SECTION PG

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012591657

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 SR 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.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.**

Precaution for Power Generation Voltage Variable Control System

INFOID:0000000012591658

CAUTION:

For this model, the battery current sensor that is installed to the battery cable at the negative terminal measures the charging/discharging current of the battery, and performs various controls. If the electrical component or the ground wire is connected directly to the battery terminal, the current other than that being measured with the battery current sensor is charging to or discharging from the battery. This condition causes the malfunction of the control, and then the battery discharge may occur. Do not connect the electrical component or the ground wire directly to the battery terminal.

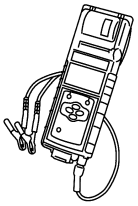
PREPARATION

PREPARATION

Special Service Tool

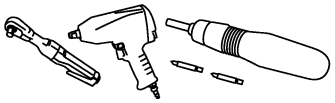
INFOID:0000000012591659

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (165-GR8-1200KIT-NI) Nissan battery and electronics tester  AWIIA1239ZZ	Tests batteries, starting and charging systems and charges batteries. For operating instructions, refer to diagnostic station instruction manual.
— (165-EXP-800-NI) Midtronic hand-held battery tester  JSMIA0806ZZ	Tests batteries and charging systems. For operations instructions, refer to diagnostic analyzer instruction manual.

Commercial Service Tool

INFOID:0000000012591660

Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

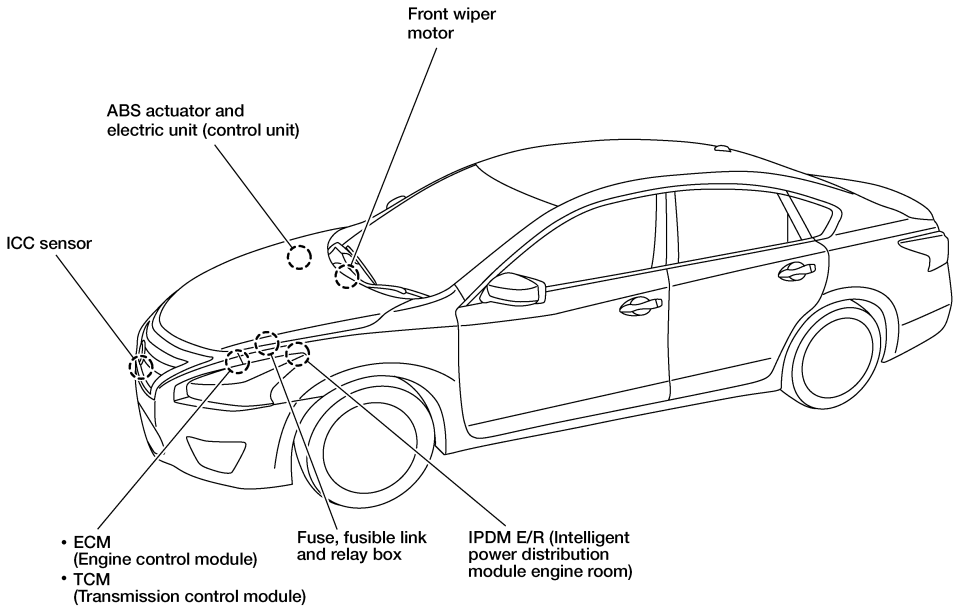
SYSTEM DESCRIPTION

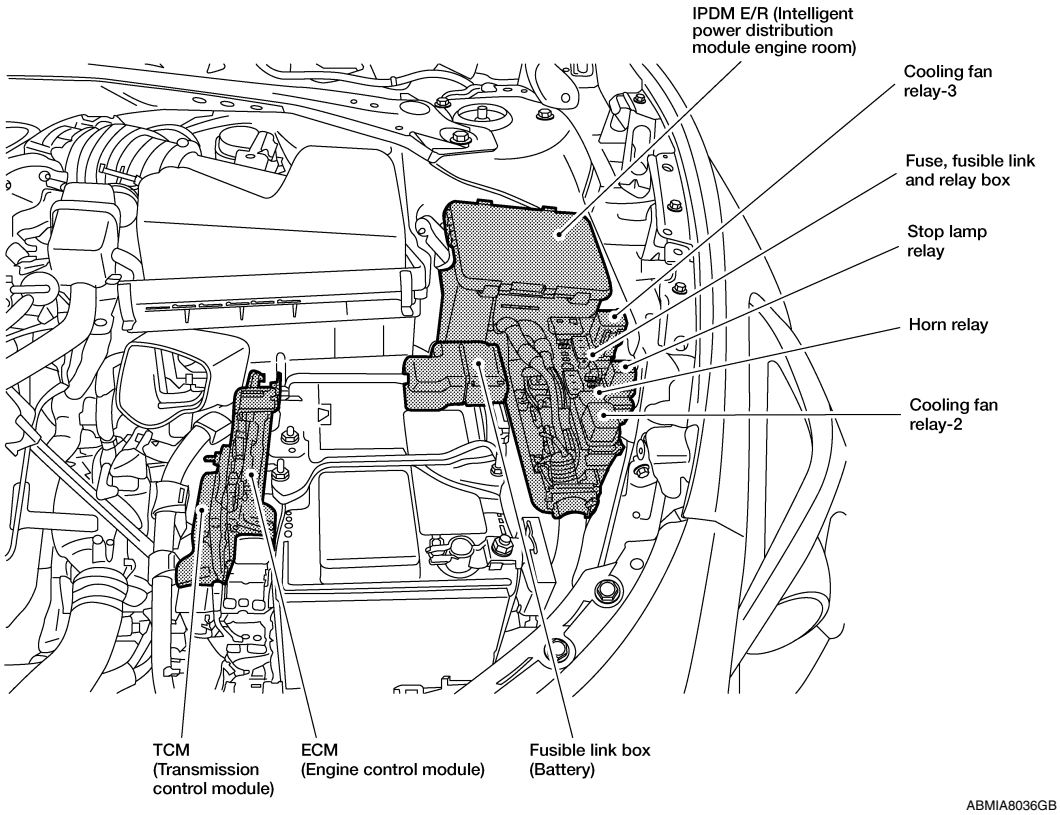
ELECTRICAL UNITS LOCATION

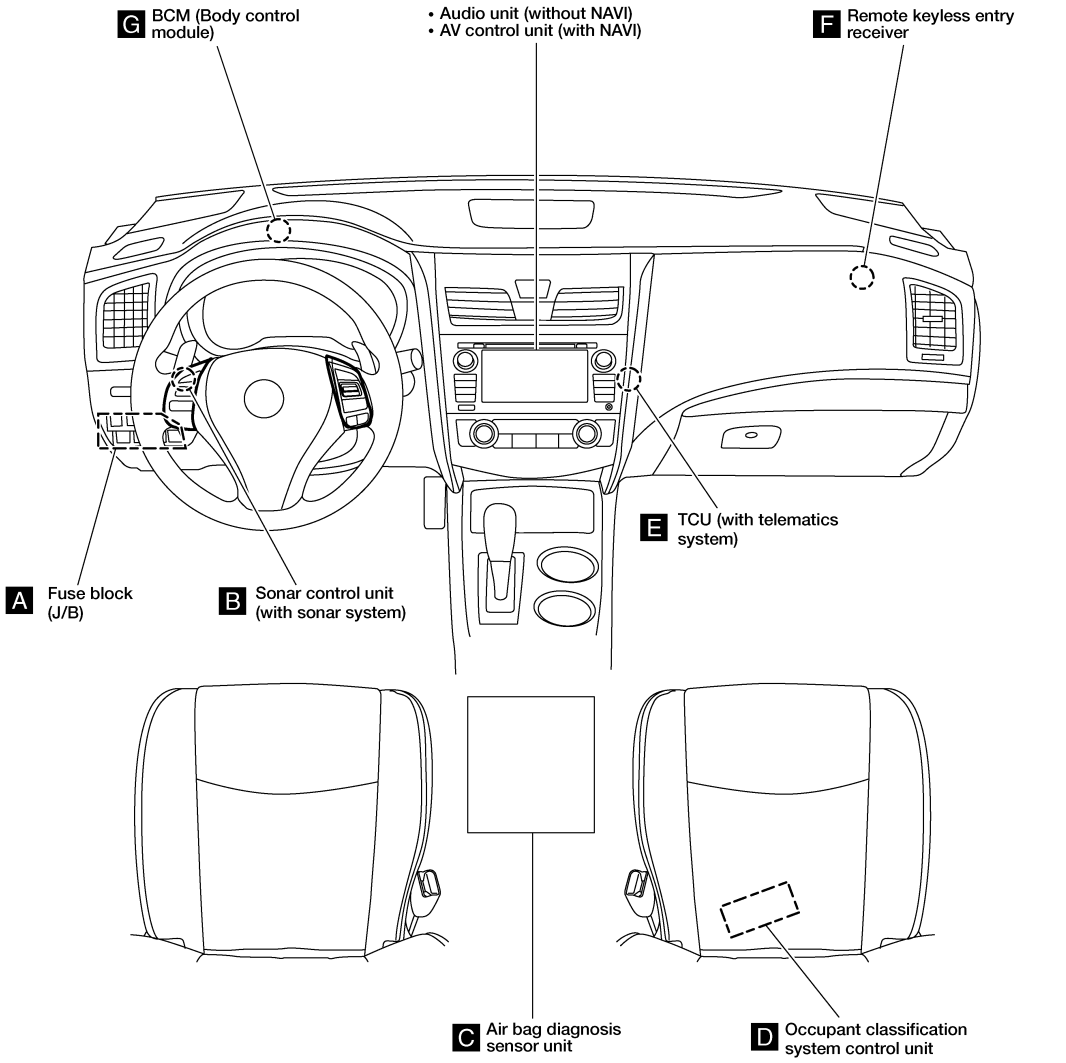
Electrical Units Location

INFOID:0000000012591661

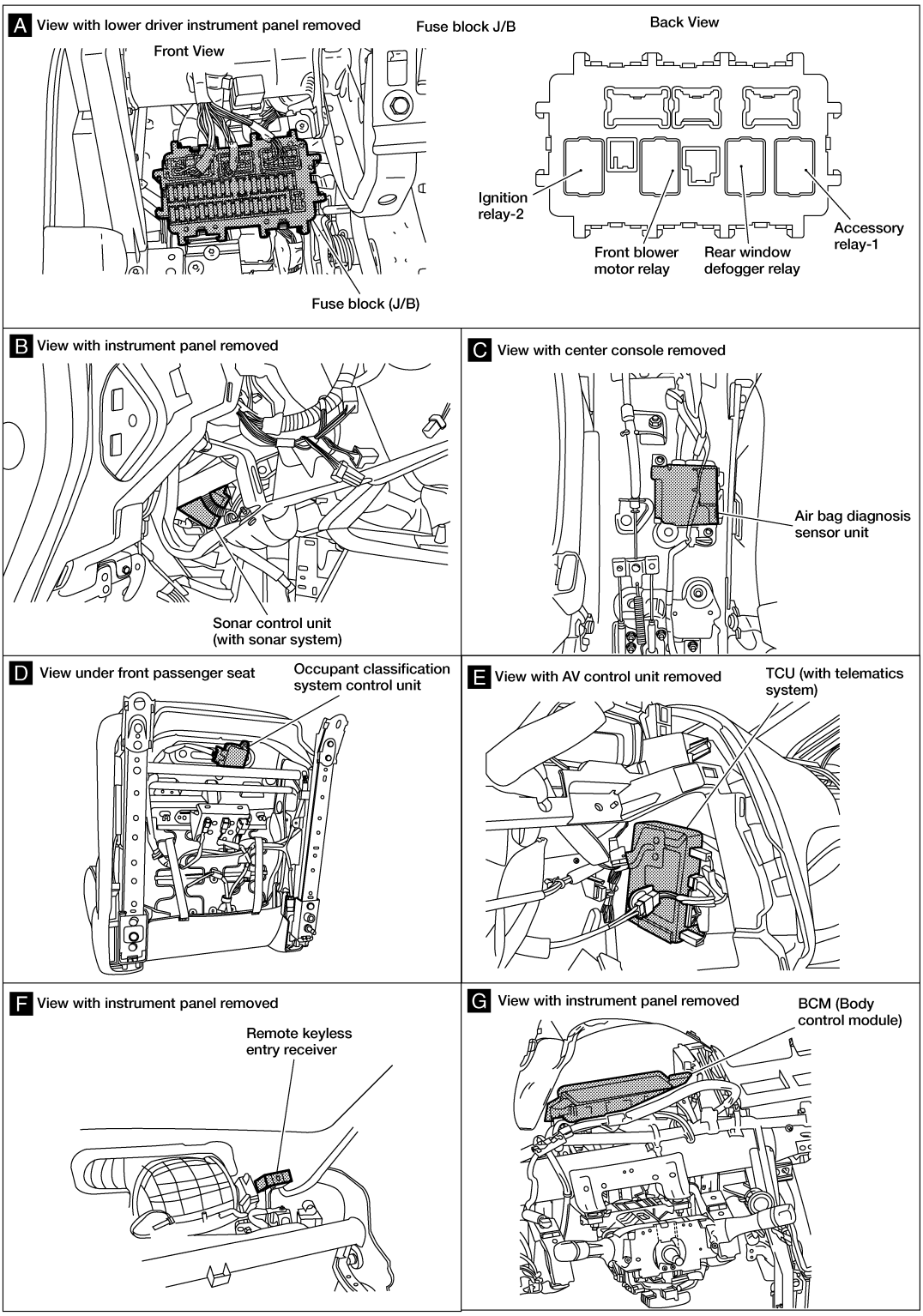
ENGINE COMPARTMENT





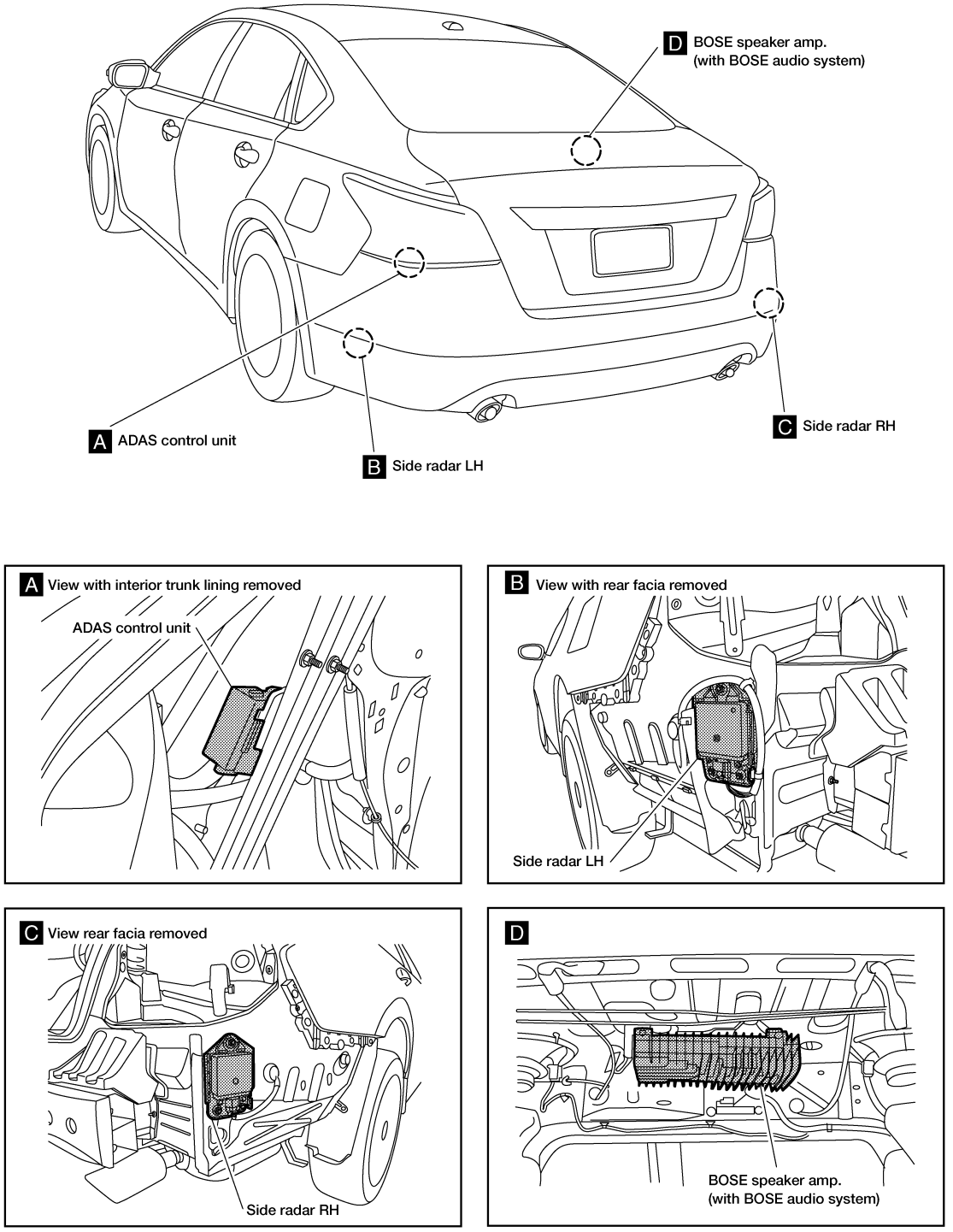


ABMIA8037GB



ABMIA8038GB

LUGGAGE COMPARTMENT



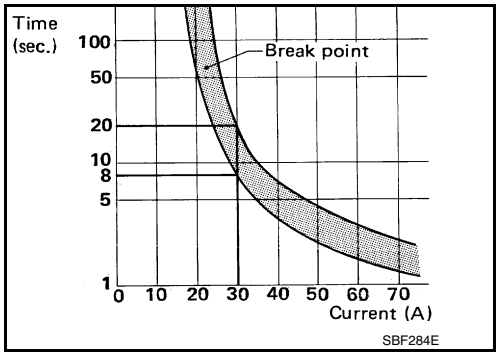
ABMIA8039GB

COMPONENT PARTS

Circuit Breaker (Built Into BCM)

INFOID:0000000012591662

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 moonroof
- Power lumbar
- Power seats



Harness Connector

INFOID:0000000012591663

HARNESS CONNECTOR (TAB-LOCKING TYPE)

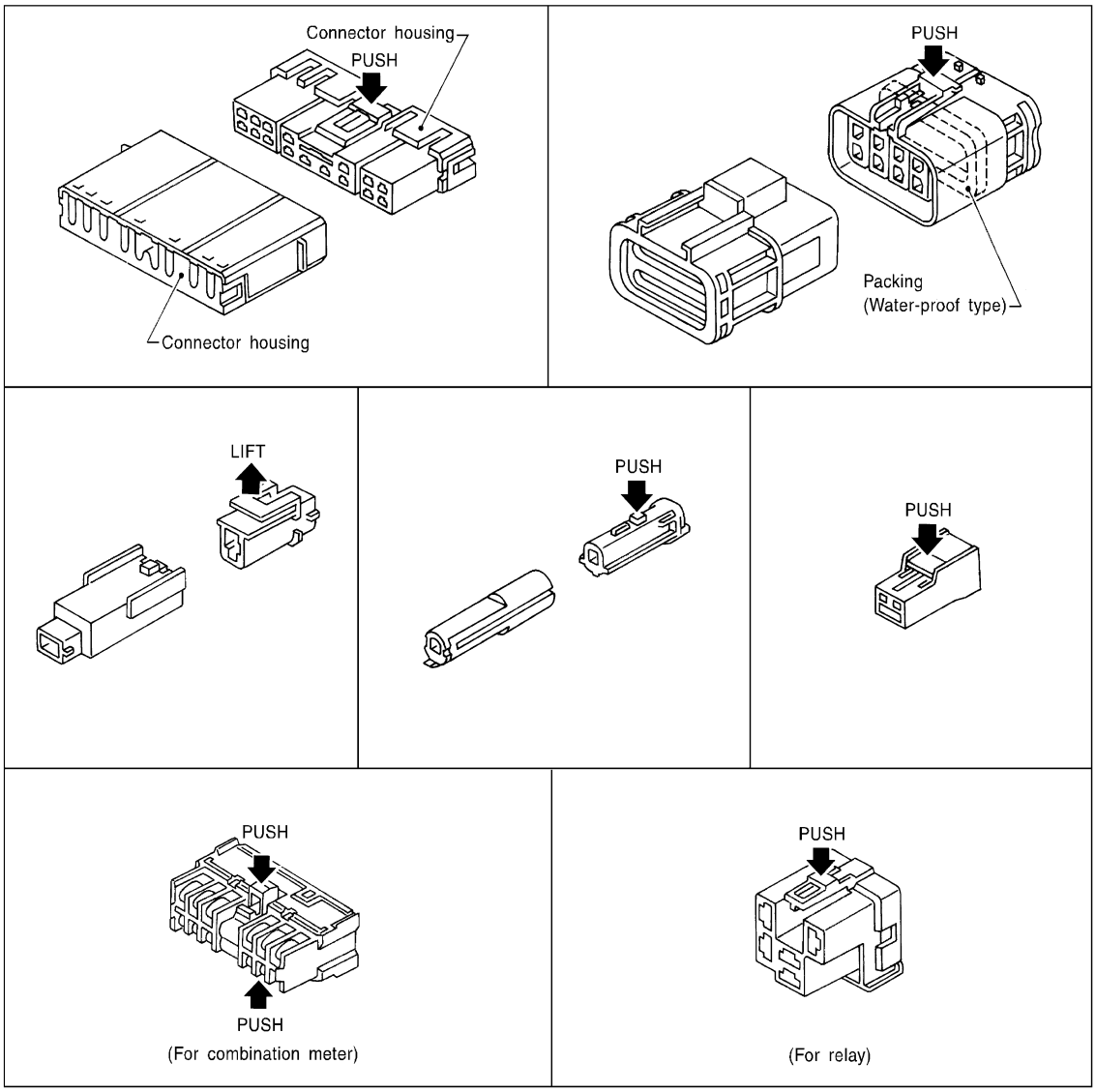
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the figure below.

