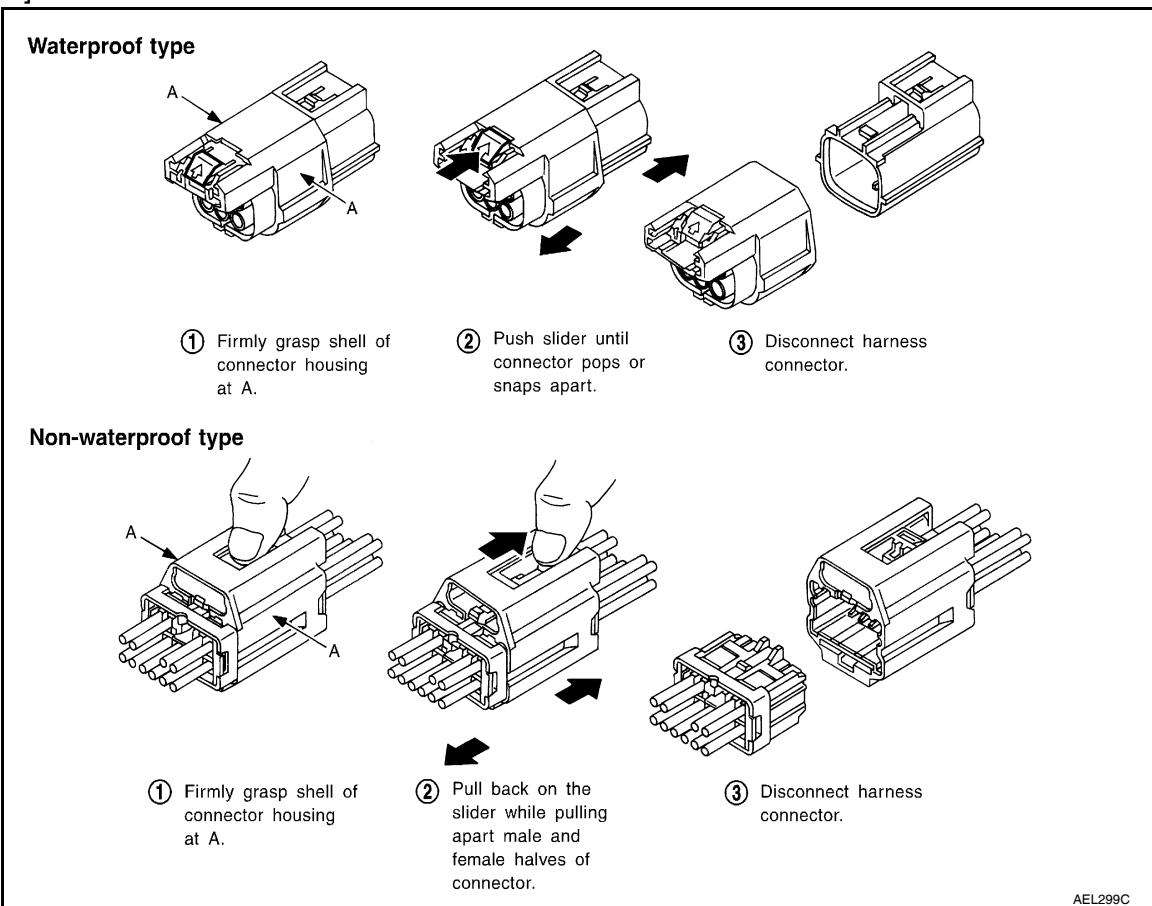
HARNESS CONNECTOR

< SERVICE INFORMATION >

CAUTION:

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

[Example]

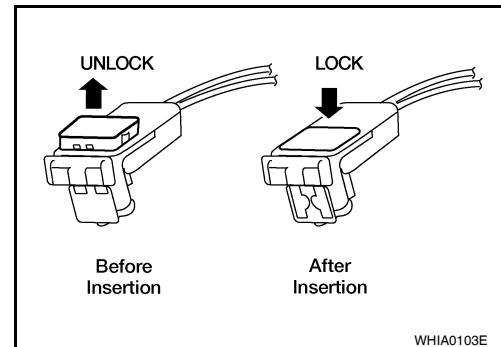


HARNESS CONNECTOR (DIRECT-CONNECT SRS COMPONENT TYPE)

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

CAUTION:

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



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ELECTRICAL UNITS

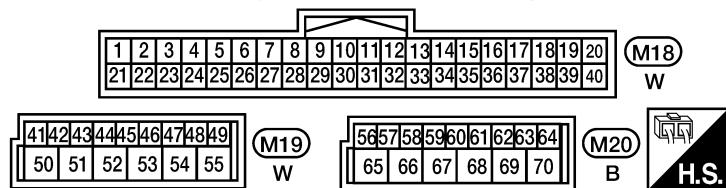
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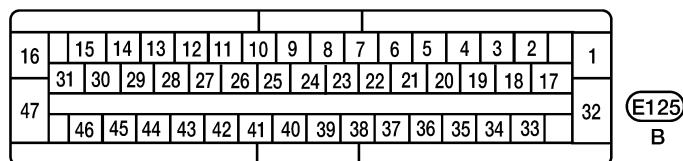
Terminal Arrangement

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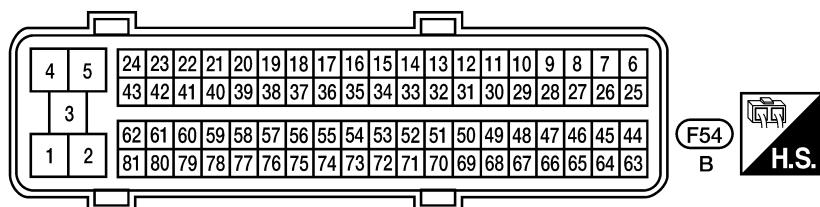
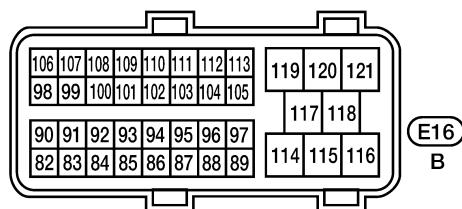
BCM (BODY CONTROL MODULE)



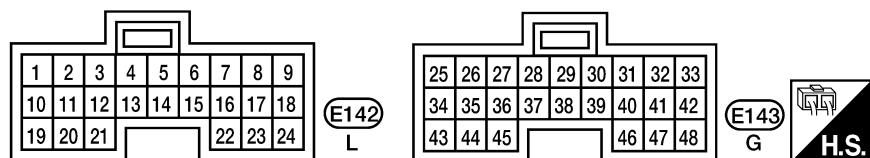
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)



ECM



TRANSFER CONTROL UNIT



WKIA4689E

STANDARDIZED RELAY

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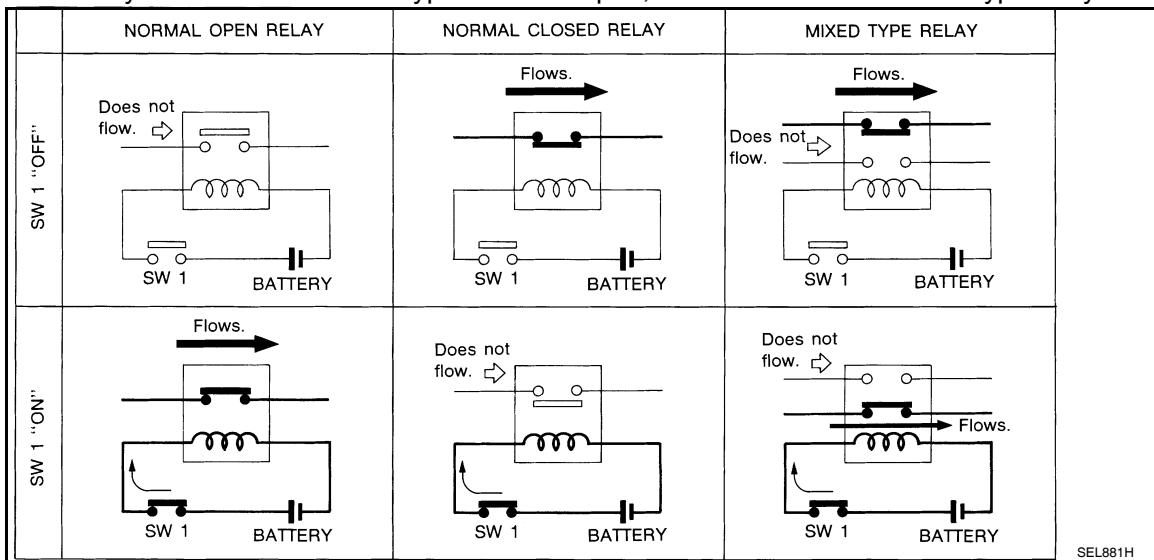
STANDARDIZED RELAY