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

CAUTION:

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

[Example]



SEL769DA

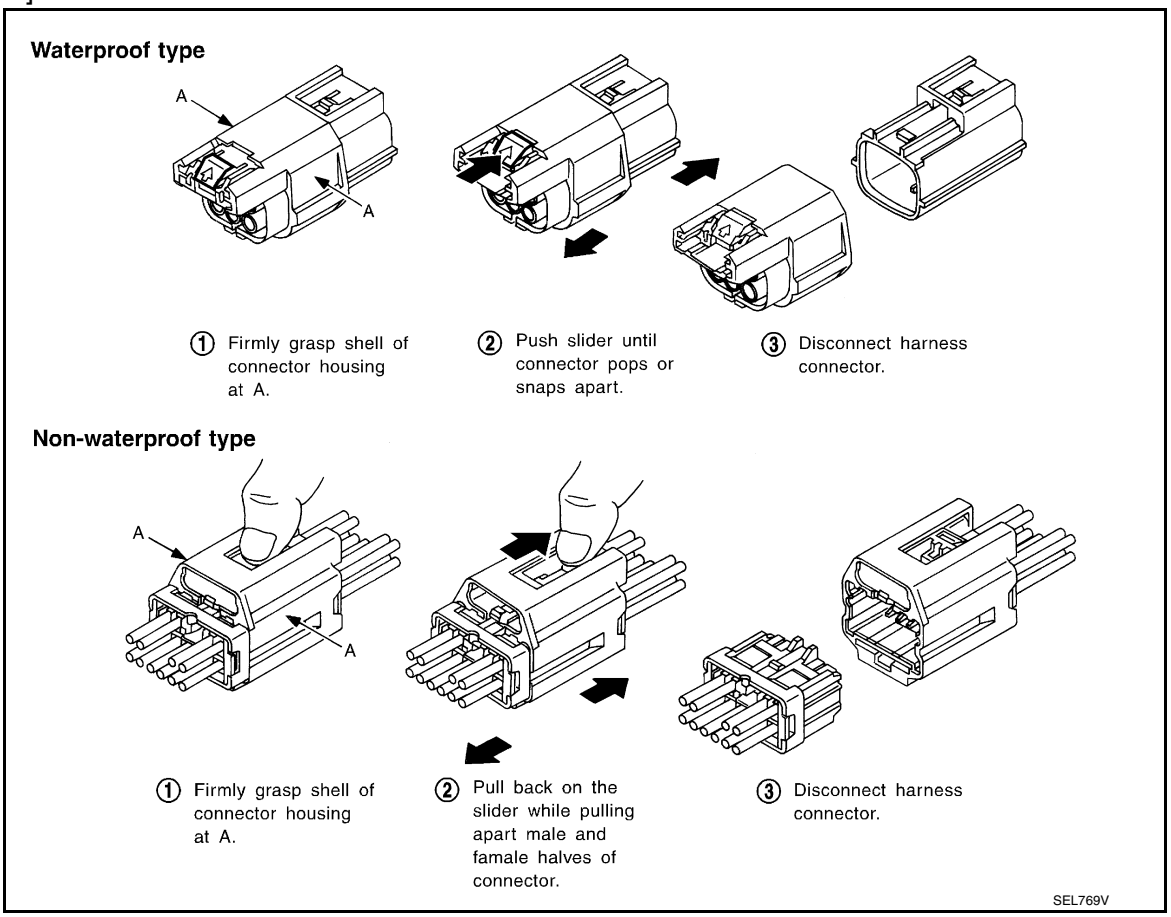
HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

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

CAUTION:

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

[Example]

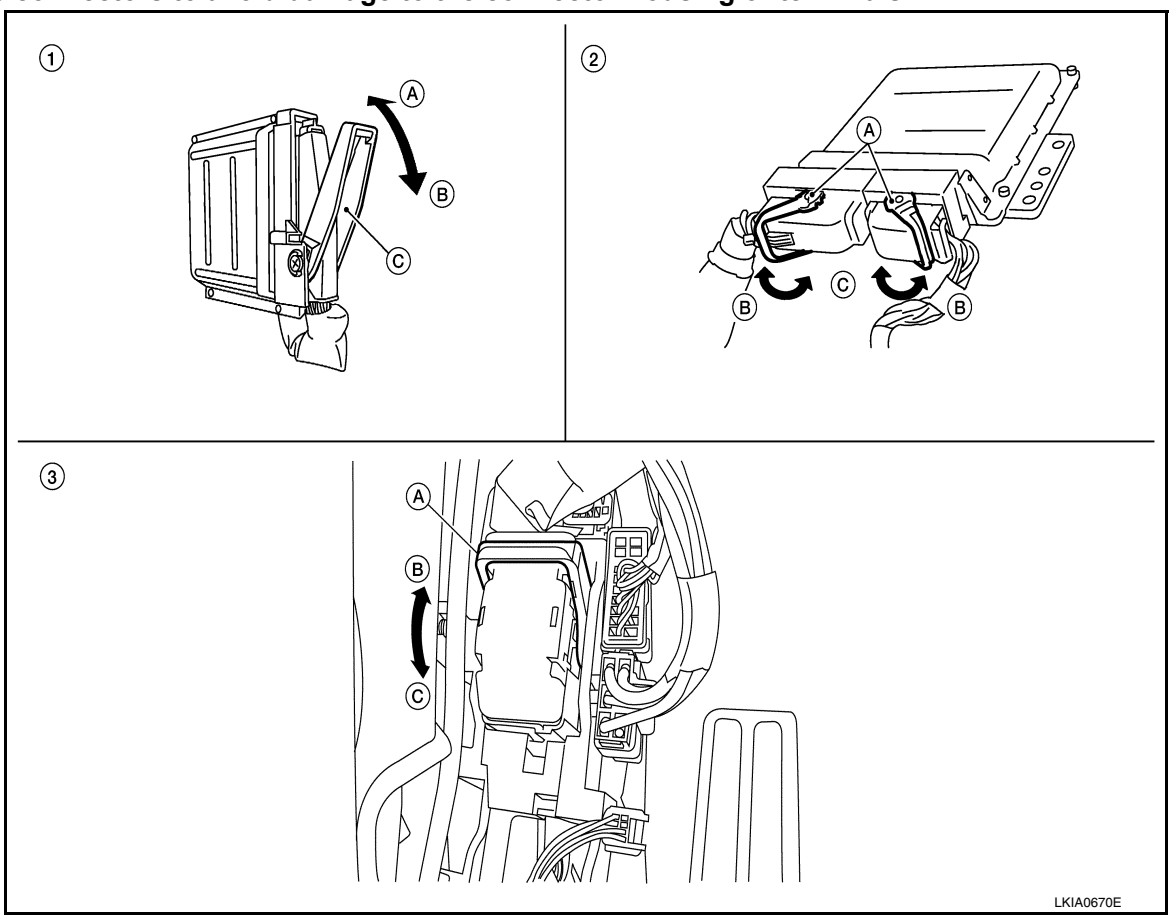


HARNESS CONNECTOR (LEVER LOCKING TYPE)

- Lever locking type harness connectors are used on certain control units and control modules such as ECM, ABS actuator and electric unit (control unit), etc.
- Lever locking type harness connectors are also used on super multiple junction (SMJ) connectors.
- Always confirm the lever is fully locked in place by moving the lever as far as it will go to ensure full connection.

CAUTION:

- **Always confirm the lever is fully released (loosened) before attempting to disconnect or connect these connectors to avoid damage to the connector housing or terminals.**



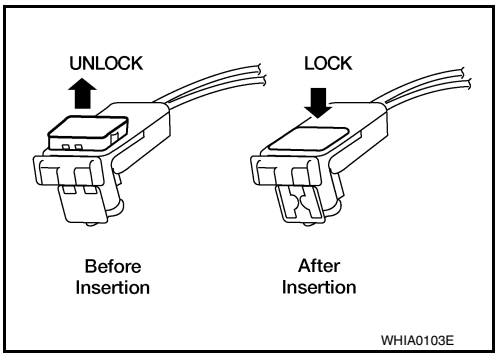
1. Control unit with single lever
   A. Fasten
   B. Loosen
   C. Lever
2. Control unit with dual lever
   A. Lever
   B. Fasten
   C. Loosen
3. SMJ connector
   A. Lever
   B. Fasten
   C. Loosen

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 components.
- Always push down to lock black locking tab after installing connector to SRS components. 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.**

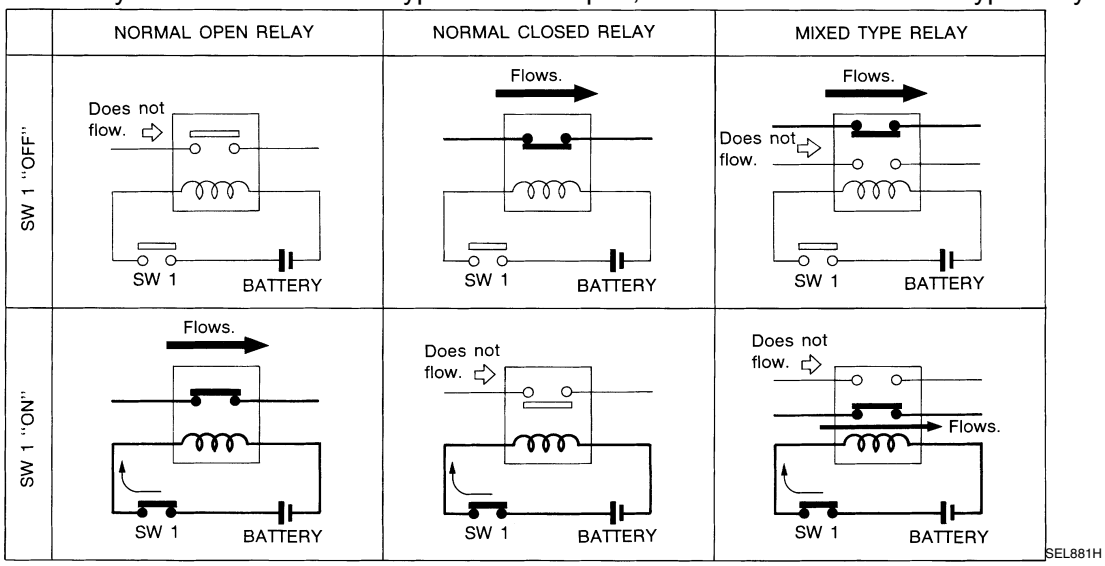


Standardized Relay

INFOID:0000000012591664

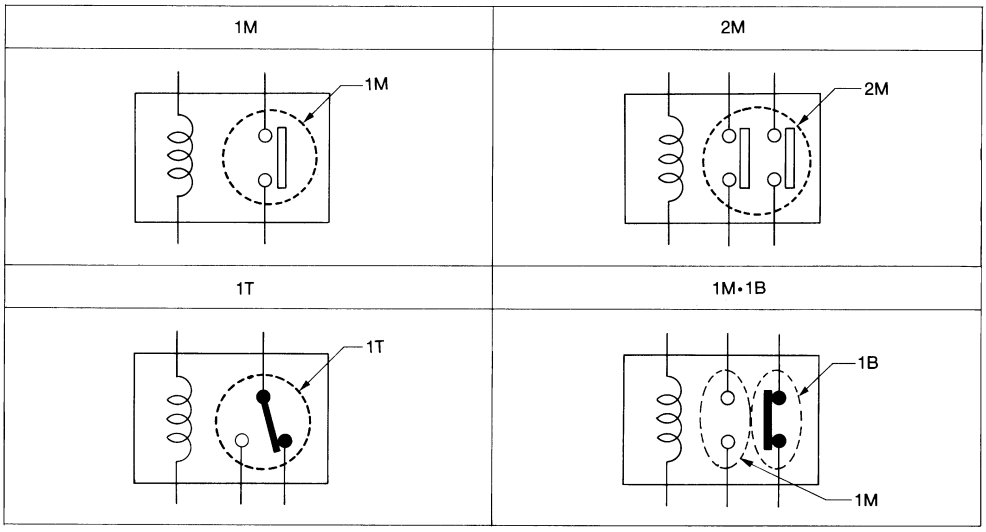
NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

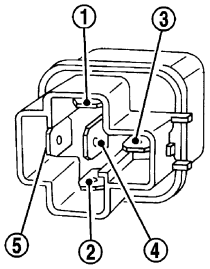
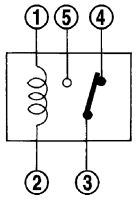
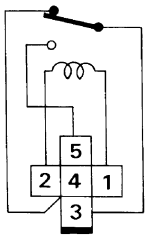
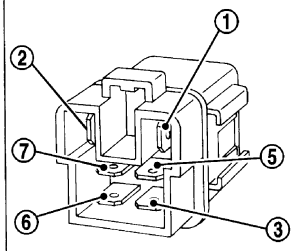
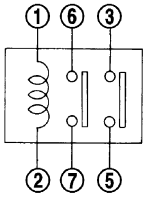
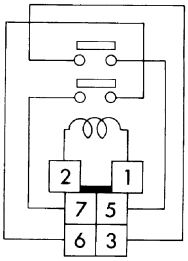
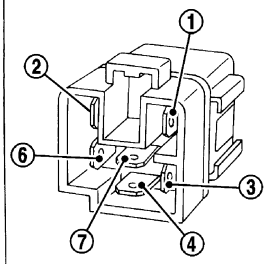
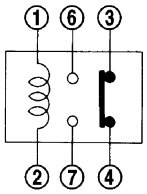
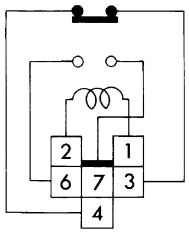
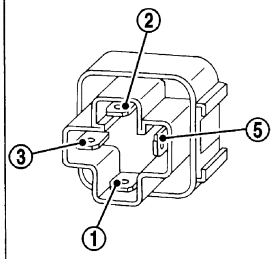
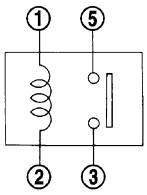
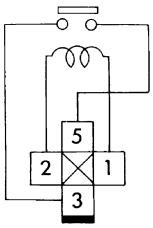
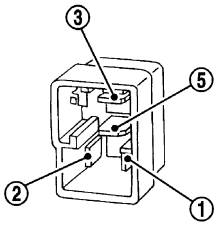
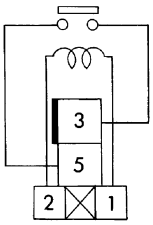
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