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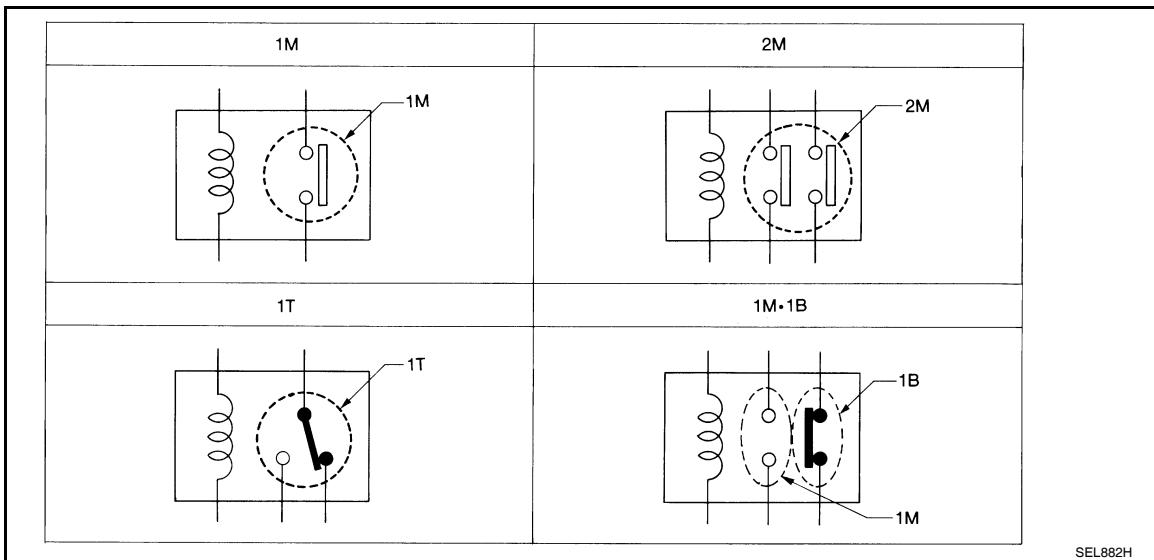
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NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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

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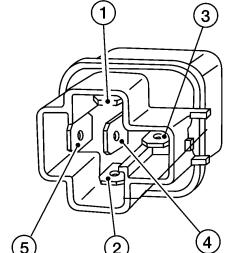
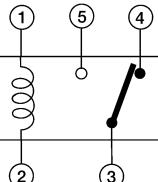
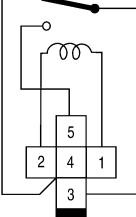
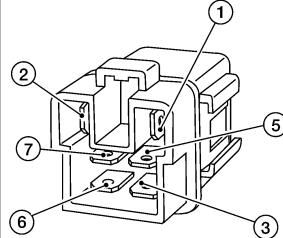
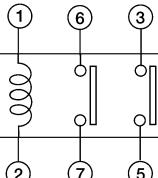
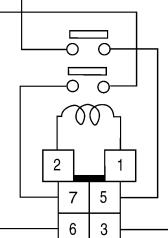
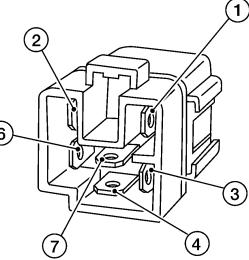
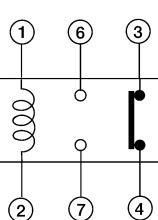
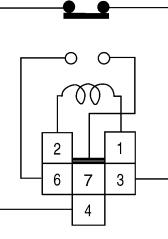
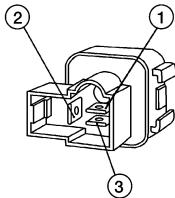
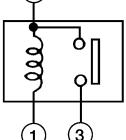
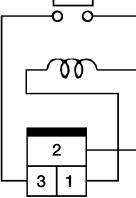
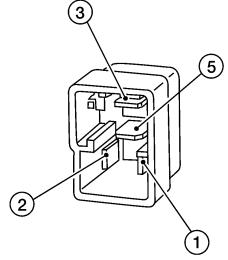
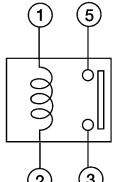
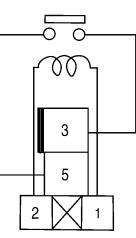
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STANDARDIZED RELAY

< SERVICE INFORMATION >

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

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

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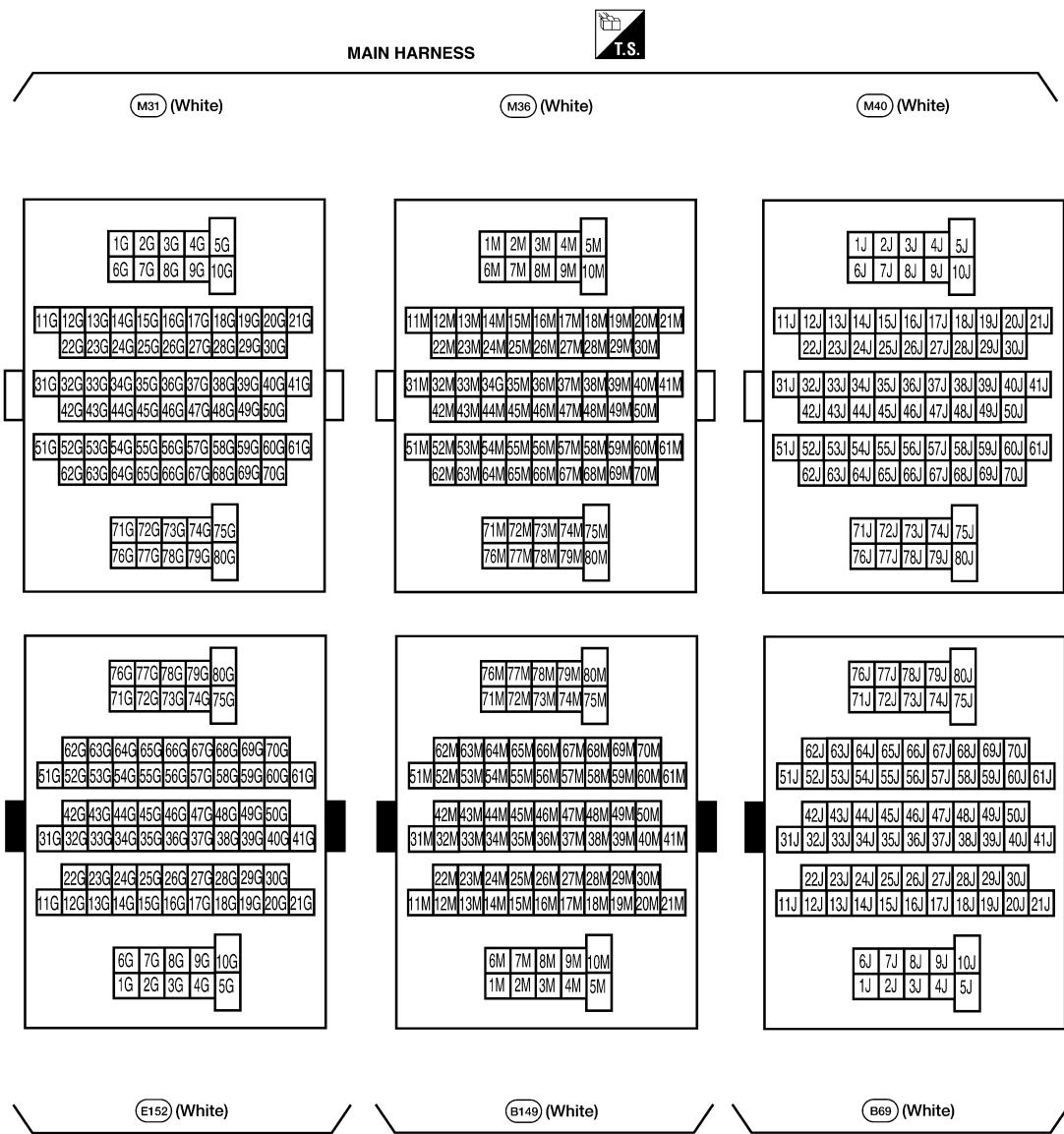
SUPER MULTIPLE JUNCTION (SMJ)