TYPE OF STANDARDIZED RELAYS

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



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

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

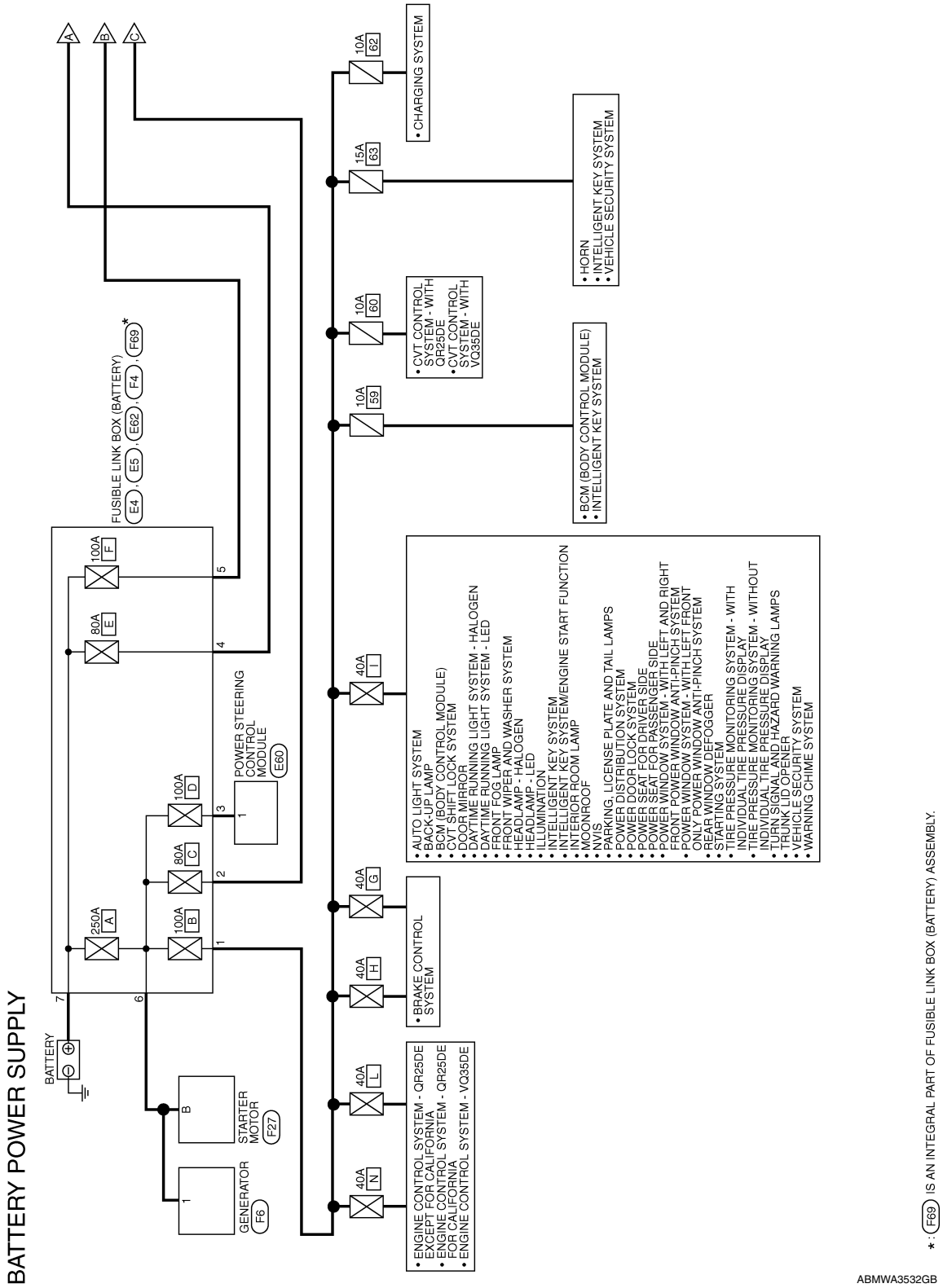
SEL188W

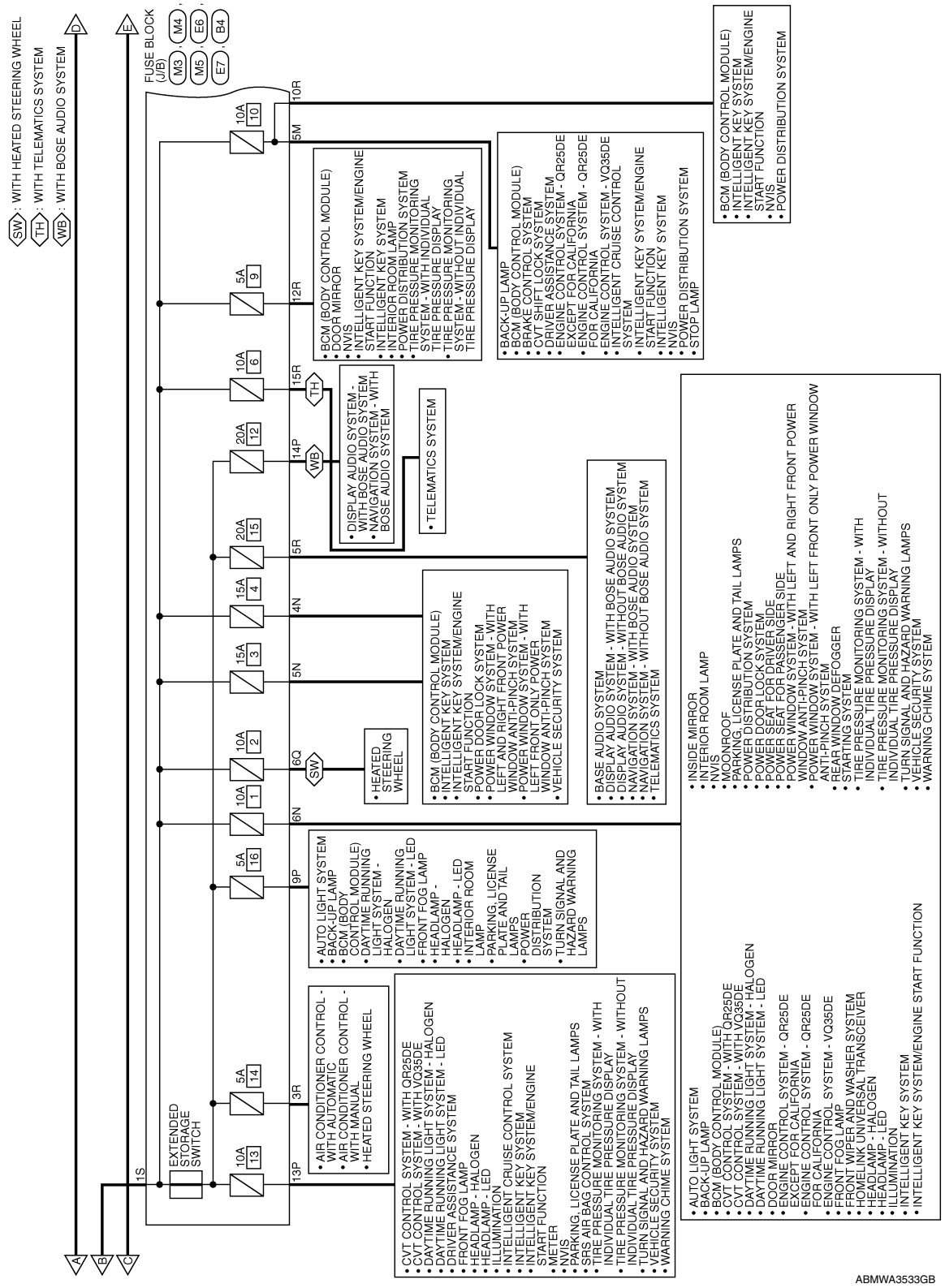
WIRING DIAGRAM

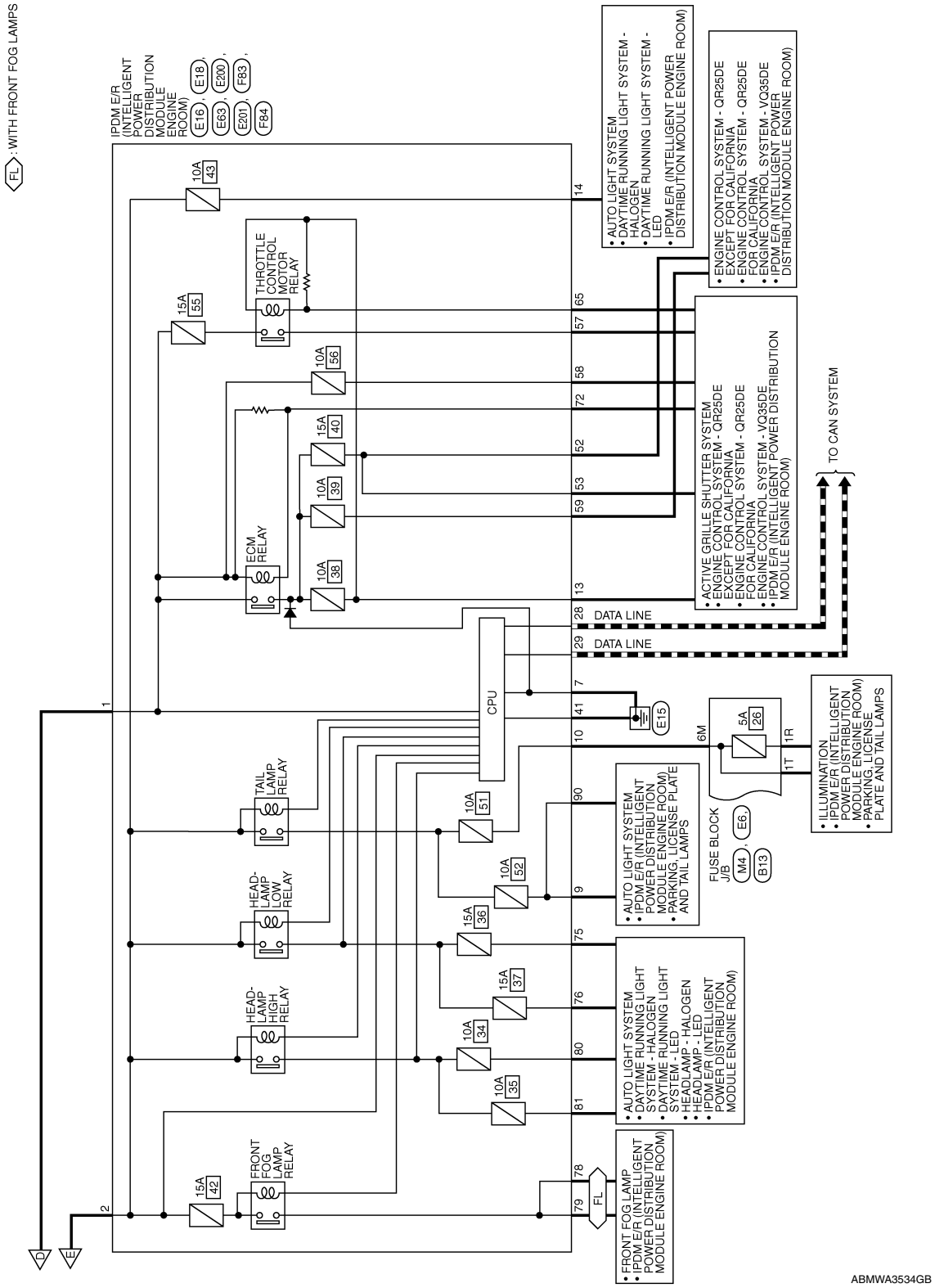
POWER SUPPLY ROUTING CIRCUIT

Wiring Diagram —Battery Power Supply —

INFOID:0000000012591665

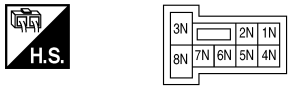



SW : WITH HEATED STEERING WHEEL
TH : WITH TELEMATICS SYSTEM
WB : WITH BOSE AUDIO SYSTEM
FUSE BLOCK (J/B)
M3, M4, M5, E6, E7, B4
EXTENDED STORAGE SWITCH
1S
13P
3R
9P
6N
6Q
4N
5N
5R
14P
15R
12R
5M
10R
10A 13
5A 14
5A 16
10A 1
10A 2
15A 3
15A 4
20A 15
20A 12
10A 6
5A 9
10A 10
• AIR CONDITIONER CONTROL - WITH AUTOMATIC
• AIR CONDITIONER CONTROL - WITH MANUAL
• HEATED STEERING WHEEL
• AUTO LIGHT SYSTEM
• BACK-UP LAMP
• BCM (BODY CONTROL MODULE)
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• DRIVER ASSISTANCE SYSTEM
• FRONT FOG LAMP
• HEADLAMP - HALOGEN
• HEADLAMP - LED
• ILLUMINATION
• INTELLIGENT CRUISE CONTROL SYSTEM
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE
• START FUNCTION
• METER
• NVIS
• PARKING, LICENSE PLATE AND TAIL LAMPS
• SRS AIR BAG CONTROL SYSTEM
• TIRE PRESSURE MONITORING SYSTEM - WITH INDIVIDUAL TIRE PRESSURE DISPLAY
• TIRE PRESSURE MONITORING SYSTEM - WITHOUT INDIVIDUAL TIRE PRESSURE DISPLAY
• TURN SIGNAL AND HAZARD WARNING LAMPS
• VEHICLE SECURITY SYSTEM
• WARNING CHIME SYSTEM
• CVT CONTROL SYSTEM - WITH QR25DE
• CVT CONTROL SYSTEM - WITH VQ35DE
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• DOOR MIRROR
• ENGINE CONTROL SYSTEM - QR25DE
• EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE
• FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• FRONT FOG LAMP
• FRONT WIPER AND WASHER SYSTEM
• HOMELINK UNIVERSAL TRANSCEIVER
• HEADLAMP - HALOGEN
• HEADLAMP - LED
• ILLUMINATION
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• AUTO LIGHT SYSTEM
• BACK-UP LAMP
• BCM (BODY CONTROL MODULE)
• CVT CONTROL SYSTEM - WITH QR25DE
• CVT CONTROL SYSTEM - WITH VQ35DE
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• DOOR MIRROR
• ENGINE CONTROL SYSTEM - QR25DE
• EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE
• FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• FRONT FOG LAMP
• FRONT WIPER AND WASHER SYSTEM
• HOMELINK UNIVERSAL TRANSCEIVER
• HEADLAMP - HALOGEN
• HEADLAMP - LED
• ILLUMINATION
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• AUTO LIGHT SYSTEM
• BACK-UP LAMP
• BCM (BODY CONTROL MODULE)
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• FRONT FOG LAMP
• HEADLAMP - HALOGEN
• HEADLAMP - LED
• ILLUMINATION
• INTELLIGENT CRUISE CONTROL SYSTEM
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE
• START FUNCTION
• METER
• NVIS
• PARKING, LICENSE PLATE AND TAIL LAMPS
• POWER DISTRIBUTION SYSTEM
• TURN SIGNAL AND HAZARD WARNING LAMPS
• BCM (BODY CONTROL MODULE)
• DOOR MIRROR
• NVIS
• INTELLIGENT KEY SYSTEM/ENGINE
• START FUNCTION
• INTERIOR ROOM LAMP
• POWER DISTRIBUTION SYSTEM
• TIRE PRESSURE MONITORING SYSTEM - WITH INDIVIDUAL TIRE PRESSURE DISPLAY
• TIRE PRESSURE MONITORING SYSTEM - WITHOUT INDIVIDUAL TIRE PRESSURE DISPLAY
• BACK-UP LAMP
• BCM (BODY CONTROL MODULE)
• BRAKE CONTROL SYSTEM
• CVT SHIFT LOCK SYSTEM
• DRIVER ASSISTANCE SYSTEM
• ENGINE CONTROL SYSTEM - QR25DE
• EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE
• FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• INTELLIGENT CRUISE CONTROL SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE
• START FUNCTION
• NVIS
• INTELLIGENT KEY SYSTEM
• POWER DISTRIBUTION SYSTEM
• STOP LAMP
• BCM (BODY CONTROL MODULE)
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE
• START FUNCTION
• NVIS
• POWER DISTRIBUTION SYSTEM
• DISPLAY AUDIO SYSTEM - WITH BOSE AUDIO SYSTEM
• NAVIGATION SYSTEM - WITH BOSE AUDIO SYSTEM
• TELEMATICS SYSTEM
• HEATED STEERING WHEEL
• BCM (BODY CONTROL MODULE)
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE
• START FUNCTION
• POWER DOOR LOCK SYSTEM
• POWER WINDOW SYSTEM - WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM
• POWER WINDOW SYSTEM - WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM
• VEHICLE SECURITY SYSTEM
• BASE AUDIO SYSTEM
• DISPLAY AUDIO SYSTEM - WITH BOSE AUDIO SYSTEM
• DISPLAY AUDIO SYSTEM - WITHOUT BOSE AUDIO SYSTEM
• NAVIGATION SYSTEM - WITH BOSE AUDIO SYSTEM
• NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM
• TELEMATICS SYSTEM
• INSIDE MIRROR
• INTERIOR ROOM LAMP
• NVIS
• MOONROOF
• PARKING, LICENSE PLATE AND TAIL LAMPS
• POWER DISTRIBUTION SYSTEM
• POWER DOOR LOCK SYSTEM
• POWER SEAT FOR DRIVER SIDE
• POWER SEAT FOR PASSENGER SIDE
• POWER WINDOW SYSTEM - WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM
• POWER WINDOW SYSTEM - WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM
• REAR WINDOW DEFOGGER
• STARTING SYSTEM
• TIRE PRESSURE MONITORING SYSTEM - WITH INDIVIDUAL TIRE PRESSURE DISPLAY
• TIRE PRESSURE MONITORING SYSTEM - WITHOUT INDIVIDUAL TIRE PRESSURE DISPLAY
• TURN SIGNAL AND HAZARD WARNING LAMPS
• VEHICLE SECURITY SYSTEM
• WARNING CHIME SYSTEM
ABMWA3533GB


FL : WITH FRONT FOG LAMPS
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E16, E18, E63, E200, E201, E83, F84
10A 43
THROTTLE CONTROL MOTOR RELAY
15A 55
10A 56
15A 40
10A 39
10A 38
ECM RELAY
CPU
TAIL LAMP RELAY
HEAD-LAMP LOW RELAY
HEAD-LAMP HIGH RELAY
FRONT FOG LAMP RELAY
15A 42
10A 51
10A 52
15A 36
15A 37
10A 34
10A 35
14
65
57
58
72
52
53
59
13
28
29
7
41
10
90
9
75
76
80
81
78
79
1
2
D
E
E15
6M
5A 26
1R
1T
FUSE BLOCK J/B
M4, E6, B13
DATA LINE
DATA LINE
TO CAN SYSTEM
• AUTO LIGHT SYSTEM
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• ENGINE CONTROL SYSTEM - QR25DE EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• ACTIVE GRILLE SHUTTER SYSTEM
• ENGINE CONTROL SYSTEM - QR25DE EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• ILLUMINATION
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• PARKING, LICENSE PLATE AND TAIL LAMPS
• AUTO LIGHT SYSTEM
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• PARKING, LICENSE PLATE AND TAIL LAMPS
• AUTO LIGHT SYSTEM
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• HEADLAMP - HALOGEN
• HEADLAMP - LED
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• FRONT FOG LAMP
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
FL
ABMWA3534GB

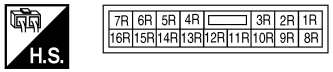
BATTERY POWER SUPPLY CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



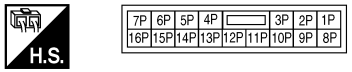
Terminal No.	Color of Wire	Signal Name
4N	V	–
5N	BR	–
6N	W	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1R	R	–
3R	SB	–
5R	G	–
10R	BG	–
12R	W	–
15R	BG	–

Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
9P	Y	–
13P	G	–
14P	G	–

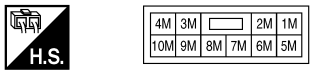
Connector No.	E4
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	W	–
2	L	–

Connector No.	E5
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
3	W	–
4	R	–

Connector No.	E6
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5M	G	–
6M	V	–

ABMIA7925GB

Connector No.	E7
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1S	W	–

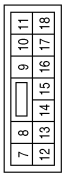
Connector No.	E16
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	F/L MAIN
2	L	F/L USM

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
7	B	GND (POWER)
9	SB	TAIL RH
10	V	TAIL LH
13	L	ECM VB
14	Y	DTRL

Connector No.	E60
Connector Name	POWER STEERING CONTROL MODULE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	+B

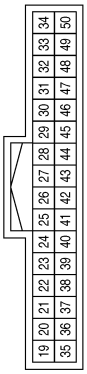
Connector No.	E62
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
5	W	–

Connector No.	E63
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

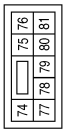


Terminal No.	Color of Wire	Signal Name
28	P	CAN-L
29	L	CAN-H
41	B	GND (SIGNAL)

ABMIA7926GB

Connector No.	E200
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

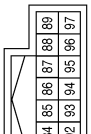
H.S.



Terminal No.	Color of Wire	Signal Name
75	R	HEADLAMP LO RH
76	P	HEADLAMP LO LH
78	W	FR FOG LAMP RH
79	G	FR FOG LAMP LH
80	L	HEADLAMP HI RH
81	Y	HEADLAMP HI LH

Connector No.	E201
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
90	LG	CLEARANCE

Connector No.	F4
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
6	B/R	–

Connector No.	F6
Connector Name	GENERATOR
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/R	–

Connector No.	F27
Connector Name	STARTER MOTOR
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
B	B/R	–

Connector No.	F69
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	–

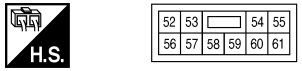
H.S.

Terminal No.	Color of Wire	Signal Name
7	B	–

AAMIA2701GB

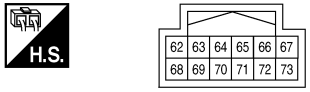
POWER SUPPLY ROUTING CIRCUIT

Connector No.	F83
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



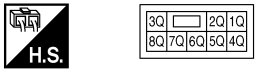
Terminal No.	Color of Wire	Signal Name
52	G	O2SENS #2 (WITH QR25DE)
52	P	O2SENS #2 (WITH VQ35DE)
53	G	O2SENS #1 (WITH VQ35DE)
53	W	O2SENS #1 (WITH QR25DE)
57	R	ETC
58	SB	ECM BAT
59	LG	ENG SOL

Connector No.	F84
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
65	BR	MOTRLY (WITH QR25DE)
65	L	MOTRLY (WITH VQ35DE)
72	V	SSOFF (WITH QR25DE)
72	Y	SSOFF (WITH VQ35DE)

Connector No.	B4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6Q	W	–

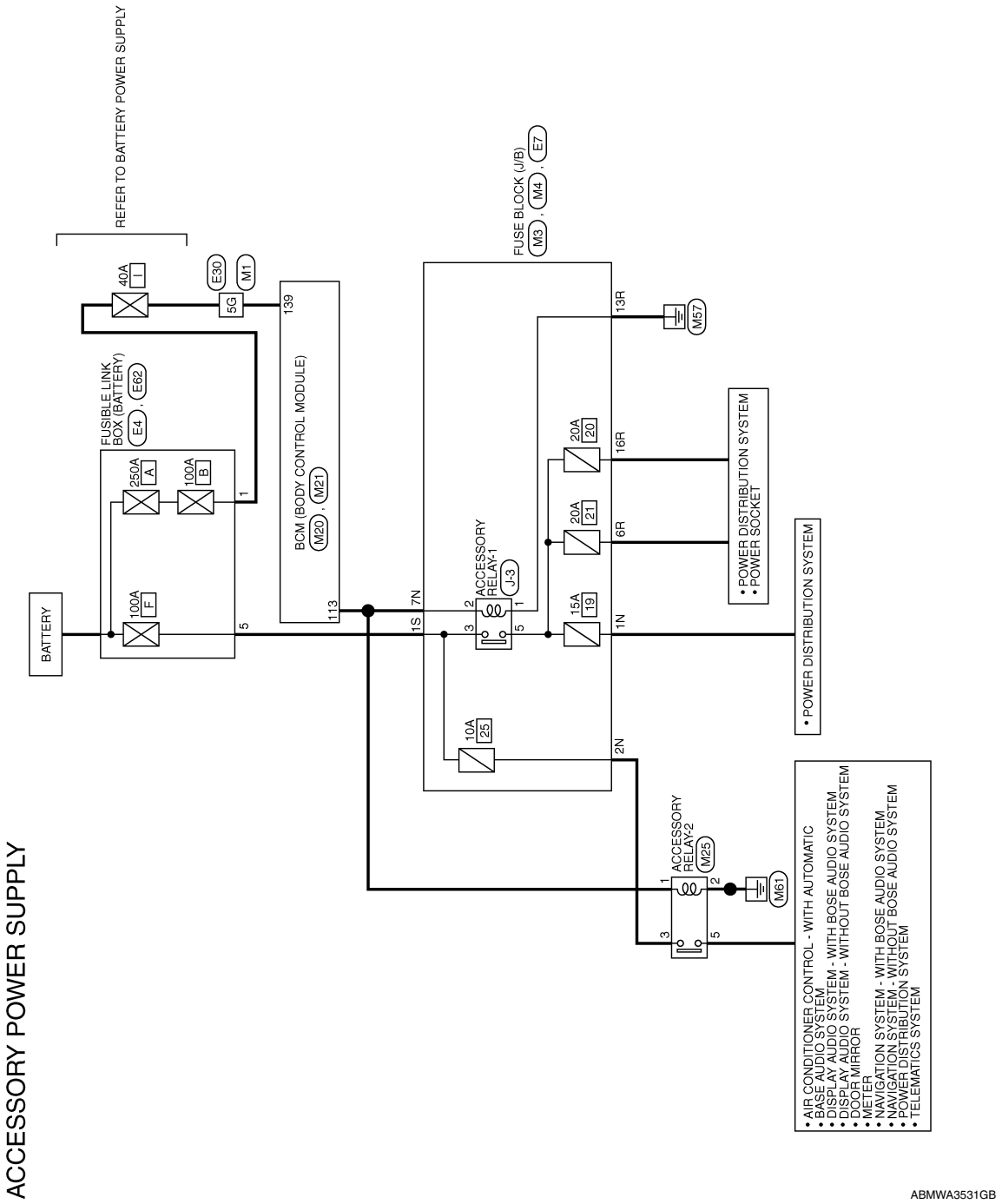
Connector No.	B13
Connector Name	FUSE BLOCK J/B
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1T	V	–

ABMIA7618GB

Wiring Diagram —Accessory Power Supply —

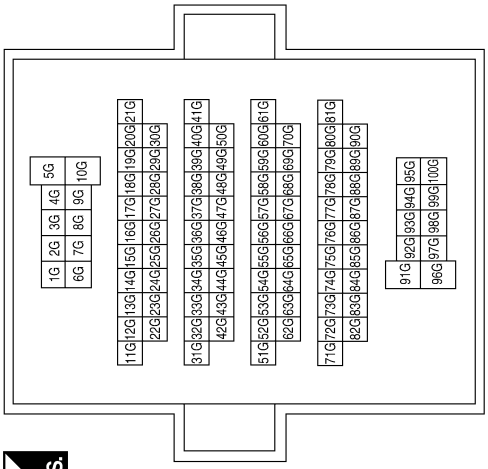
INFOID:0000000012591666



ACCESSORY POWER SUPPLY CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

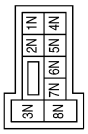
H.S.



Terminal No.	Color of Wire	Signal Name
5G	W	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

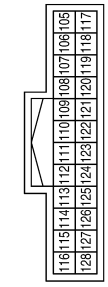
H.S.



Terminal No.	Color of Wire	Signal Name
1N	V	–
2N	LG	–
7N	P	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.



Terminal No.	Color of Wire	Signal Name
6R	LG	–
13R	B	–
16R	LG	–

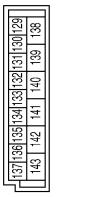
Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
113	P	ACC RELAY OUT

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
139	W	BAT POWER F/L

ABMIA3816GB

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	E4
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–

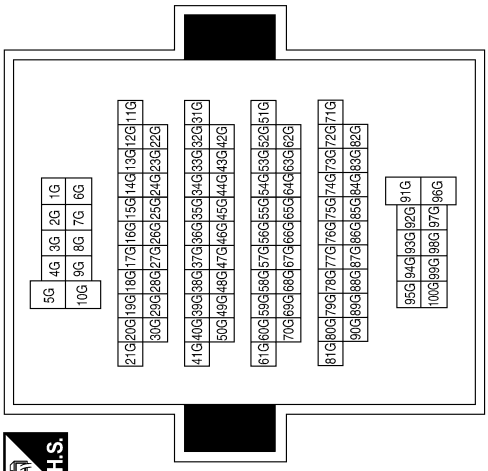
Connector No.	E7
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1S	W	–

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5G	P	–

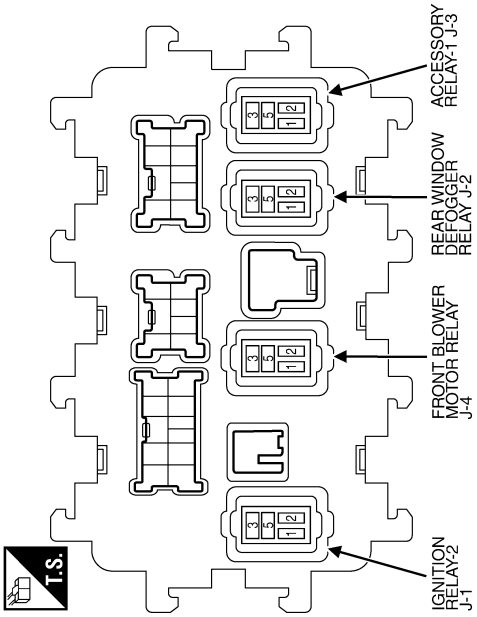
Connector No.	E62
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
5	W	–

ABMIA3817GB

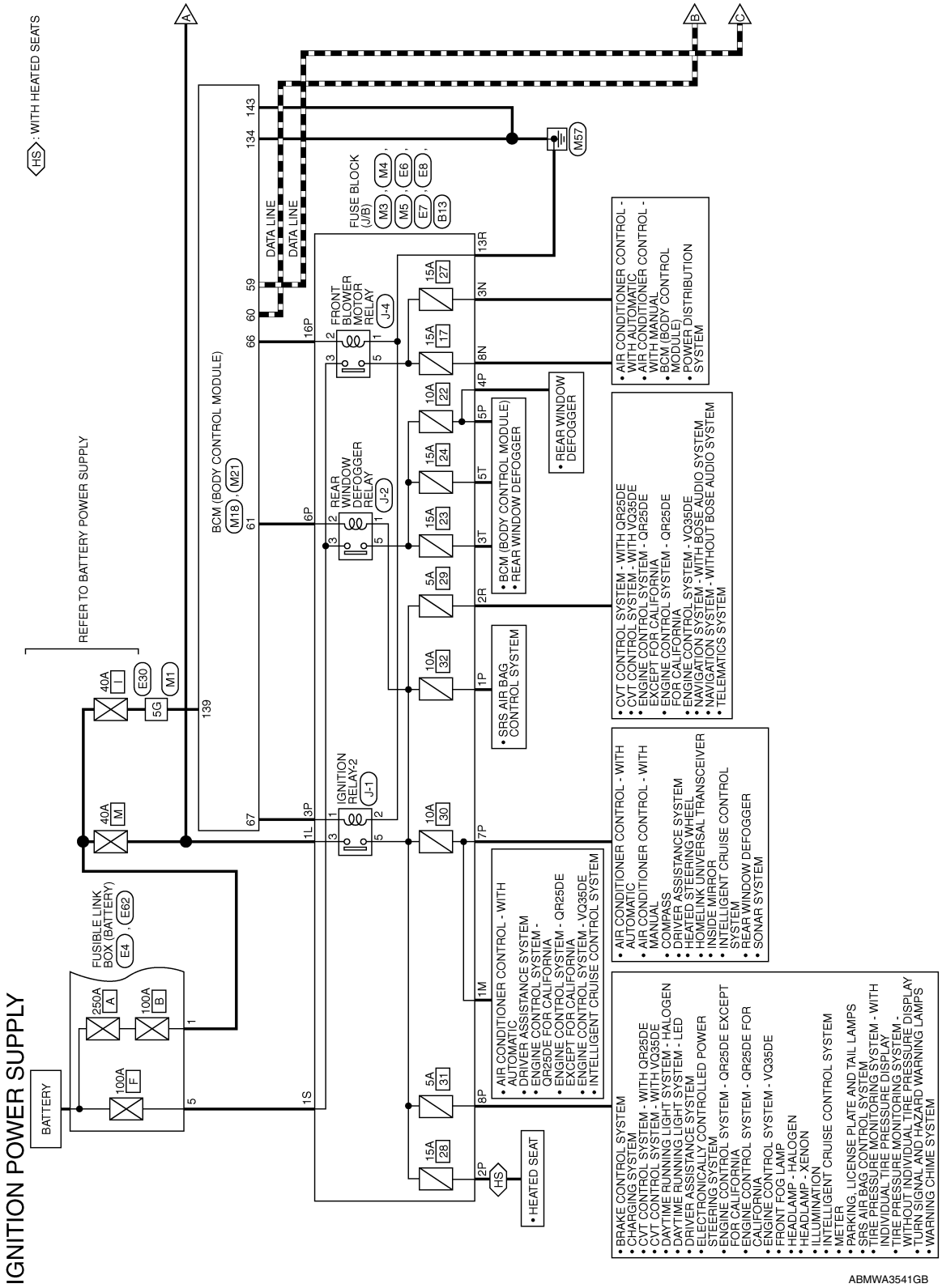
Connector No.	J-3
Connector Name	FUSE BLOCK (J/B) (ACCESSORY RELAY-1)
Connector Color	–