< SERVICE INFORMATION >

SUPER MULTIPLE JUNCTION (SMJ)

Terminal Arrangement

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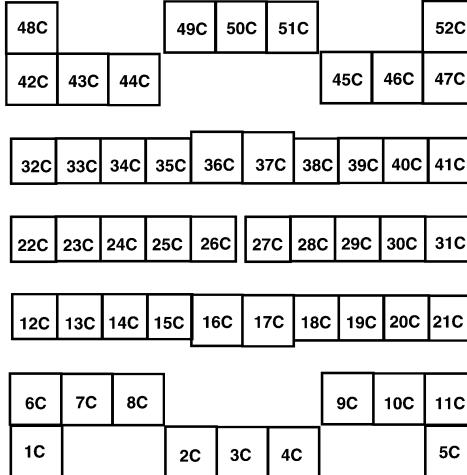
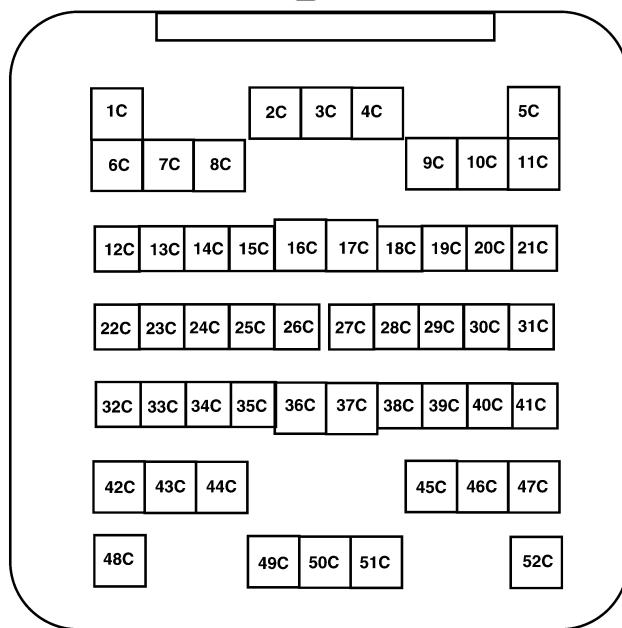


SUPER MULTIPLE JUNCTION (SMJ)

< SERVICE INFORMATION >

CHASSIS HARNESS 

(C1) (Gray)



(E41) (Gray)

ENGINE ROOM HARNESS

WKIA1845E

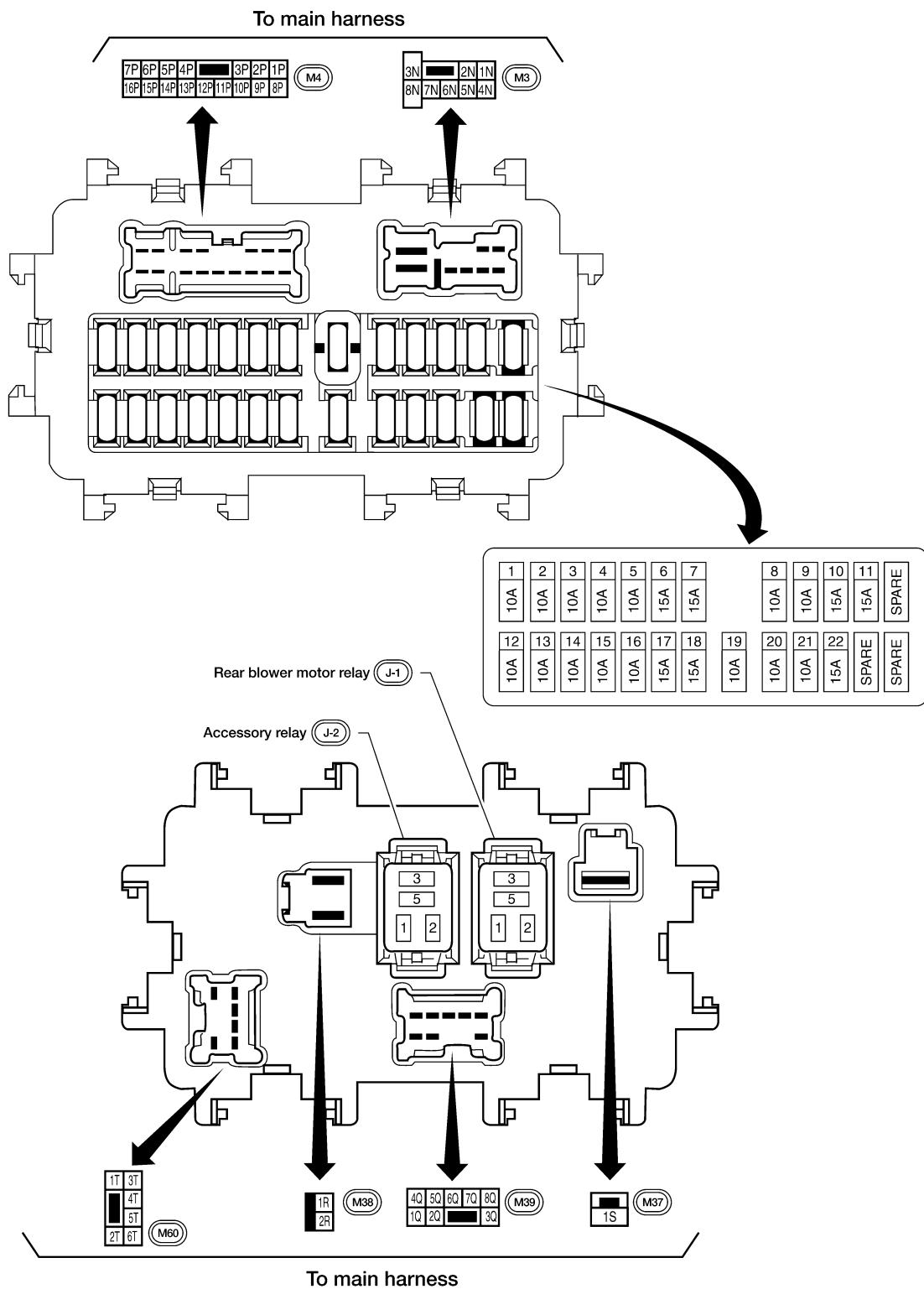
FUSE BLOCK - JUNCTION BOX (J/B)

< SERVICE INFORMATION >

FUSE BLOCK - JUNCTION BOX (J/B)

Terminal Arrangement

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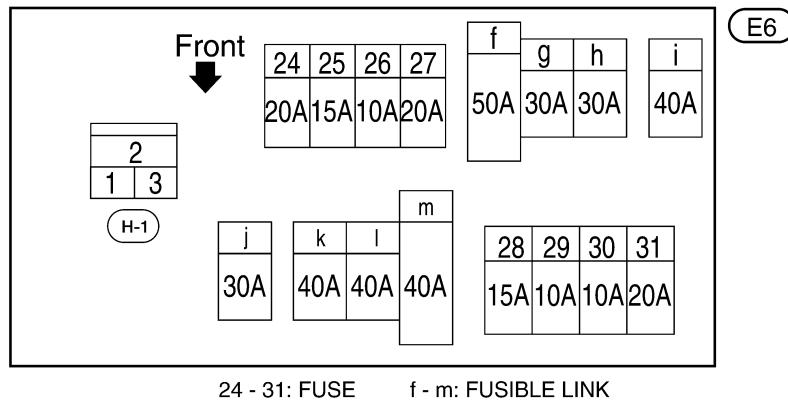
FUSE AND FUSIBLE LINK BOX