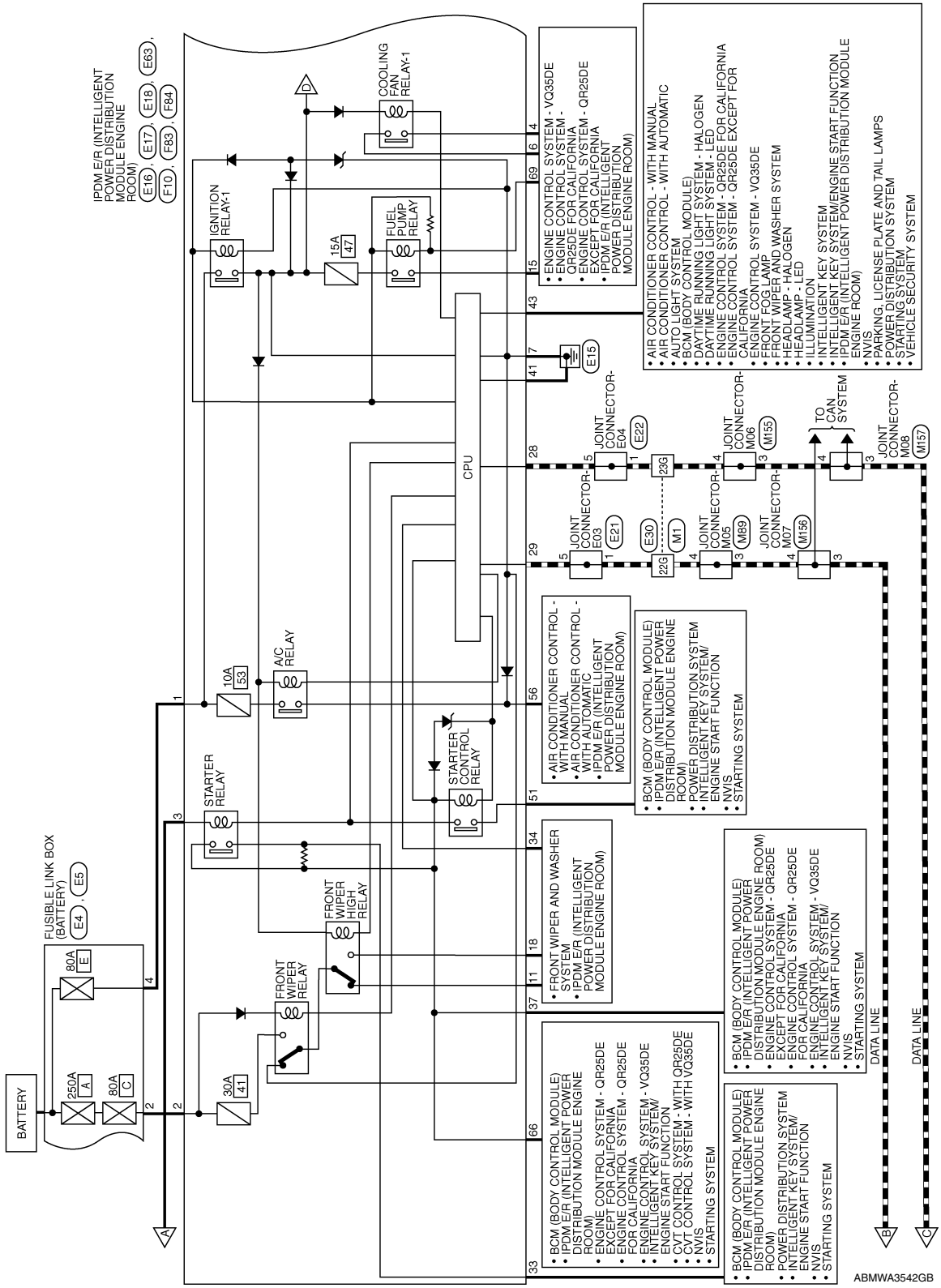


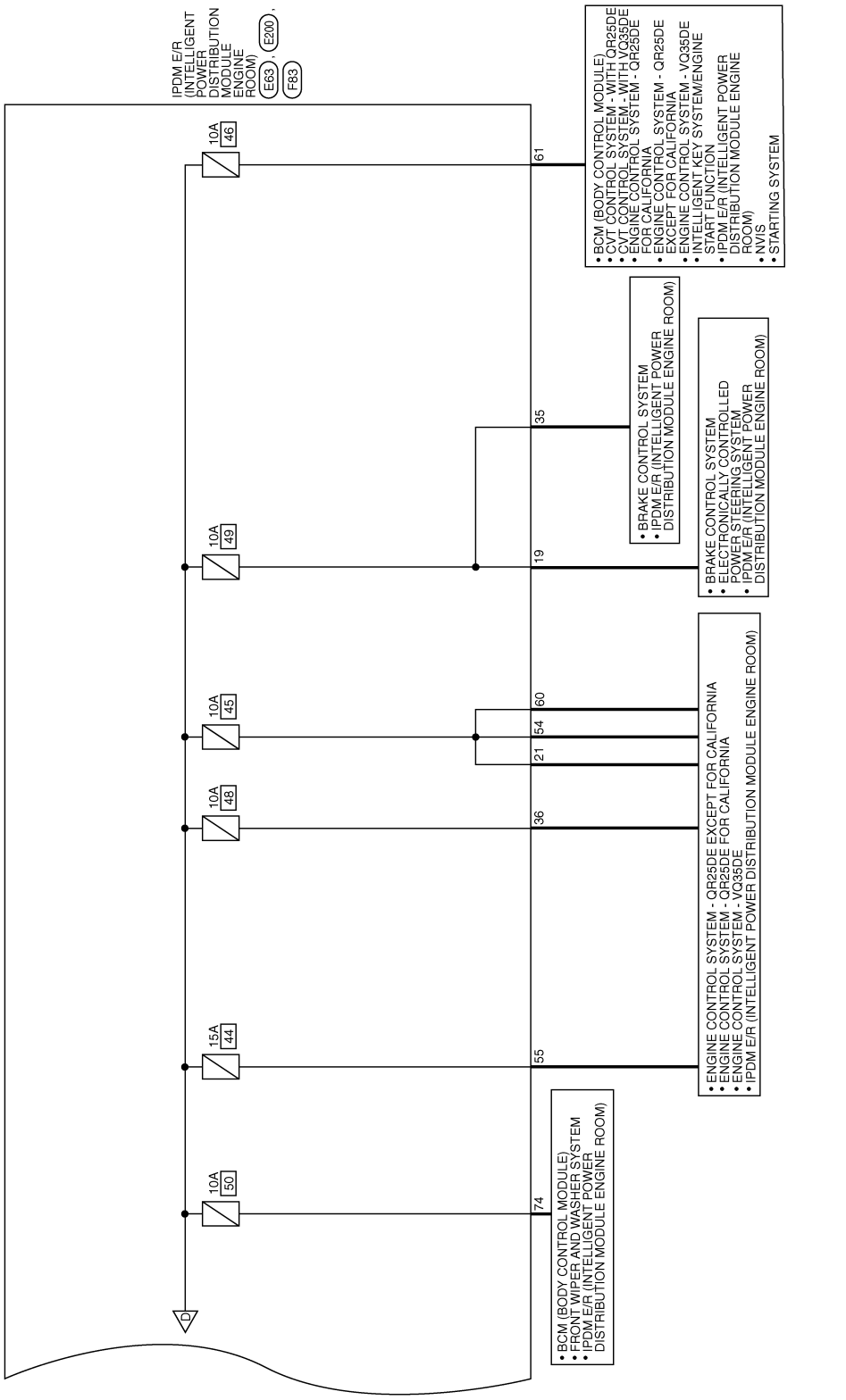
ABMIA4591GB

Wiring Diagram —Ignition Power Supply —

INFOID:0000000012591667




BATTERY
FUSIBLE LINK BOX (BATTERY)
E4, E5
80A E
250A A
80A C
30A 41
10A 53
15A 47
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E16, E17, E18, E63, F10, F83, F84
IGNITION RELAY-1
COOLING FAN RELAY-1
FUEL PUMP RELAY
A/C RELAY
STARTER RELAY
STARTER CONTROL RELAY
FRONT WIPER RELAY
FRONT WIPER HIGH RELAY
CPU
E15
JOINT CONNECTOR-E04
E22
JOINT CONNECTOR-E03
E21
23G
22G
E30
M1
JOINT CONNECTOR-M06
M155
JOINT CONNECTOR-M05
M89
JOINT CONNECTOR-M07
M156
JOINT CONNECTOR-M08
M157
TO CAN SYSTEM
• ENGINE CONTROL SYSTEM - VQ35DE
• ENGINE CONTROL SYSTEM - QR25DE FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE EXCEPT FOR CALIFORNIA
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• AIR CONDITIONER CONTROL - WITH MANUAL
• AIR CONDITIONER CONTROL - WITH AUTOMATIC
• AUTO LIGHT SYSTEM
• BCM (BODY CONTROL MODULE)
• DAYTIME RUNNING LIGHT SYSTEM - HALOGEN
• DAYTIME RUNNING LIGHT SYSTEM - LED
• ENGINE CONTROL SYSTEM - QR25DE FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• FRONT FOG LAMP
• FRONT WIPER AND WASHER SYSTEM
• HEADLAMP - HALOGEN
• HEADLAMP - LED
• ILLUMINATION
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• NVIS
• PARKING, LICENSE PLATE AND TAIL LAMPS
• POWER DISTRIBUTION SYSTEM
• STARTING SYSTEM
• VEHICLE SECURITY SYSTEM
• AIR CONDITIONER CONTROL - WITH MANUAL
• AIR CONDITIONER CONTROL - WITH AUTOMATIC
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• BCM (BODY CONTROL MODULE)
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• POWER DISTRIBUTION SYSTEM
• INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION
• NVIS
• STARTING SYSTEM
• FRONT WIPER AND WASHER SYSTEM
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• BCM (BODY CONTROL MODULE)
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• ENGINE CONTROL SYSTEM - QR25DE EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION
• NVIS
• STARTING SYSTEM
DATA LINE
DATA LINE
• BCM (BODY CONTROL MODULE)
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• ENGINE CONTROL SYSTEM - QR25DE EXCEPT FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - QR25DE FOR CALIFORNIA
• ENGINE CONTROL SYSTEM - VQ35DE
• INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION
• CVT CONTROL SYSTEM - WITH QR25DE
• CVT CONTROL SYSTEM - WITH VQ35DE
• NVIS
• STARTING SYSTEM
• BCM (BODY CONTROL MODULE)
• IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
• POWER DISTRIBUTION SYSTEM
• INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION
• NVIS
• STARTING SYSTEM
ABMWA3542GB

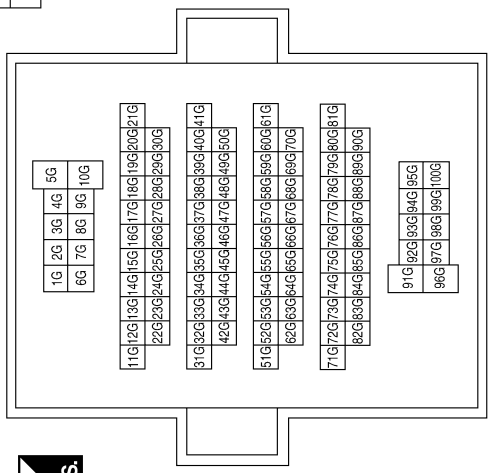


ABMWA3543GB

IGNITION POWER SUPPLY CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

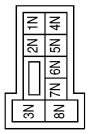
H.S.



Terminal No.	Color of Wire	Signal Name
5G	W	–
22G	L	–
23G	P	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3N	W	–
8N	W	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
2R	BG	–
13R	B	–

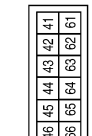
Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1P	P	–
2P	V	–
3P	W	–
4P	P	–
5P	BG	–
6P	Y	–
7P	G	–
8P	BR	–
16P	R	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

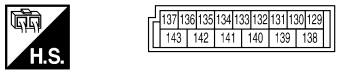


Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
61	Y	REAR DEFOGGER RELAY OUT
66	R	BLOWER FAN RELAY OUT
67	W	IGN ELEC RELAY OUT 2

ABMIA5127GB

POWER SUPPLY ROUTING CIRCUIT

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
134	B	GND2
139	W	BAT POWER F/L
143	B	GND1

Connector No.	M89
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
3	L	–
4	L	–

Connector No.	M155
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
3	P	–
4	P	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
3	L	–
4	L	–

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
3	P	–
4	P	–

Connector No.	E4
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
1	W	–
2	L	–

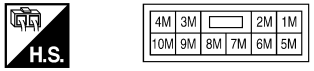
ABMIA5128GB

POWER SUPPLY ROUTING CIRCUIT

Connector No.	E5
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
4	R	–

Connector No.	E6
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1M	BG	–

Connector No.	E7
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1S	W	–

Connector No.	E8
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1L	G	–

Connector No.	E16
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1	R	F/L MAIN
2	L	F/L USM

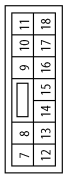
Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
4	P	MOTOR FAN 1
6	R	F/L MOTOR FAN

ABMIA5129GB

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

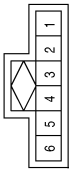
H.S.



Terminal No.	Color of Wire	Signal Name
7	B	GND (POWER)
11	Y	FR WIPER LO
15	R	FUEL PUMP
18	L	FR WIPER HI

Connector No.	E21
Connector Name	JOINT CONNECTOR-E03
Connector Color	GRAY

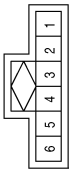
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
5	L	–

Connector No.	E22
Connector Name	JOINT CONNECTOR-E04
Connector Color	GRAY

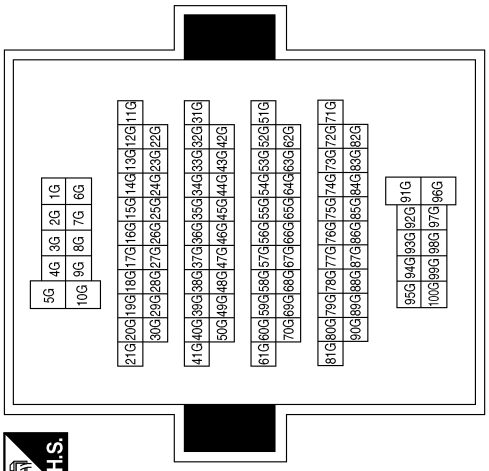
H.S.



Terminal No.	Color of Wire	Signal Name
1	P	–
5	P	–

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Connector No.	E62
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BLACK

H.S.

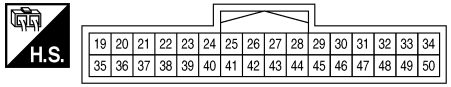
Terminal No.	Color of Wire	Signal Name
5	W	–

Terminal No.	Color of Wire	Signal Name
5G	P	–
22G	L	–
23G	P	–

ABMIA7923GB

POWER SUPPLY ROUTING CIRCUIT

Connector No.	E63
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
19	BR	SUB ECU
21	L	BCM IGNSW
28	P	CAN-L
29	L	CAN-H
33	R	STARTER CONT
34	SB	WIPER AUTOSTOP
35	BR	ABS ECU
36	W	START IG-E/R
41	B	GND (SIGNAL)
43	LG	IGN SIGNAL

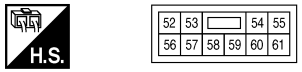
Connector No.	E200
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
74	BG	WASH MTR

Connector No.	F10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

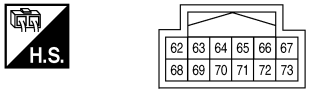
Terminal No.	Color of Wire	Signal Name
51	R	STARTER MOTOR (WITH QR25DE)
51	W	STARTER MOTOR (WITH VQ35DE)

Connector No.	F83
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
54	LG	INJECTOR #1
55	W	IGN COIL (WITH QR25DE)
56	SB	A/C COMP
56	P	A/C COMP (WITH VQ35DE)
60	V	INJECTOR #2
61	Y	AT ECU

Connector No.	F84
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
66	LG	NP SW (WITH QR25DE)
66	G	NP SW (WITH VQ35DE)
69	W	FPR

ABMIA7924GB

Connector No.	B13
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
3T	Y	–
5T	Y	–

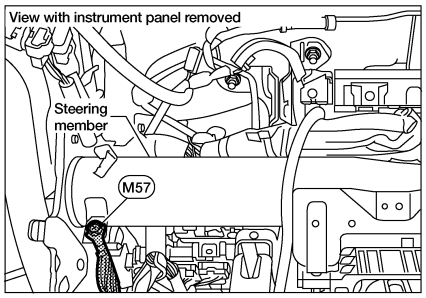
ABMIA7927GB

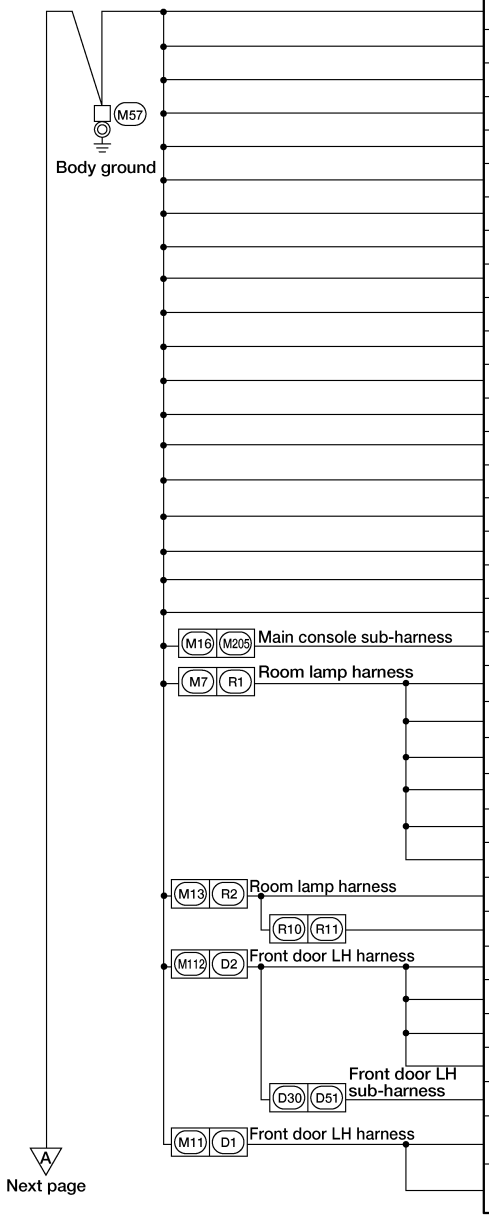
GROUND

Ground Distribution

INFOID:0000000012591668

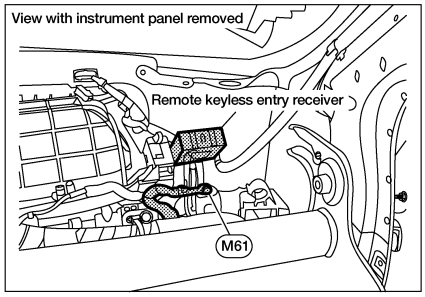
MAIN HARNESS

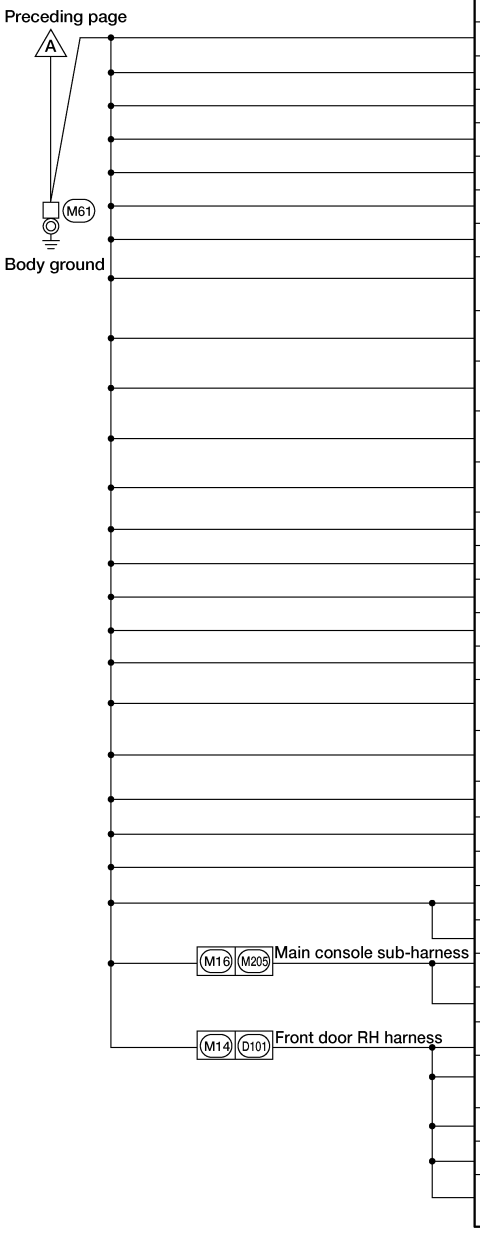




CONNECTOR NUMBER	CONNECT TO
M4	Fuse block (J/B)
M21	BCM (body control module) (Terminal No. 134)
M21	BCM (body control module) (Terminal No. 143)
M22	Data link connector (Terminal No. 4)
M22	Data link connector (Terminal No. 5)
M24	Combination meter (Terminal No. 1)
M24	Combination meter (Terminal No. 2)
M28	Combination switch
M31	Blower motor
M51	Heated steering wheel switch (Terminal No. 2)
M51	Heated steering wheel switch (Terminal No. 6)
M52	Combination switch (spiral cable)
M53	Steering angle sensor
M72	VDC OFF switch
M75	Trunk lid opener switch
M76	Front power socket
M94	Paddle shifter (shift up)
M95	Paddle shifter (shift down)
M161	Warning buzzer
M209	Front console power socket
R3	Vanity mirror lamp LH
R4	Auto anti-dazzling inside mirror
R9	Vanity mirror lamp RH
R21	Telematics switch
R50	Personal lamp rear
R51	Front room/map lamp assembly
R5	Moonroof motor assembly
R6	Moonroof switch
D3	Blind spot warning indicator LH
D4	Door mirror LH
D6	Front outside handle LH
D14	Front door lock assembly LH
D52	Door mirror remote control switch
D7	Main power window and door lock/unlock switch (Terminal No. 1) (with left and right front power window anti-pinch system)
D12	Main power window and door lock/unlock switch (Terminal No. 1) (with left front only power window anti-pinch system)

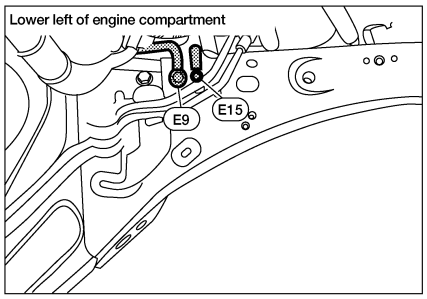
ABMIA7916GB

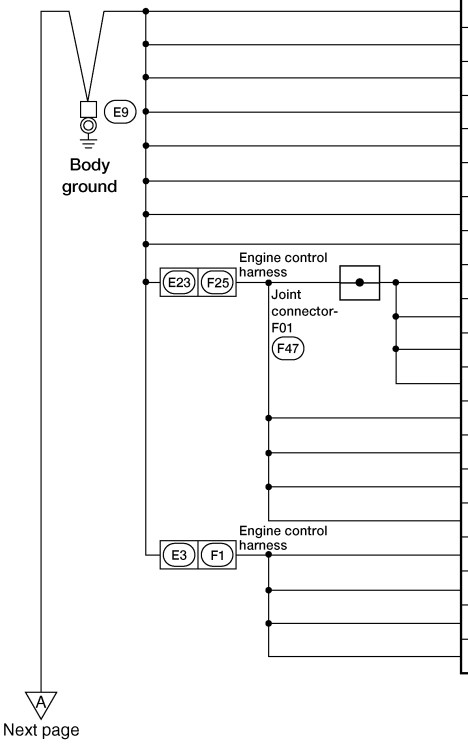




CONNECTOR NUMBER	CONNECT TO
M23	CVT shift selector (Terminal No. 2)
M23	CVT shift selector (Terminal No. 4)
M25	Accessory relay-2
M35	Air bag diagnosis sensor unit (Terminal No. 27)
M36	Front passenger air bag OFF indicator
M37	Front air control (Terminal No. 9) (without auto A/C)
M38	Push-button ignition switch
M43	Audio unit (Terminal No. 20) (with display audio system without BOSE audio system)
M44	Audio unit (Terminal No. 45) (with display audio system without BOSE audio system)
M45	Audio unit (Terminal No. 20) (with display audio system and BOSE audio system)
M46	Audio unit (Terminal No. 44) (with display audio system and BOSE audio system)
M46	Audio unit (Terminal No. 45) (with display audio system and BOSE audio system)
M48	Sonar control unit (Terminal No. 15) (with sonar system)
M54	Hazard switch
M68	Glove box lamp
M74	Trunk lid opener cancel switch
M79	A/C switch assembly
M96	AV control unit (Terminal No. 20) (with navigation system without BOSE audio system)
M151	AV control unit (Terminal No. 20) (with navigation system with BOSE audio system)
M152	A/C auto amp. (Terminal No. 2) (with auto A/C)
M152	A/C auto amp. (Terminal No. 22) (with auto A/C)
M159	Dongle unit
M160	TCU (Terminal No.28)
M160	TCU (Terminal No.29)
M201	Front heated seat switch LH
M202	Front heated seat switch RH
D103	Blind spot warning indicator RH
D105	Power window and door lock/unlock switch RH (Terminal No. 7) (with left and right front power window anti-pinch system)
D106	Front outside handle RH
D107	Door mirror RH
D110	Power window and door lock/unlock switch RH (Terminal No. 3) (with left front only power window anti-pinch system)

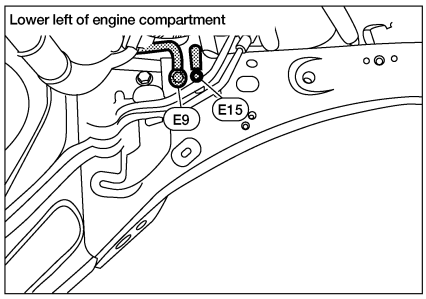
ABMIA7917GB

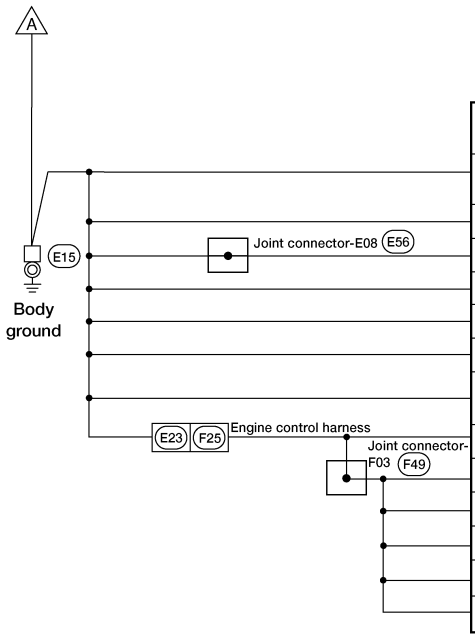




CONNECTOR NUMBER	CONNECT TO
E10	ECM (Terminal No.123) (QR25DE except for California)
E10	ECM (Terminal No.128) (QR25DE except for California)
E31	ECM (Terminal No.123) (QR25DE for California)
E31	ECM (Terminal No.128) (QR25DE for California)
E32	ECM (Terminal No. 147) (with VQ35DE)
E32	ECM (Terminal No. 149) (with VQ35DE)
E32	ECM (Terminal No. 152) (with VQ35DE)
E42	Cooling fan relay-2
F14	ECM (Terminal No. 16) (QR25DE except for California)
F40	Intake manifold tuning valve motor shield
F41	Intake manifold runner control valve motor shield
F91	ECM (Terminal No. 16) (QR25DE for California)
F13	ECM (Terminal No. 52) (QR25DE except for California)
F14	ECM (Terminal No. 12) (QR25DE except for California)
F90	ECM (Terminal No. 52) (QR25DE for California)
F91	ECM (Terminal No. 12) (QR25DE for California)
F78	ECM (Terminal No. 10) (with VQ35DE)
F78	ECM (Terminal No. 55) (with VQ35DE)
F79	ECM (Terminal No. 105) (with VQ35DE)
F79	ECM (Terminal No. 110) (with VQ35DE)

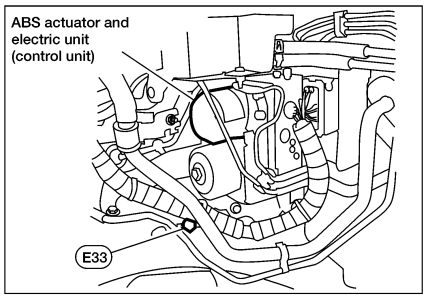
ABMIA7918GB

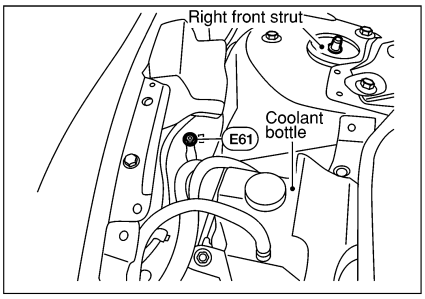


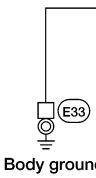


CONNECTOR NUMBER	CONNECT TO
E18	IPDM E/R (intelligent power distribution module engine room) (Terminal No. 7)
E24	Brake fluid level switch
E25	Front wiper motor
E43	Cooling fan relay-3
E57	Stop lamp relay
E58	VDC resistor
E63	IPDM E/R (intelligent power distribution module engine room) (Terminal No. 41)
F3	A/C compressor
F8	Primary speed sensor
F16	TCM (transmission control module) (Terminal No. 41)
F16	TCM (transmission control module) (Terminal No. 42)
F23	Output speed sensor
F86	Input speed sensor

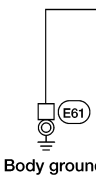
ABMIA7919GB







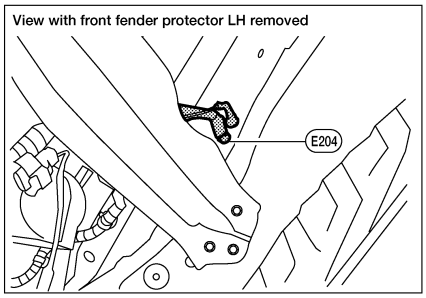
CONNECTOR NUMBER	CONNECT TO
E54	ABS actuator and electric unit (control unit) (Terminal No. 13)
E54	ABS actuator and electric unit (control unit) (Terminal No. 38)

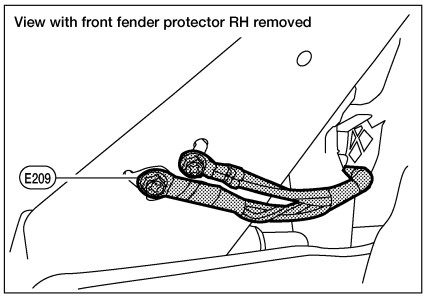


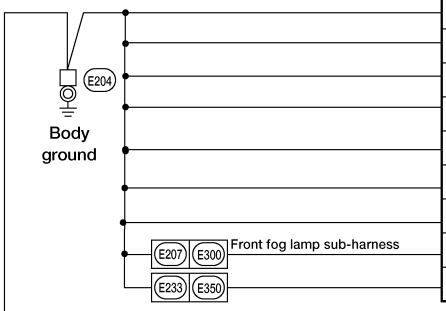
CONNECTOR NUMBER	CONNECT TO
E60	Power steering control module (Terminal No. 2)

ABMIA5138GB

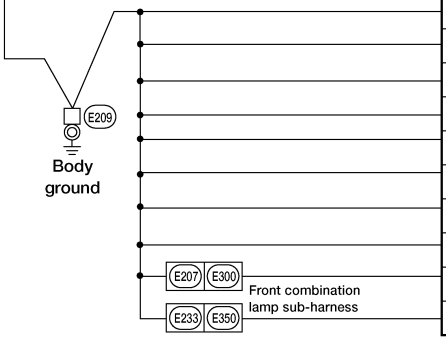
FRONT END MODULE HARNESS





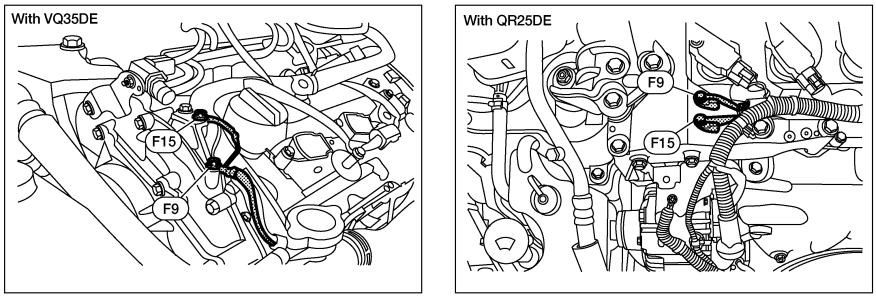


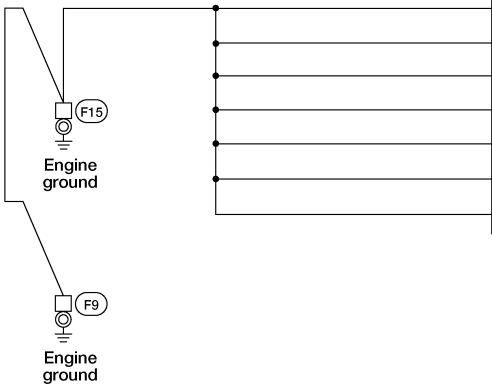
CONNECTOR NUMBER	CONNECT TO
E212	Front combination lamp RH (Terminal No.5)
E212	Front combination lamp RH (Terminal No.8)
E217	Front combination lamp LH
E221	Cooling fan motor-2 (Terminal No. 3)
E221	Cooling fan motor-2 (Terminal No. 4)
E238	Horn (low)
E239	Horn (high)
E307	Front fog lamp LH
E353	Front fog lamp RH



CONNECTOR NUMBER	CONNECT TO
E208	Washer fluid level switch
E212	Front combination lamp RH
E217	Front combination lamp LH (Terminal No.5)
E217	Front combination lamp LH (Terminal No.8)
E247	Pre-wiring for hood switch
E248	Hood switch
E249	Active grille shutter
E250	ICC sensor
E308	Front fog lamp LH
E354	Front fog lamp RH

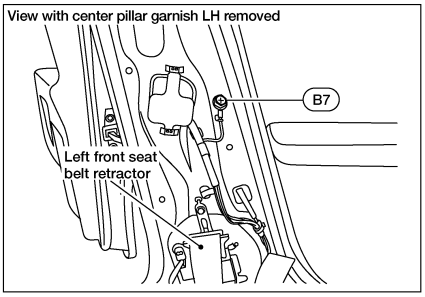
ABMIA7920GB

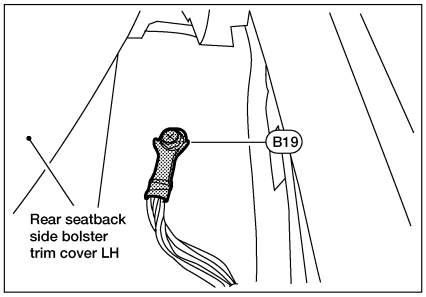


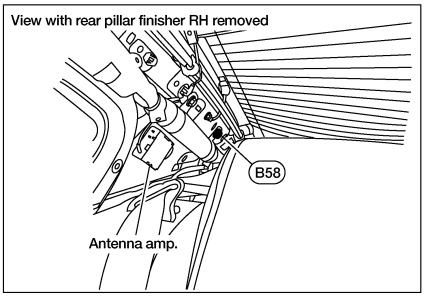


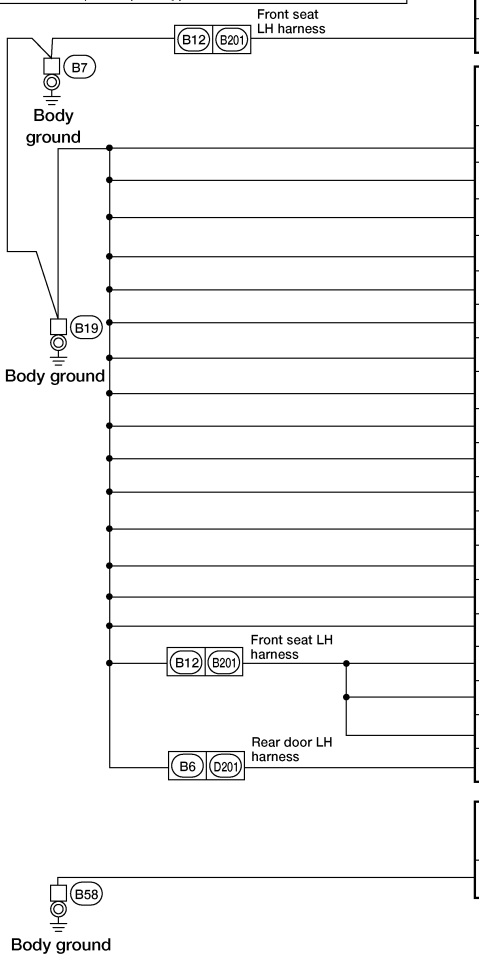
CONNECTOR NUMBER	CONNECT TO
F26	Condenser-1
F34	Ignition coil No. 1 (with power transistor)
F35	Ignition coil No. 2 (with power transistor)
F36	Ignition coil No. 3 (with power transistor)
F37	Ignition coil No. 4 (with power transistor)
F38	Ignition coil No. 5 (with power transistor) (with VQ35DE)
F39	Ignition coil No. 6 (with power transistor) (with VQ35DE)

AAMIA2696GB







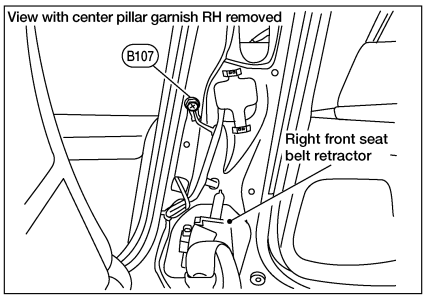


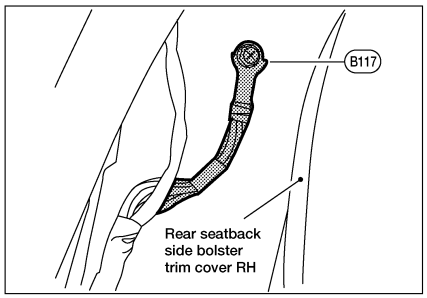
CONNECTOR NUMBER	CONNECT TO
B202	Seat belt buckle switch LH

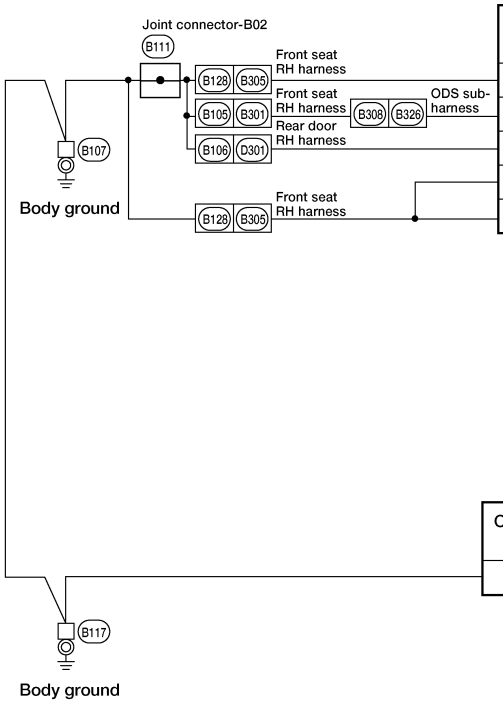
CONNECTOR NUMBER	CONNECT TO
B23	Rear combination lamp LH
B24	Rear combination lamp RH
B28	Trunk lamp switch and trunk release solenoid
B30	Rear combination lamp LH
B32	License plate lamp RH
B33	Trunk opener request switch
B34	License plate lamp LH
B37	High-mounted stop lamp (without rear spoiler)
B40	High-mounted stop lamp (with rear spoiler)
B42	Fuel level sensor unit and fuel pump
B45	Rear combination lamp RH
B67	Side radar RH (Terminal No.3)
B67	Side radar RH (Terminal No.8)
B68	Side radar LH
B69	ADAS Control unit (Terminal No.1)
B203	Power seat switch LH
B205	Lumbar support switch
B210	Seat cushion heater LH
D203	Rear power window switch LH

CONNECTOR NUMBER	CONNECT TO
B54	Rear window defogger

ABMIA7921GB







CONNECTOR NUMBER	CONNECT TO
B302	Seat belt buckle switch RH
B327	Occupant classification system control unit (Terminal No. 9)
D303	Rear power window switch RH
B303	Power seat switch RH
B304	Seat cushion heater RH

CONNECTOR NUMBER	CONNECT TO
B110	BOSE speaker amp. (Terminal No. 12)

ABMIA7616GB

HARNESS

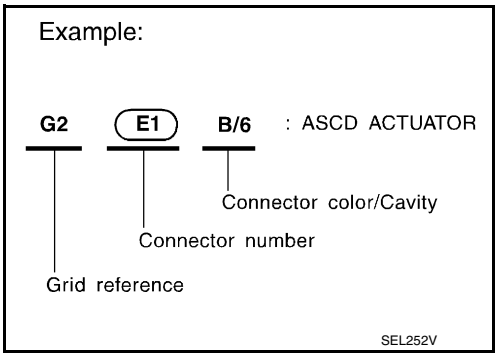
Harness Layout

INFOID:0000000012591669

HOW TO READ HARNESS LAYOUT

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

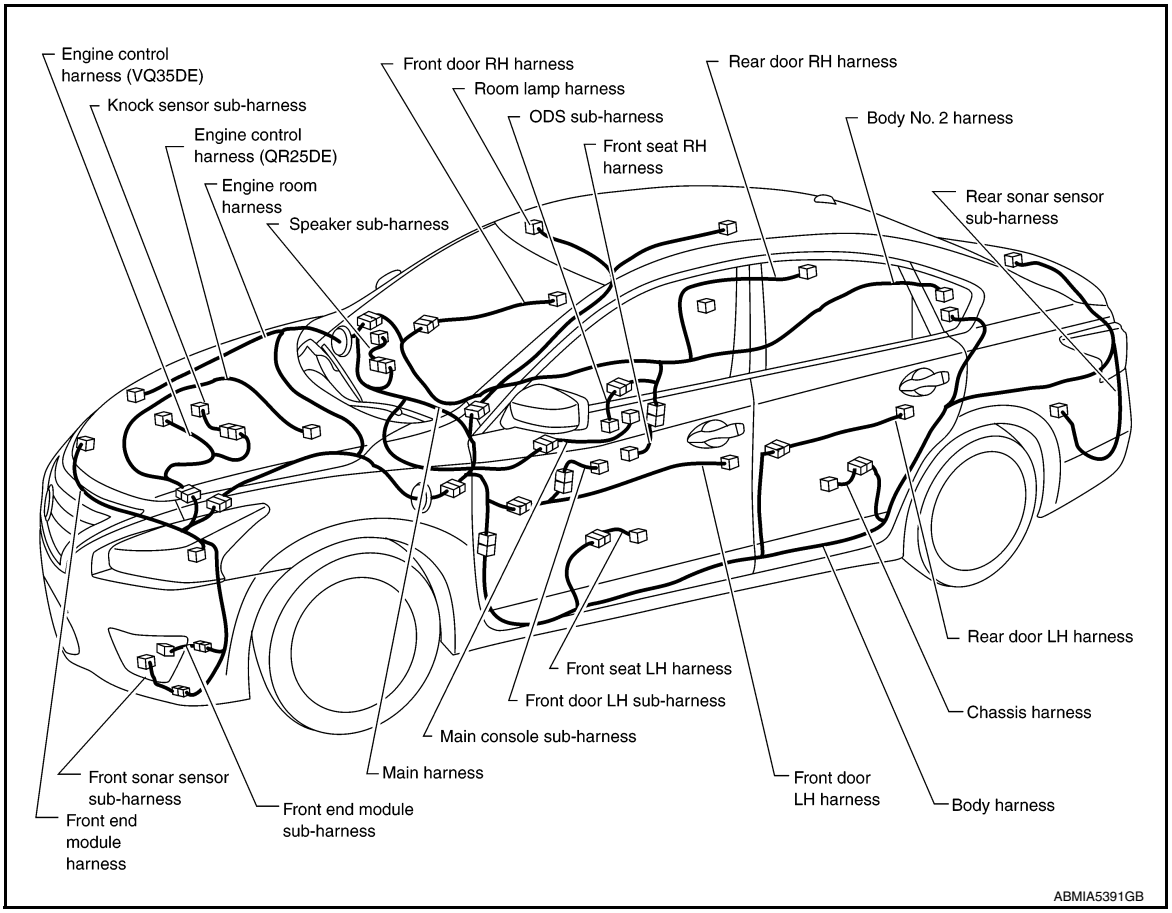
- Main Harness, Console Sub-harness, Speaker Sub-harness
- Engine Room Harness
- Engine Room Harness (Passenger Compartment)
- Front End Module Harness, Front End Module Sub-harness and Front Sonar Sensor Sub-harness
- Engine Control Harness (QR25DE)
- Engine Control Harness (VQ35DE), Knock Sensor Sub-harness
- Body Harness, Front Seat LH Harness, Chassis Harness and Rear Sonar Sensor Sub-harness
- Body No. 2 Harness, Front Seat RH Harness, ODS Sub-harness
- Room Lamp Harness
- Front Door LH Harness, Front Door LH Sub-harness
- Front Door RH Harness
- Rear Door LH Harness
- Rear Door RH Harness

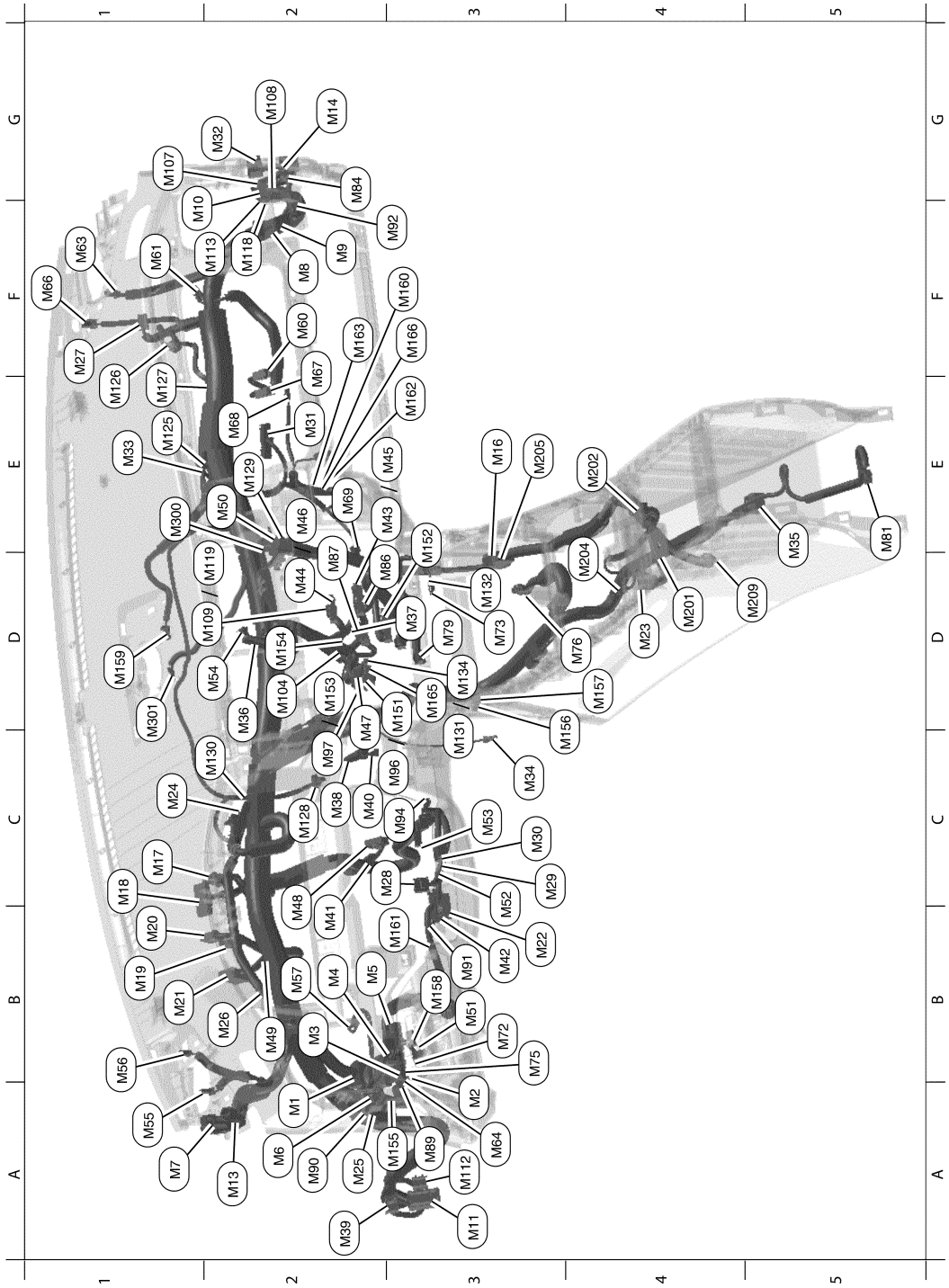


To use the grid reference

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.

OUTLINE



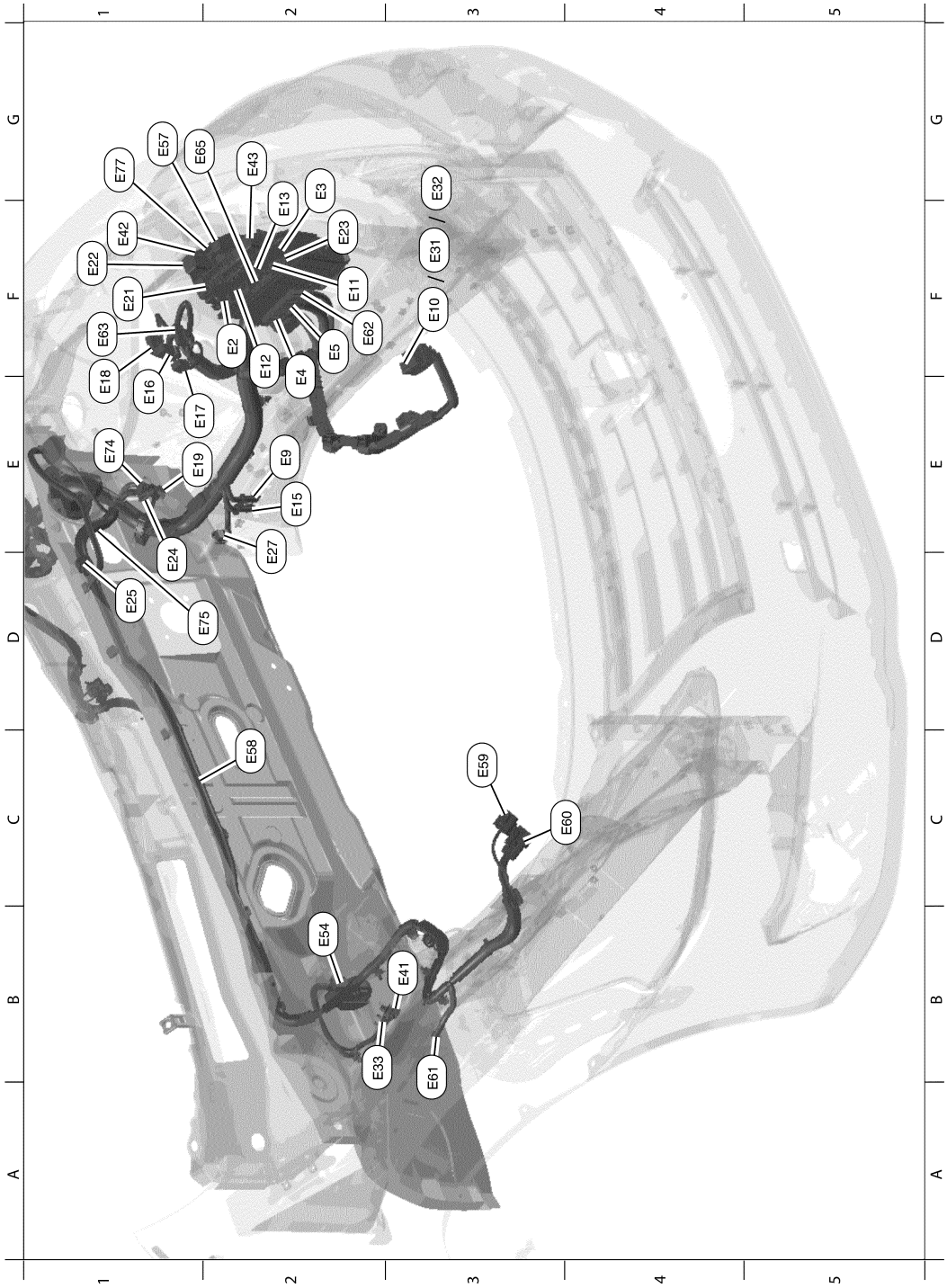


AAMIA0586ZZ

A2	M1	SMJ	: To E30	F2	M67	B/2	: Front passenger air bag module
A3	M2	W/4	: Joint connector-M02	E2	M68	W/2	: Glove box lamp
B2	M3	W/8	: Fuse block (J/B)	E2	M69	W/2	: Intake sensor
B2	M4	BR/16	: Fuse block (J/B)	B3	M72	B/8	: VDC off switch
B2	M5	W/16	: Fuse block (J/B)	D3	M73	W/2	: USB interface lamp