< SERVICE INFORMATION >

FUSE AND FUSIBLE LINK BOX

Terminal Arrangement

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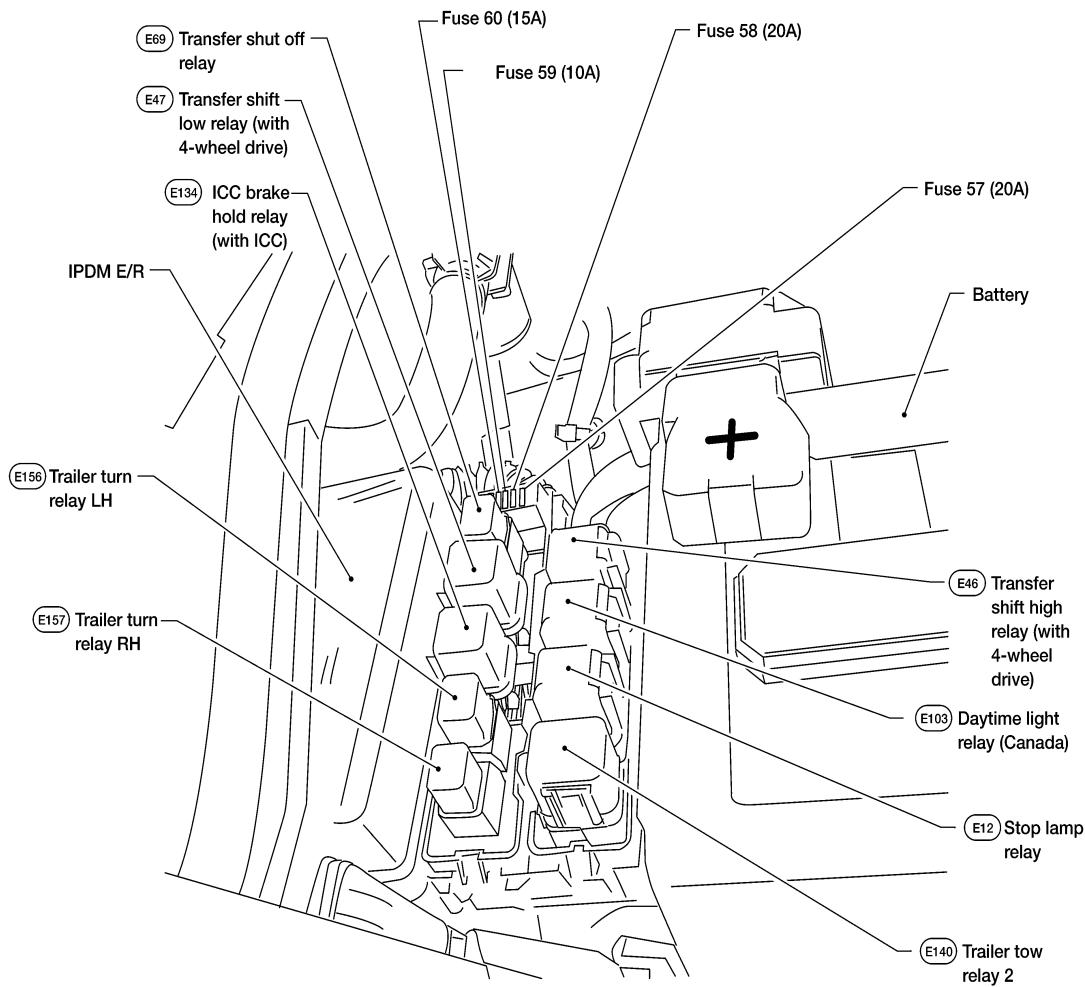
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FUSE AND RELAY BOX

Terminal Arrangement

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