A2	M6	SMJ	: To B1	B3	M75	G/4	: Trunk lid opener switch
A1	M7	W/16	: To R1	D4	M76	GR/2	: Front power socket
F2	M8	W/12	: To B102	D3	M79	W/12	: A/C switch assembly
F2	M9	W/16	: To B103	E5	M81	GR/2	: Front console antenna
F1	M10	BR/16	: To B104	G2	M84	W/24	: To D114
A3	M11	W/16	: To D1	D2	M86	W/16	: Audio unit (With base audio system)
A2	M13	W/4	: To R2	D2	M87	W/8	: Audio unit (With base audio system)
G2	M14	W/8	: To D101	A3	M89	W/4	: Joint connector-M05
E3	M16	W/16	: To M205	A2	M90	B/4	: Heated steering relay
C1	M17	G/40	: BCM (Body control module)	B3	M91	W/12	: Accessory prewire LH
C1	M18	B/40	: BCM (Body control module)	F3	M92	W/12	: Accessory prewire RH
B1	M19	GR/24	: BCM (Body control module)	C3	M94	W/4	: Paddle shifter (Shift up)
B1	M20	B/24	: BCM (Body control module)	C3	M96	W/20	: AV control unit (Without BOSE audio system)
B1	M21	W/15	: BCM (Body control module)	C2	M97	W/24	: AV control unit (Without BOSE audio system)
B3	M22	W/16	: Data link connector	D2	M104	W/4	: Aux in jack
D4	M23	W/12	: CVT shift selector	G1	M107	W/4	: Joint connector-M10
C1	M24	W/40	: Combination meter	G2	M108	W/4	: Joint connector-M11
A2	M25	B/4	: Accessory relay-2	D2	M109	W/8	: Audio unit (With display audio system without Bose audio system)
B2	M26	W/12	: Combination meter	A3	M112	W/24	: To D2
F1	M27	B/4	: Remote keyless entry receiver	F2	M113	W/4	: Joint connector-M12
C2	M28	W/14	: Combination switch	F2	M118	W/4	: Joint connector-M13
C3	M29	Y/6	: Combination switch (Spiral cable)	D2	M119	W/8	: Audio unit (With display audio system and BOSE audio system)
C3	M30	GR/8	: Combination switch (Spiral cable)	E1	M125	W/3	: To M33
E2	M31	W/3	: Blower motor	E1	M126	W/3	: Intake door motor
G2	M32	Y/4	: To D123	E1	M127	W/3	: Mode door motor
E1	M33	W/3	: To M125	C2	M128	W/3	: Air mix door motor LH
C3	M34	W/2	: In-vehicle sensor	E2	M129	W/3	: Air mix door motor RH
E5	M35	Y/21	: Air bag diagnosis sensor unit	C2	M130	W/3	: Air mix door motor
D2	M36	BR/2	: Front passenger air bag off indicator	C3	M131	B/6	: AV control unit
D3	M37	W/16	: Front air control	D3	M132	B/6	: USB interface
C2	M38	W/8	: Push-button ignition switch	D3	M134	B/5	: AV control unit (With navigation system without BOSE audio system)
A2	M39	Y/4	: To D29	D3	M151	W/20	: AV control unit (With navigation with BOSE audio system)
C2	M40	W/3	: NATS antenna amp.	E3	M152	W/40	: A/C auto amp.
B2	M41	W/4	: Joint connector-M03	D2	M153	W/24	: AV control unit (With BOSE audio system)
B3	M42	W/4	: Front sonar buzzer	D2	M154	W/8	: AV control unit (With navigation with BOSE audio system)
E2	M43	W/20	: Audio unit (With display audio system without BOSE audio system)	A3	M155	W/4	: Joint connector-M06
D2	M44	W/32	: Audio unit (With display audio without BOSE audio system)	D4	M156	W/4	: Joint connector-M07
E3	M45	W/20	: Audio unit (With display audio system with BOSE audio system)	D4	M157	W/4	: Joint connector-M08

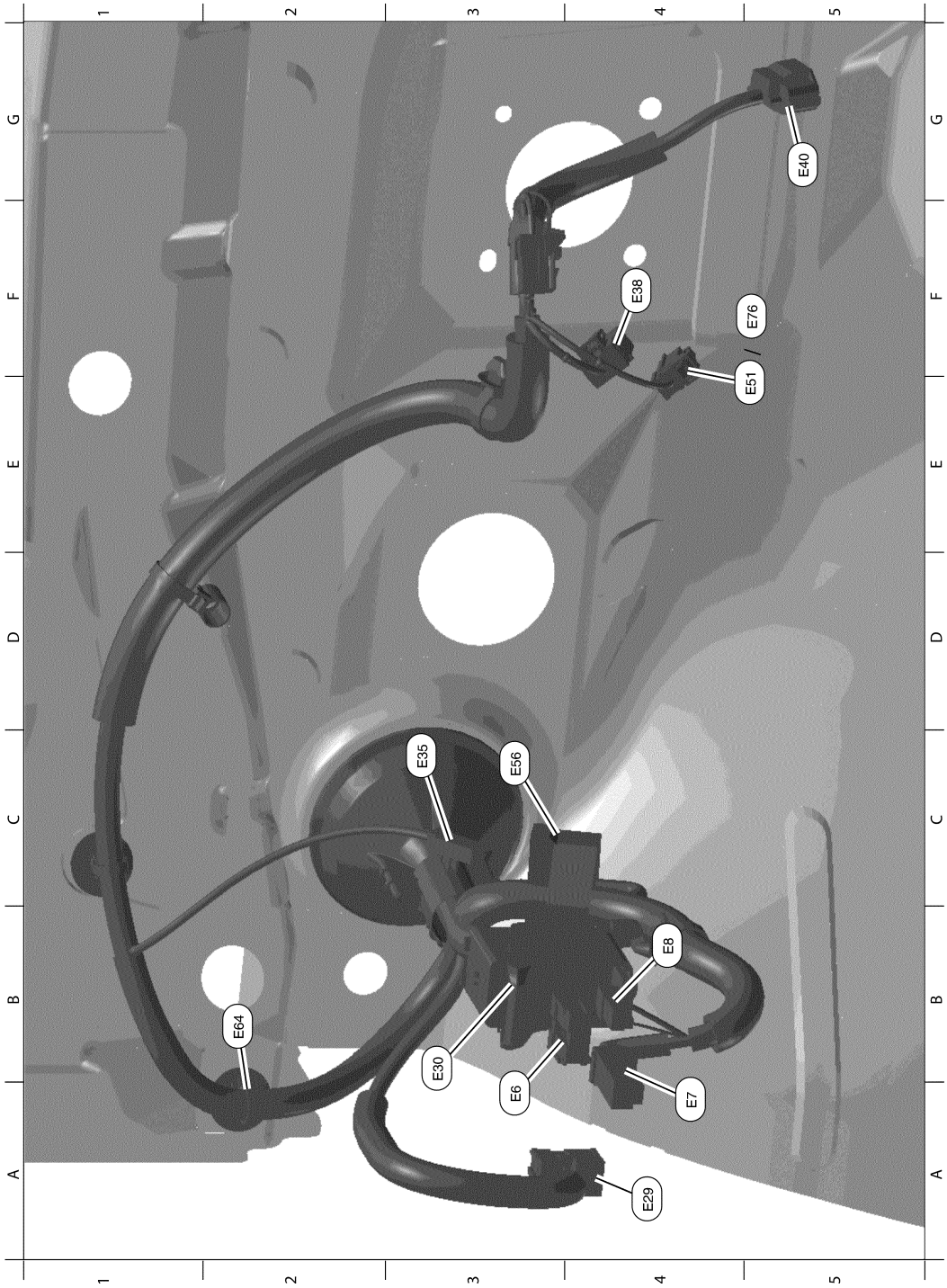
E2	M46	W/32	: Audio unit (With display audio system with BOSE audio system)	B3	M158	W/7	: Meter control switch
D2	M47	W/4	: Joint connector-M04	D1	M159	W/4	: Dongle unit
C2	M48	W/24	: Sonar control unit	F3	M160	B/40	: TCU
B2	M49	W/4	: Joint connector-M09	B3	M161	BR/4	: Warning buzzer
E2	M50	W/2	: To M300	E3	M162	P/2	: TCU
B3	M51	B/8	: Heated steering wheel switch	F2	M163	B/2	: TCU
C3	M52	W/2	: Combination switch (Spiral cable)	D3	M165	BR/6	: AV control unit (With BOSE audio system)
C3	M53	W/8	: Steering angle sensor	F3	M166	G/6	: TCU
D2	M54	W/4	: Hazard switch	Console sub-harness			
A1	M55	BR/2	: Front speaker LH	D4	M201	W/6	: Front heated seat switch LH
B1	M56	B/2	: Sunload sensor	E4	M202	BR/6	: Front heated seat switch RH
B2	M57	—	: Body ground	D4	M204	BR/2	: CVT shift selector
F2	M60	O/2	: Front passenger air bag module	E3	M205	W/15	: To M16
F1	M61	—	: Body ground	D5	M209	GR/2	: Front console power socket
F1	M63	BR/2	: Front speaker RH	Speaker sub-harness			
A3	M64	W/4	: Joint connector-M01	E1	M300	W/2	: To M50
F1	M66	W/3	: Optical sensor	D1	M301	BR/2	: Center speaker



AAMIA0587ZZ

F2	E2	W/8	: To E202	E2	E27	B/3	: Vacuum sensor
G2	E3	W/10	: To F1	F3	E31	GR/32	: ECM (QR25DE for California)
F2	E4	BR/2	: Fusible link box (Battery)	G3	E32	B/32	: ECM (With VQ35DE)
F2	E5	GR/2	: Fusible link box (Battery)	B2	E33	—	: Body ground
E2	E9	—	: Body ground	B3	E41	GR/2	: Front wheel sensor RH

F3	E10	GR/32	: ECM (QR25DE except for California)	F1	E42	BR/6	: Cooling fan relay-2
F2	E11	W/16	: To F2	G2	E43	BR/6	: Cooling fan relay-3
F2	E12	W/6	: To E203	B2	E54	B/38	: ABS actuator and electric unit (Control unit)
F2	E13	Y/4	: To E205	G1	E57	L/4	: Stop lamp relay
E2	E15	—	: Body ground	C2	E58	BR/2	: VDC resistor
E1	E16	B/2	: IPDM E/R (Intelligent power distribution module engine room)	C3	E59	B/6	: Power steering control module
E1	E17	W/4	: IPDM E/R (Intelligent power distribution module engine room)	C4	E60	B/2	: Power steering control module
E1	E18	W/12	: IPDM E/R (Intelligent power distribution module engine room)	B3	E61	—	: Body ground
E1	E19	GR/2	: Front wheel sensor LH	F2	E62	B/1	: Fusible link box (Battery)
F1	E21	GR/6	: Joint connector-E03	F1	E63	W/32	: IPDM E/R (Intelligent power distribution module engine room)
F1	E22	GR/6	: Joint connector-E04	G2	E65	W/24	: To E206
F2	E23	BR/8	: To F25	E1	E74	BR/3	: Intelligent Key warning buzzer
D1	E24	GR/2	: Brake fluid level switch	D2	E75	B/10	: Joint connector-E09
D1	E25	GR/5	: Front wiper motor	G1	E77	L/4	: ICC brake hold relay

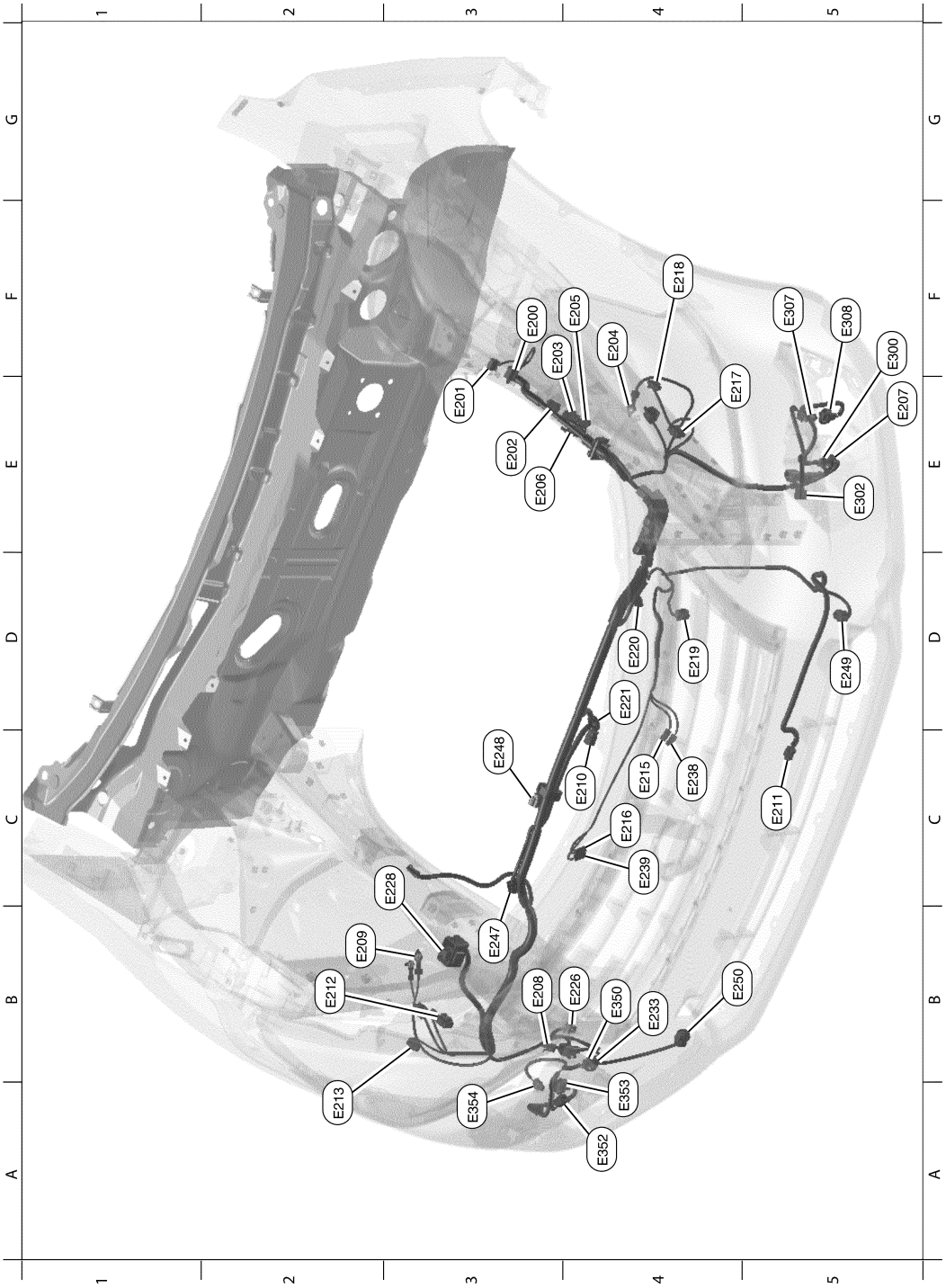


AAMIA0588ZZ

A3	E6	W/10	: Fuse block (J/B)	F4	E38	W/4	: Stop lamp switch
A4	E7	W/1	: Fuse block (J/B)	G5	E40	B/6	: Accelerator pedal position sensor
B4	E8	W/1	: Fuse block (J/B)	E5	E51	BR/2	: Brake pedal position switch
A4	E29	W/12	: To B10	C3	E56	W/33	: Joint connector-E08

B3	E30	SMJ	: To M1	B2	E64	L/10	: Joint connector-E10
C3	E35	B/1	: Parking brake switch	F5	E76	BR/2	: Brake pedal position switch (With ICC)

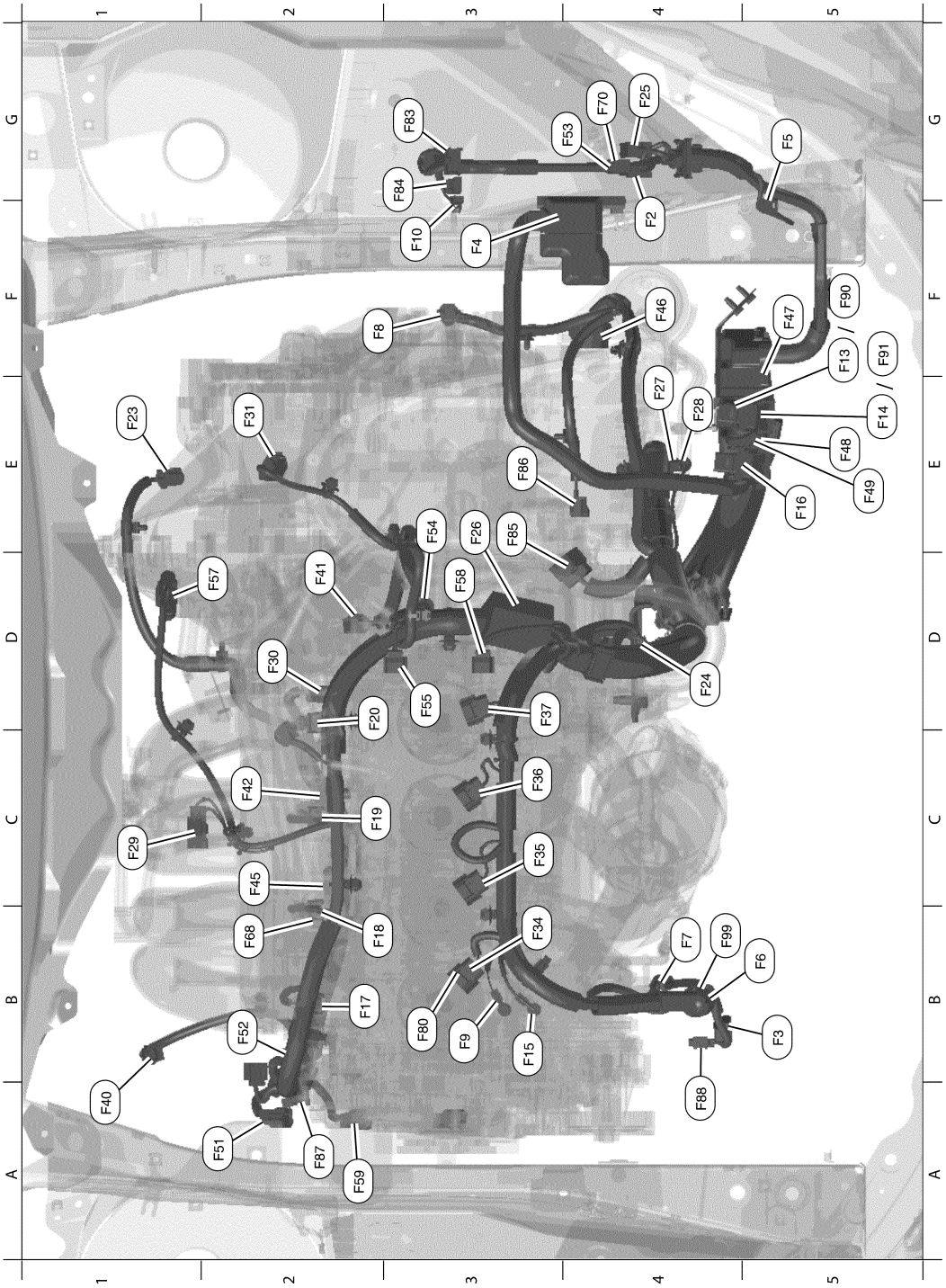
FRONT END MODULE HARNESS



AAMIA0589ZZ

F3	E200	W/8	: IPDM E/R (Intelligent power distribution module engine room)	D4	E221	GR/4	: Cooling fan motor-2
E3	E201	W/16	: IPDM E/R (Intelligent power distribution module engine room)	B4	E226	B/2	: Front washer motor

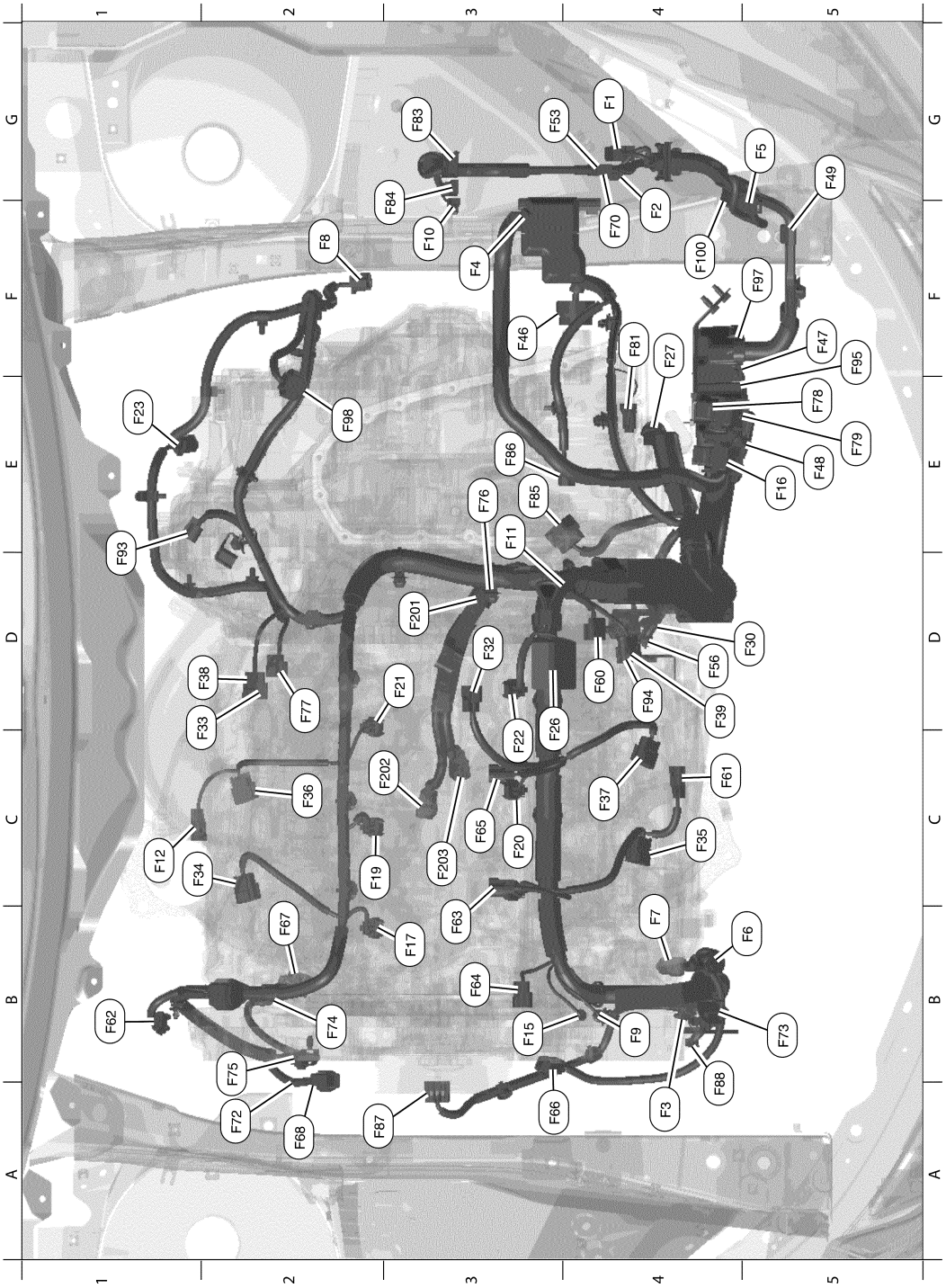
E3	E202	W/8	: To E2	C3	E228	B/4	: Daytime running light relay
F3	E203	W/6	: To E12	B4	E233	B/6	: To E350
F4	E204	—	: Body ground	C4	E238	B/1	: Horn (Low)
F4	E205	Y/4	: To E13	C4	E239	B/1	: Horn (High)
E3	E206	W/21	: To E65	B3	E247	B/3	: Pre-wiring for hood switch
E5	E207	B/6	: To E300	C3	E248	B/3	: Hood switch
B3	E208	B/2	: Washer fluid level switch	D5	E249	B/4	: Active grille shutter
B2	E209	—	: Body ground	B4	E250	B/8	: ICC sensor
C4	E210	Y/2	: Crash zone sensor	Front end module sub-harness			
C5	E211	B/2	: Ambient sensor	F5	E300	B/6	: To E207
B2	E212	GR/8	: Front combination lamp RH	E5	E302	B/3	: Front sonar sensor LH
A2	E213	B/2	: Front combination lamp RH	F5	E307	B/2	: Front fog lamp LH
C4	E215	B/1	: Horn (Low)	F5	E308	B/2	: Front fog lamp LH
C4	E216	B/1	: Horn (High)	Front combination lamp sub-harness			
E4	E217	GR/8	: Front combination lamp LH	B4	E350	B/6	: To E233
F4	E218	B/2	: Front combination lamp LH	A4	E352	B/3	: Front sonar sensor RH
D4	E219	B/3	: Refrigerant pressure sensor	A4	E353	B/2	: Front fog lamp RH
D4	E220	GR/4	: Cooling fan motor-1	A3	E354	B/2	: Front fog lamp RH



AAMIA0590ZZ

F4	F2	W/16	: To E11	D3	F37	GR/3	: Ignition coil No. 4 (With power transistor)
B5	F3	B/2	: A/C compressor	A1	F40	B/2	: Intake manifold tuning valve motor
F3	F4	—	: Fusible link box (Battery)	D2	F41	B/2	: Intake manifold runner control valve motor
G5	F5	GR/4	: Battery current sensor	C2	F42	B/4	: Heated oxygen sensor 2

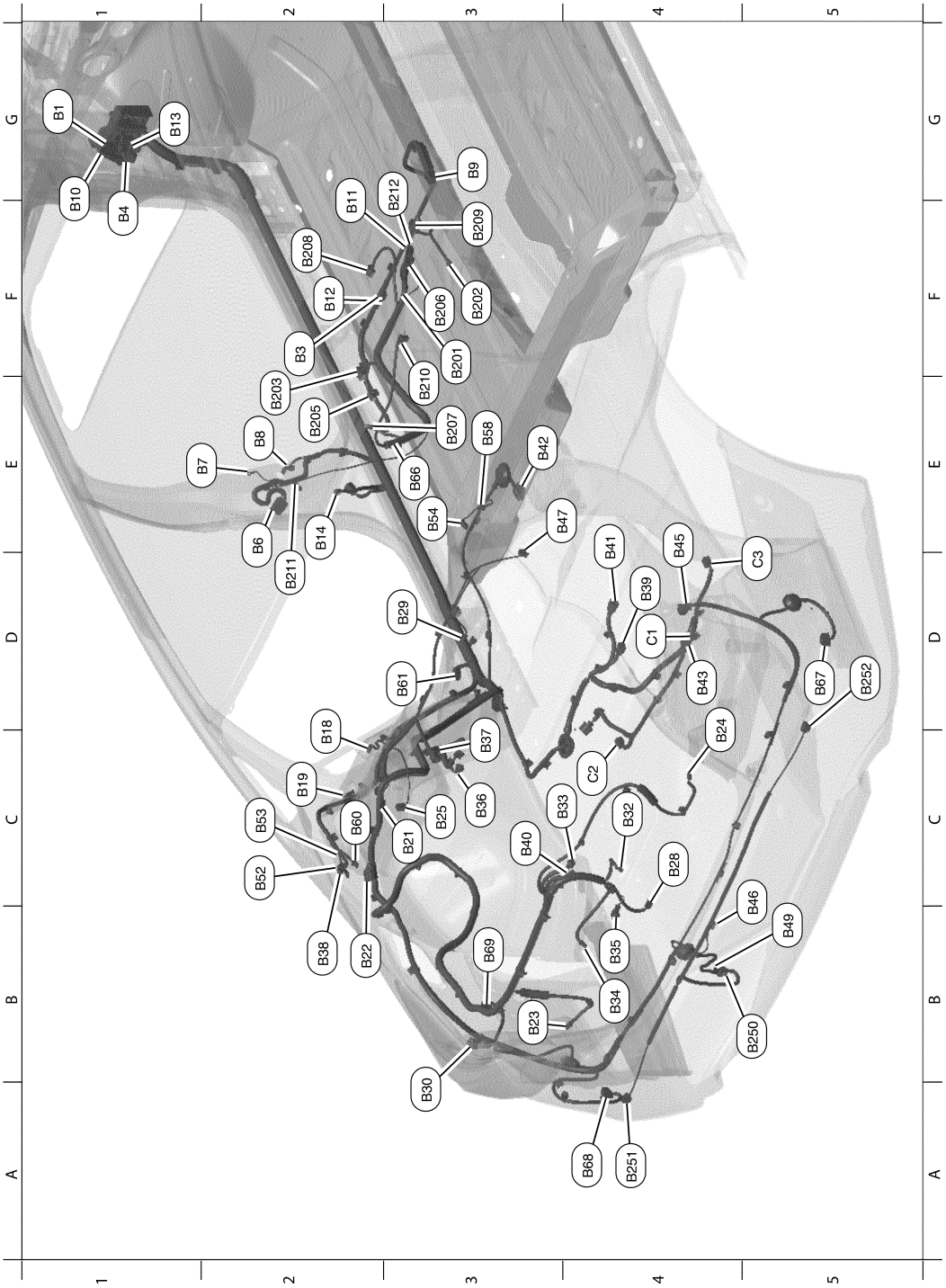
B5	F6	—	: Generator	C2	F45	GR/2	: Knock sensor
B4	F7	B/3	: Generator	F4	F46	GR/22	: CVT unit
F2	F8	B/3	: Primary speed sensor	F5	F47	B/6	: Joint connector-F01
B3	F9	—	: Engine ground	E5	F48	B/10	: Joint connector-F02
F3	F10	B/1	: IPDM E/R (Intelligent power distribution module engine room)	E5	F49	B/10	: Joint connector-F03
F5	F13	BR/48	: ECM (QR25DE except for California)	A2	F51	GR/2	: Intake valve timing intermediate lock control solenoid valve
E5	F14	B/48	: ECM (QR25DE except for California)	B2	F52	B/3	: Intake manifold runner control valve position sensor
B3	F15	—	: Engine ground	G4	F53	W/4	: Joint connector-F07
E5	F16	B/48	: TCM (Transmission control module)	E3	F54	GR/2	: Engine coolant temperature sensor (With QR25DE)
B2	F17	GR/2	: Fuel injector No. 1	D3	F55	B/3	: Camshaft position sensor (PHASE)
B2	F18	GR/2	: Fuel injector No. 2	D2	F57	B/6	: Electric throttle control actuator (With QR25DE)
C2	F19	GR/2	: Fuel injector No. 3	D3	F58	B/3	: Exhaust valve timing control position sensor
D2	F20	GR/2	: Fuel injector No. 4	A2	F59	GR/2	: Intake valve timing control solenoid valve
E1	F23	B/3	: Output speed sensor	B2	F68	GR/2	: Engine oil temperature sensor
D4	F24	BR/4	: Air fuel ratio (A/F) sensor 1	G4	F70	W/4	: Joint connector-F08
G4	F25	BR/8	: To E23	B3	F80	GR/2	: Exhaust valve timing control solenoid valve
E3	F26	W/2	: Condenser-1	G3	F83	W/10	: IPDM E/R (Intelligent power distribution module engine room)
E4	F27	—	: Starter motor	G3	F84	W/12	: IPDM E/R (Intelligent power distribution module engine room)
E4	F28	—	: Starter motor (With QR25DE)	E3	F85	B/10	: Transmission range switch
C1	F29	L/2	: EVAP canister purge volume control solenoid valve (With QR25DE)	E3	F86	B/3	: Input speed sensor
D2	F30	B/3	: Crankshaft position sensor (POS)	A2	F87	B/3	: Engine oil pressure sensor
E2	F31	B/4	: Mass air flow sensor (With QR25DE)	A4	F88	GR/2	: A/C compressor
B3	F34	GR/3	: Ignition coil No. 1 (With power transistor)	F5	F90	BR/48	: ECM (QR25DE for California)
C3	F35	GR/3	: Ignition coil No. 2 (With power transistor)	F5	F91	B/48	: ECM (QR25DE for California)
C3	F36	GR/3	: Ignition coil No. 3 (With power transistor)	B4	F99	GR/2	: Engine oil pressure control solenoid valve



AAMIA0591ZZ

G4	F1	W/10	: To E3	G5	F49	B/10	: Joint connector-F03
F4	F2	W/16	: To E11	G3	F53	W/4	: Joint connector-F07
A4	F3	B/2	: A/C compressor	D4	F56	GR/4	: Heated oxygen sensor 2 (Bank #2)
F3	F4	—	: Fusible link box (Battery)	D4	F60	B/3	: Intake Camshaft position sensor (PHASE) (Bank 2)
G5	F5	GR/4	: Battery current sensor	C4	F61	GR/4	: Air fuel ratio (A/F) sensor (Bank 2)

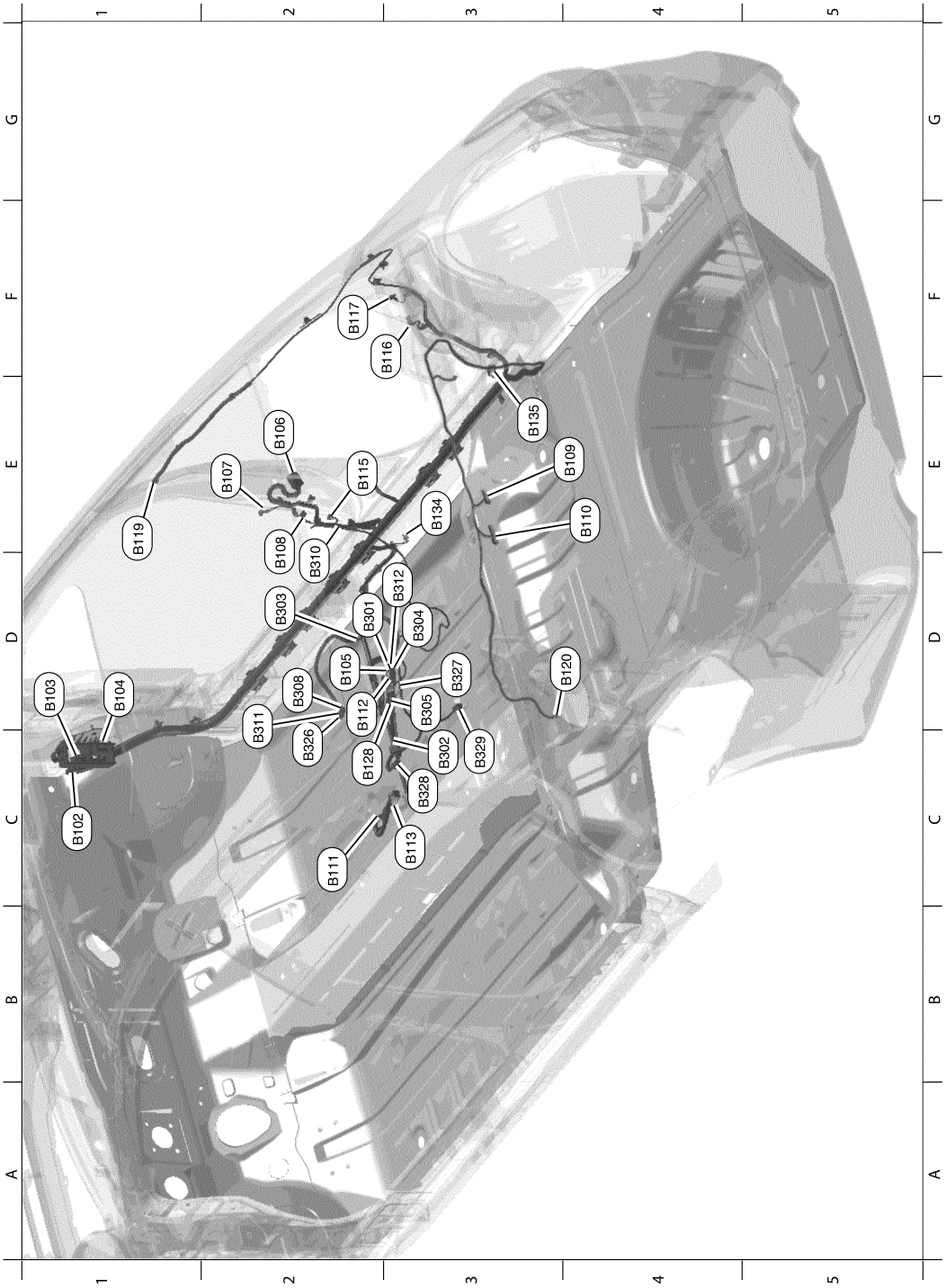
B5	F6	—	: Generator	B1	F62	GR/4	: Heated oxygen sensor 2 (Bank 1)
B4	F7	B/3	: Generator	B3	F63	B/2	: VIAS control solenoid valve 1
F2	F8	B/3	: Primary speed sensor	B3	F64	BR/2	: Electronic controlled engine mount control solenoid valve
B4	F9	—	: Engine ground	C3	F65	B/2	: VIAS control solenoid valve 2
F3	F10	B/1	: IPDM E/R (Intelligent power distribution module engine room)	A3	F66	GR/2	: Intake valve timing control solenoid valve (Bank 2)
E3	F11	GR/2	: Engine coolant temperature sensor	B2	F67	GR/2	: Intake valve timing control solenoid valve (Bank 1)
C1	F12	GR/4	: Air fuel ratio (A/F) sensor (Bank 1)	A2	F68	GR/2	: Engine oil temperature sensor
B3	F15	—	: Engine ground	F4	F70	W/4	: Joint connector-F08
E5	F16	B/48	: TCM (Transmission control module)	E3	F76	L/4	: To F201
B3	F17	GR/2	: Fuel injector No. 1	D2	F77	B/3	: Intake Camshaft position sensor (PHASE) (Bank 1)
B3	F18	GR/2	: Fuel injector No. 2	E5	F78	B/55	: ECM (With VQ35DE)
C2	F19	GR/2	: Fuel injector No. 3	E5	F79	B/65	: ECM (With VQ35DE)
C3	F20	GR/2	: Fuel injector No. 4	F4	F81	GR/1	: Starter motor (With VQ35DE)
D3	F21	GR/2	: Fuel injector No. 5	G3	F83	W/10	: IPDM E/R (Intelligent power distribution module engine room)
C3	F22	GR/2	: Fuel injector No. 6	G3	F84	W/12	: IPDM E/R (Intelligent power distribution module engine room)
E1	F23	B/3	: Output speed sensor	E3	F85	B/10	: Transmission range switch
D3	F26	W/2	: Condenser-1	E3	F86	B/3	: Input speed sensor
F4	F27	—	: Starter motor	A2	F87	B/3	: Engine oil pressure sensor
D5	F30	B/3	: Crankshaft position sensor (POS)	A4	F88	GR/2	: A/C compressor
D3	F32	GR/2	: EVAP canister purge volume control solenoid valve (With VQ35DE)	E1	F93	B/6	: Mass air flow sensor (With VQ35DE)
C2	F34	GR/3	: Ignition coil No. 1 (With power transistor)	F5	F95	B/10	: Joint connector-F10
C4	F35	GR/3	: Ignition coil No. 2 (With power transistor)	F5	F97	B/10	: Joint connector-F04
C2	F36	GR/3	: Ignition coil No. 3 (With power transistor)	E2	F98	B/6	: Electric throttle control actuator (With VQ35DE)
C4	F37	GR/3	: Ignition coil No. 4 (With power transistor)	F4	F100	B/10	: Joint connector-F05
D2	F38	GR/3	: Ignition coil No. 5 (With power transistor)	Knock sensor sub-harness			
D4	F39	GR/3	: Ignition coil No. 6 (With power transistor)	D3	F201	L/4	: To F76
F3	F46	GR/22	: CVT unit	C3	F202	GR/2	: Knock sensor (Bank 1)
F5	F47	B/6	: Joint connector-F01	C3	F203	GR/2	: Knock sensor (Bank 2)
E5	F48	B/10	: Joint connector-F02				



AAMIA0592ZZ

G1	B1	SMJ	: To M6	E4	B45	W/4	: Rear combination lamp RH
F2	B3	W/3	: Joint connector-B05	C5	B46	GR/2	: Rear bumper antenna
F1	B4	W/8	: Fuse block (J/B)	E4	B47	W/2	: Rear speaker RH (Without Bose audio system)
E2	B6	W/8	: To D201	B5	B49	B/4	: To B250
E2	B7	—	: Body ground	C2	B52	W/1	: Condenser-2

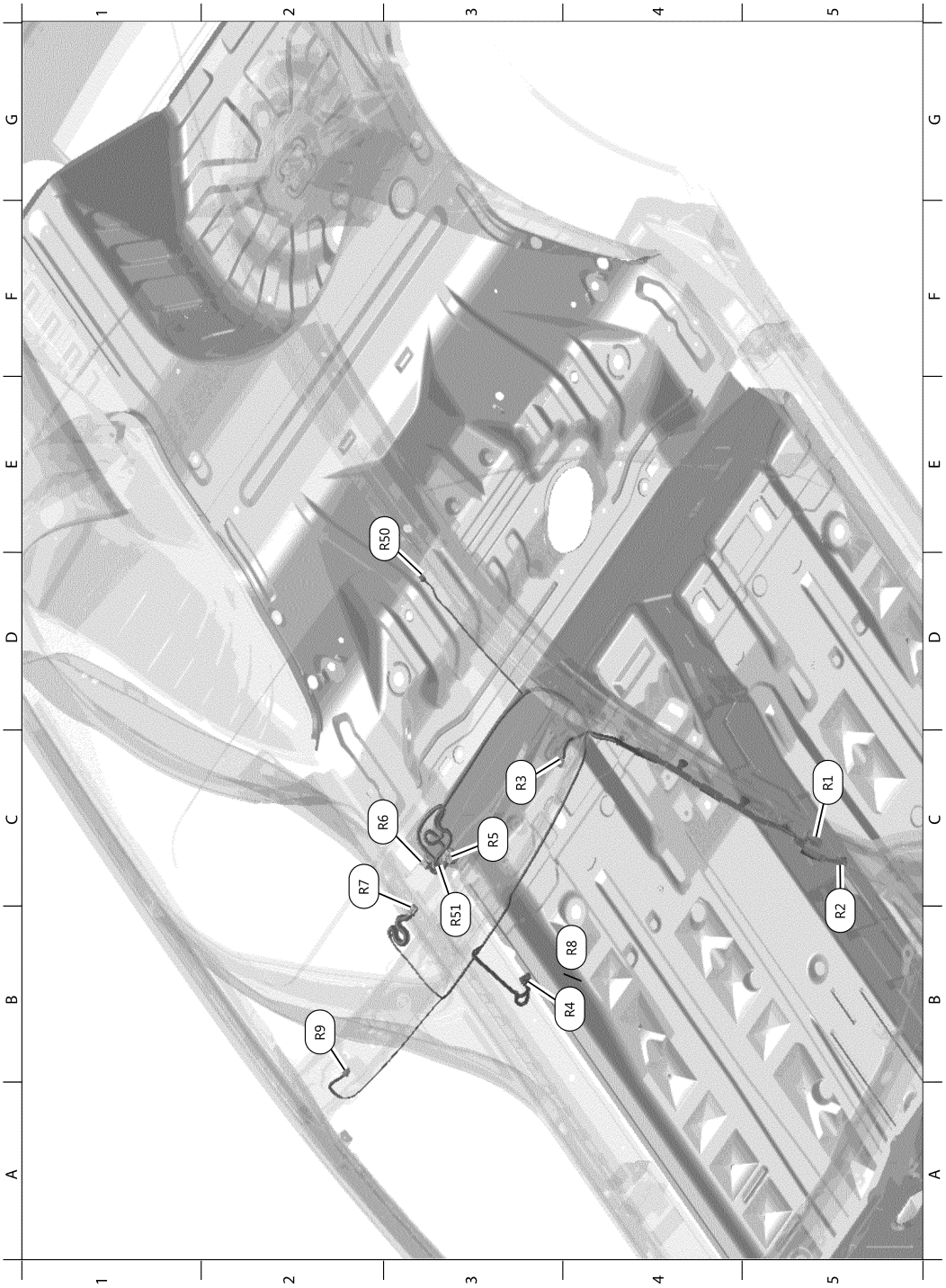
E2	B8	W/4	: Front door switch LH	C2	B53	B/1	: Rear window defogger
G3	B9	Y/12	: Air bag diagnosis sensor unit	E3	B54	B/1	: Rear window defogger
G1	B10	W/12	: To E29	E3	B58	—	: Body ground
G2	B11	Y/2	: Front LH side air bag module	C2	B60	W/4	: Rear sonar buzzer
F2	B12	W/6	: To B201	D3	B61	Y/2	: Rear side air bag satellite sensor LH
G1	B13	W/6	: Fuse block (J/B)	E3	B66	O/2	: Front LH seat belt pre-tensioner (Lap belt)
E2	B14	Y/2	: Front LH seat belt pre-tensioner	D5	B67	B/8	: Side radar RH
D2	B18	W/4	: Rear door switch LH	A4	B68	B/8	: Side radar LH
C2	B19	—	: Body ground	B3	B69	W/24	: ADAS control unit
C3	B21	W/4	: Joint connector-B06	Front seat LH harness			
B2	B22	B/12	: Joint connector-B07	F3	B201	W/6	: To B12
B3	B23	W/2	: Rear combination lamp LH	F3	B202	W/2	: Seat belt buckle switch LH
D4	B24	W/2	: Rear combination lamp RH	E2	B203	W/10	: Power seat switch
C3	B25	W/2	: Rear speaker LH (Without Bose audio system)	E2	B205	BR/4	: Lumbar support switch
C4	B28	W/3	: Trunk lamp switch and trunk release solenoid	F3	B206	GR/5	: Sliding motor LH
D3	B29	GR/2	: Rear parcel shelf antenna	E3	B207	W/6	: Reclining motor LH
A3	B30	W/4	: Rear combination lamp LH	F2	B208	W/6	: Front lifting motor LH
C4	B32	BR/2	: License plate lamp RH	F3	B209	W/6	: Rear lifting motor LH
C4	B33	GR/2	: Trunk opener request switch	E3	B210	W/3	: Seat cushion heater LH
B4	B34	BR/2	: License plate lamp LH	D2	B211	W/2	: Seat back heater LH
B4	B35	W/8	: Rear view camera	G3	B212	B/2	: Lumbar support motor
C3	B36	W/2	: Trunk room lamp	Rear sonar sensor sub-harness			
C3	B37	B/2	: High-mounted stop lamp (Without rear spoiler)	B5	B250	B/4	: To B49
B2	B38	Y/2	: LH side curtain air bag module	A4	B251	B/2	: Rear sonar sensor LH
D4	B39	B/2	: EVAP canister vent control valve	D5	B252	B/2	: Rear sonar sensor RH
C3	B40	BR/2	: High-mounted stop lamp (With rear spoiler)	Chassis harness			
E4	B41	GR/3	: EVAP control system pressure sensor	D4	C1	B/4	: To B43
E3	B42	GR/6	: Fuel level sensor unit and fuel pump	C4	C2	B/2	: Rear wheel sensor LH
D4	B43	B/4	: To C1	D5	C3	B/2	: Rear wheel sensor RH



AAMIA0593ZZ

C1	B102	W/12	: To M8	C2	B128	W/6	: To B305
D1	B103	W/16	: To M9	E3	B134	O/2	: Front RH seat belt pre-tensioner
D1	B104	BR/16	: To M10	E3	B135	Y/2	: Rear side air bag satellite sensor RH
D2	B105	W/4	: To B301	Front seat RH harness			
E2	B106	W/8	: To D301	D2	B301	W/4	: To B106

E2	B107	—	: Body ground	C3	B302	W/4	: Seat belt buckle switch RH
E2	B108	W/4	: Front door switch RH	D2	B303	W/10	: Power seat switch RH
E3	B109	BR/23	: BOSE speaker amp.	D3	B304	W/3	: Seat cushion heater RH
E4	B110	BR/14	: BOSE speaker amp.	D3	B305	W/6	: To B128
C2	B111	W/4	: Joint connector-B02	D2	B308	W/4	: To B326
D2	B112	Y/2	: Front RH side air bag module	D2	B310	W/2	: Seat back heater RH
C3	B113	Y/22	: Air bag diagnosis sensor unit	D2	B311	GR/5	: Sliding motor RH
E2	B115	Y/2	: Front RH seat belt pre-tensioner	D3	B312	W/6	: Reclining motor RH
F3	B116	W/4	: Rear door switch RH	ODS sub-harness			
F2	B117	—	: Body ground	C2	B326	W/4	: To B308
E1	B119	Y/2	: RH side curtain air bag module	D3	B327	B/14	: Occupant classification system control unit
D4	B120	W/2	: Rear speaker LH (With BOSE audio system)	C3	B328	P/3	: Occupant classification system sensor FI
E3	B124	W/2	: Rear speaker RH (With BOSE audio system)	C3	B329	P/3	: Occupant classification system sensor RI

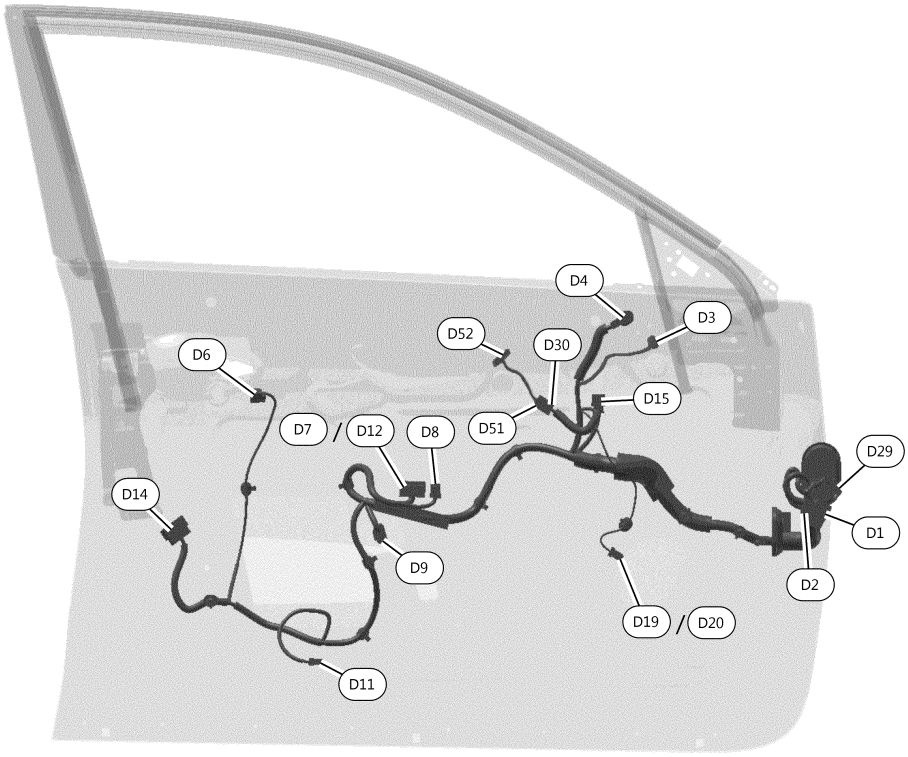


AAMIA0362ZZ

C5	R1	W/16	: To M7	C3	R7	W/4	: Microphone
B5	R2	W/4	: To M13	B2	R9	W/2	: Vanity mirror lamp RH
C3	R3	W/2	: Vanity mirror lamp LH	C2	R21	W/8	: Telematic switch
B4	R4	B/10	: Auto anti-dazzling inside mirror	E3	R50	W/4	: Personal lamp rear

C3	R5	GR/10	: Moonroof motor assembly	C2	R51	W/8	: Front room/map lamp assembly
B3	R6	W/12	: Moonroof switch				

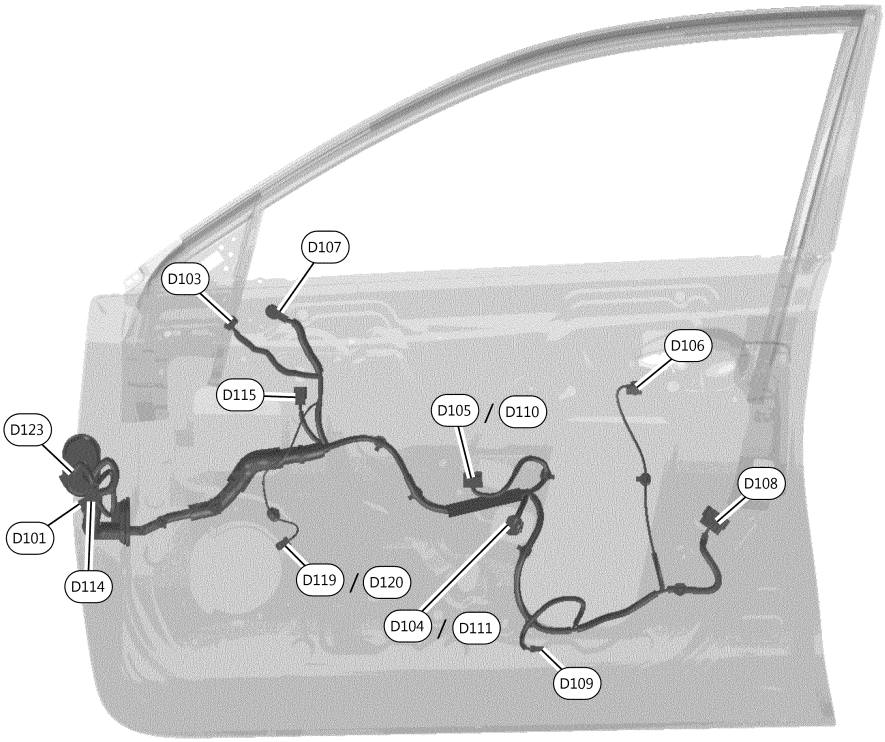
FRONT DOOR LH HARNESS



AAMIA0363ZZ

D1	W/16	: To M11	D14	GR/6	: Front door lock assembly LH
D2	W/24	: To M112	D15	Y/2	: Front door satellite sensor LH
D3	W/4	: Blind spot warning indicator LH	D19	W/2	: Front door speaker LH (Without BOSE audio system)
D4	W/8	: Door mirror LH	D20	BR/2	: Front door speaker LH (With BOSE audio system)
D6	B/4	: Front outside handle LH	D29	Y/4	: To M39
D7	W/16	: Main power window and door lock/unlock switch (With left and right front power window anti-pinch system)	D30	W/16	: To D51
D8	W/3	: Main power window and door lock/unlock switch	Front door LH sub-harness		
D9	G/6	: Front power window motor LH	D51	W/16	: To D30
D11	W/2	: Front step lamp LH	D52	W/16	: Door mirror remote control switch
D12	W/16	: Main power window and door lock/unlock switch (With left front only power window anti-pinch system)			

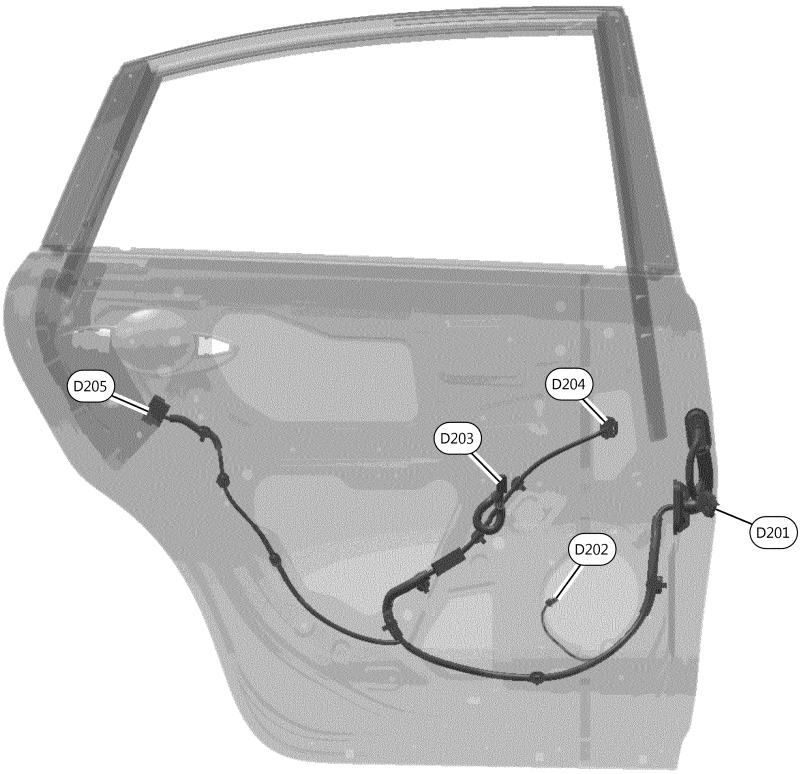
FRONT DOOR RH HARNESS



AAMIA0364ZZ

D101	W/8	: To M14	D110	W/12	: Power window and door lock/unlock switch RH (With left front only power window anti-pinch system)
D103	W/4	: Blind spot warning indicator RH	D111	G/6	: Front power window motor RH (With left front only power window anti-pinch system)
D104	G/6	: Front power window motor RH (With left and right power window anti-pinch system)	D114	W/24	: To M84
D105	W/12	: Power window and door lock/unlock switch RH (With left and right power window anti-pinch system)	D115	Y/2	: Front door satellite sensor RH
D106	B/4	: Front outside handle RH	D119	W/2	: Front door speaker RH (Without BOSE audio system)
D107	W/8	: Door mirror RH	D120	BR/2	: Front door speaker RH (With BOSE audio system)
D108	GR/6	: Front door lock actuator RH	D123	Y/4	: To M32
D109	W/2	: Front step lamp RH			

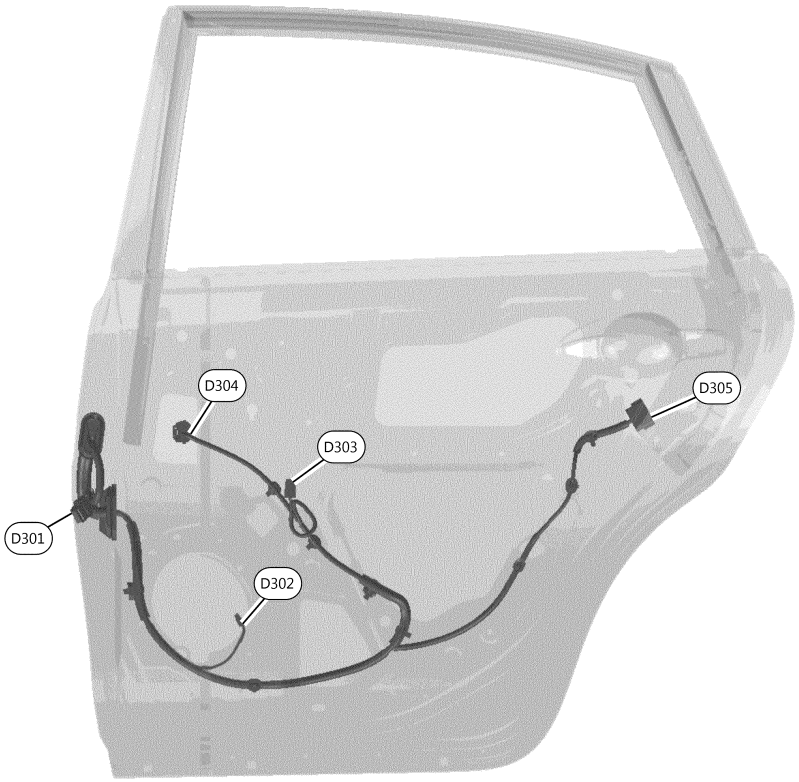
REAR DOOR LH HARNESS



AAMIA0365ZZ

D201	W/8	: To B6	D204	G/6	: Rear power window motor LH
D202	BR/2	: Rear door speaker LH	D205	GR/6	: Rear door lock actuator LH
D203	W/8	: Rear power window switch LH			

REAR DOOR RH HARNESS



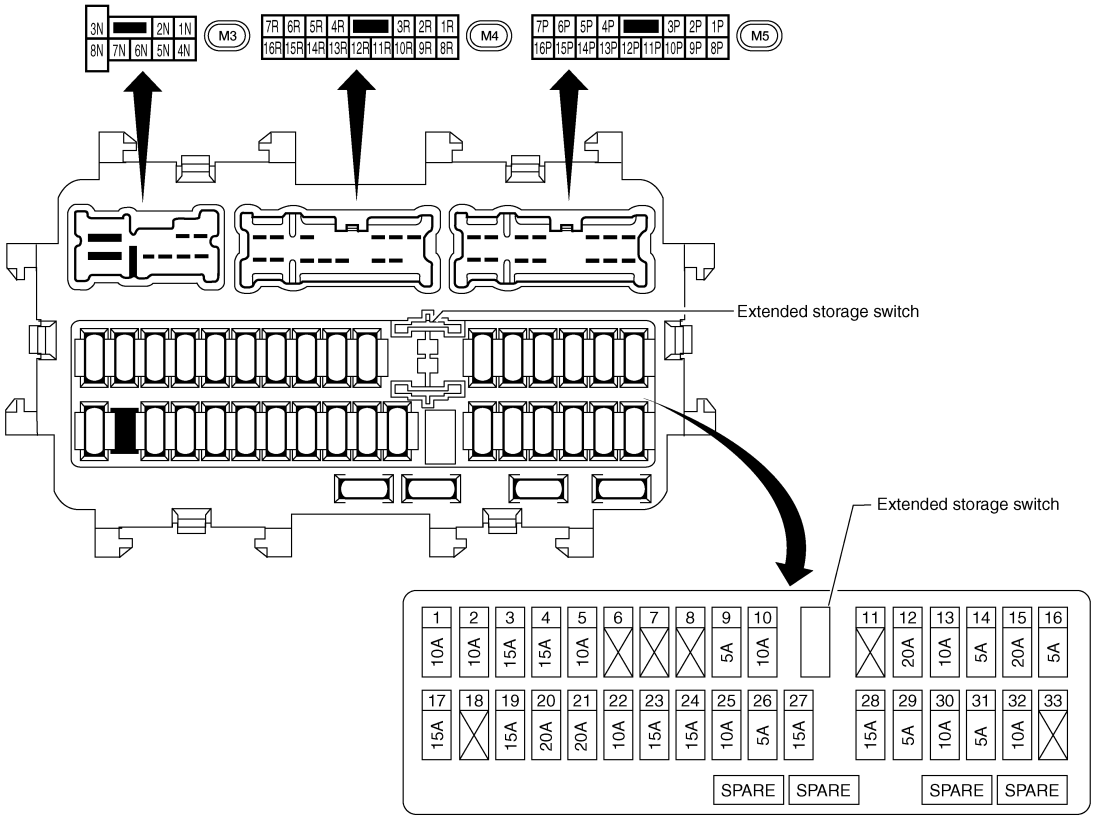
AAMIA0366ZZ

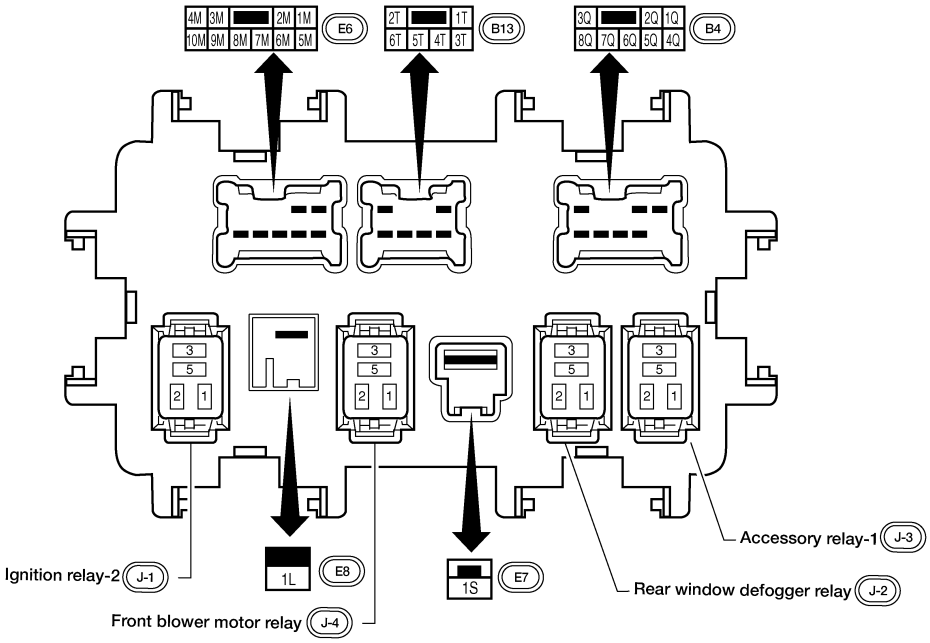
D301	W/8	: To B106	D304	G/6	: Rear power window motor RH
D302	BR/2	: Rear door speaker RH	D305	GR/6	: Rear door lock actuator RH
D303	W/8	: Rear power window switch RH			

FUSE BLOCK - JUNCTION BOX (J/B)

Terminal Arrangement

INFOID:0000000012591670



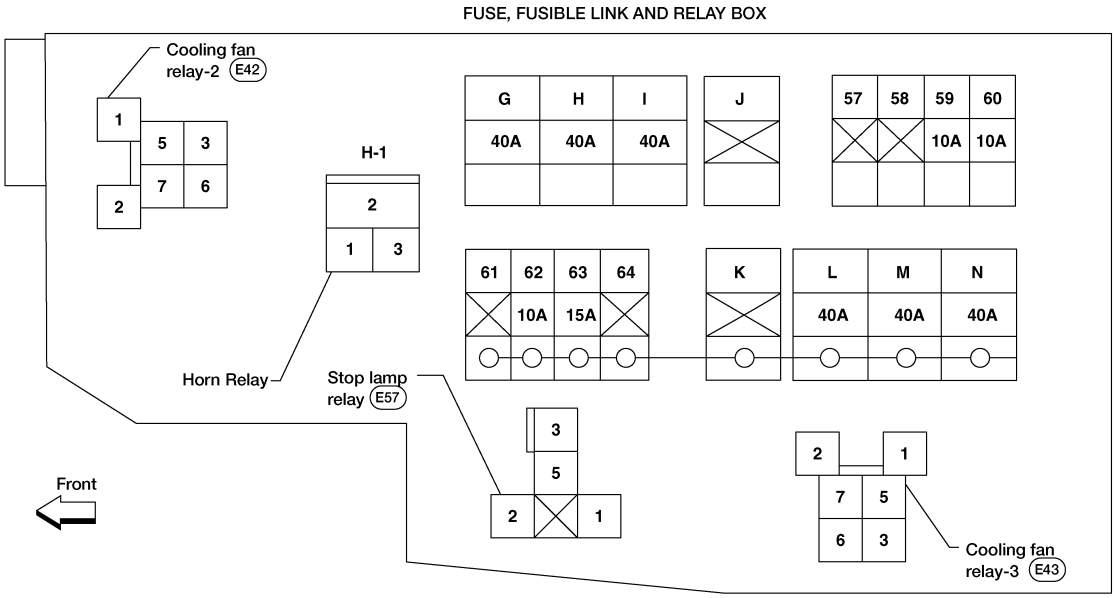


ABMIA7915GB

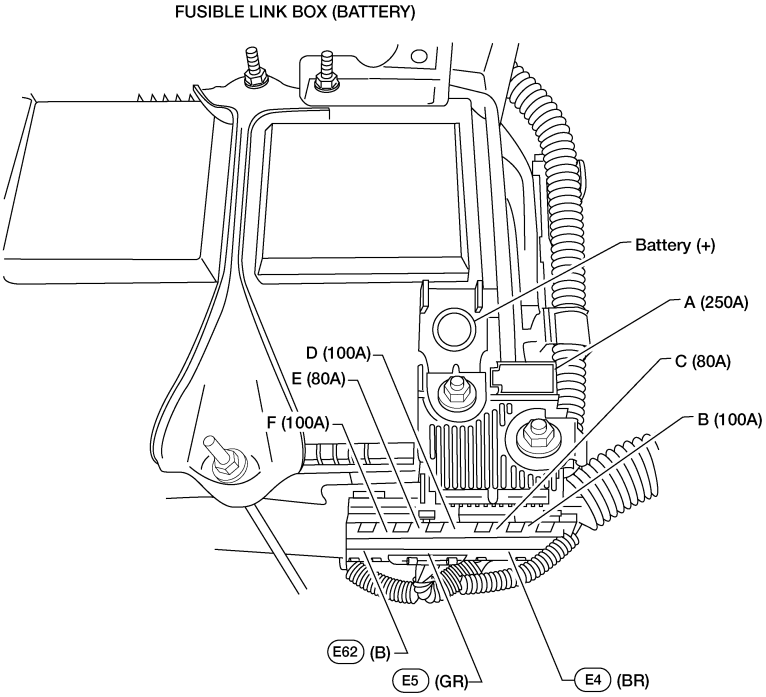
FUSE, FUSIBLE LINK AND RELAY BOX

Terminal Arrangement

INFOID:0000000012591671



NO. 57 - 64 : FUSE G - N : FUSIBLE LINK

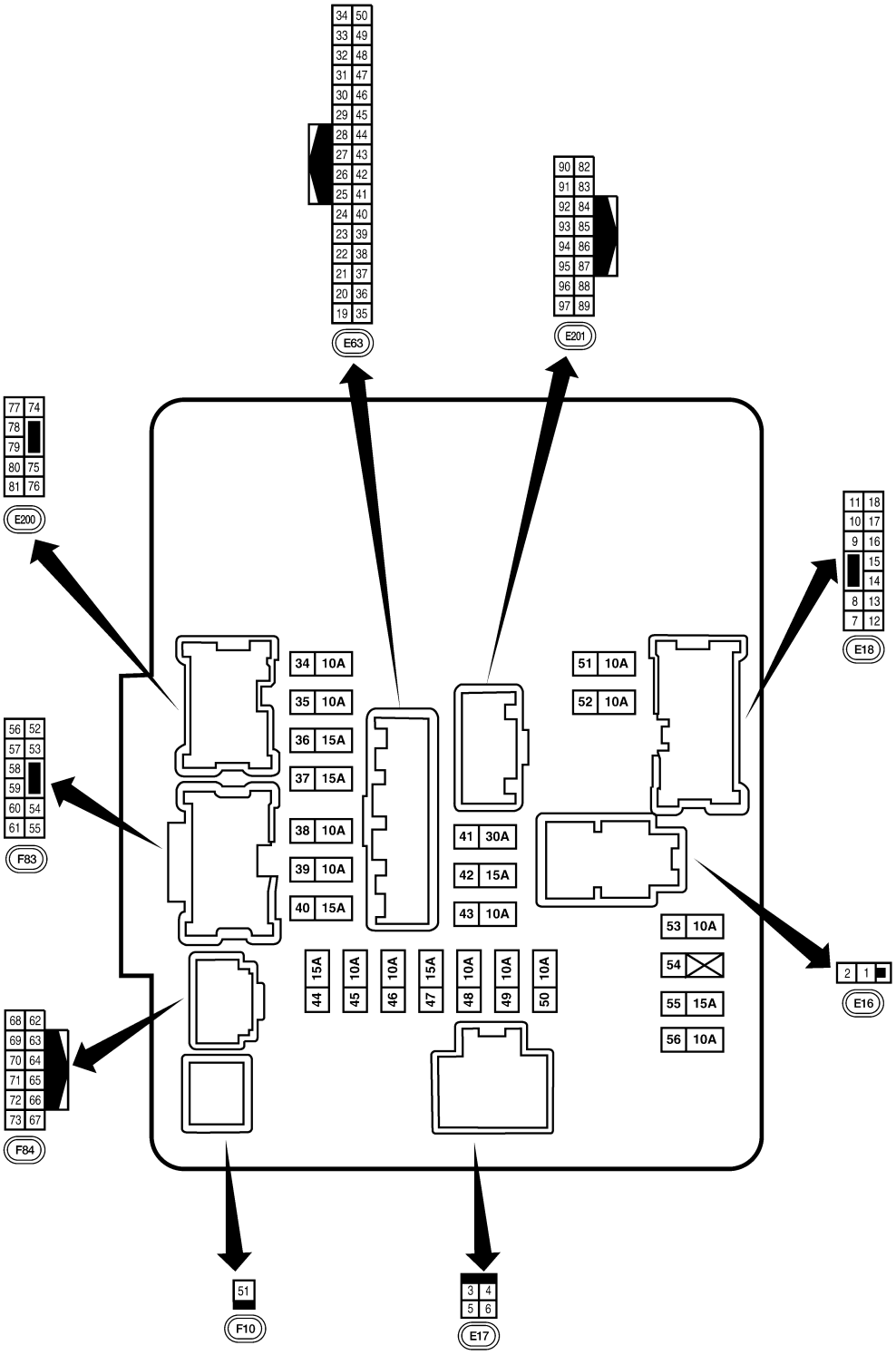


AAMIA2690GB

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

Fuse, Connector and Terminal Arrangement

INFOID:0000000012591672



AAMIA0021ZZ

BASIC INSPECTION

BATTERY

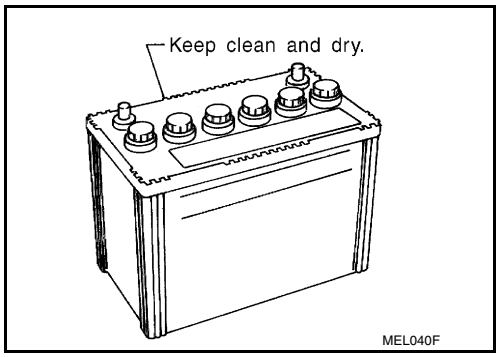
How to Handle Battery

INFOID:0000000012591673

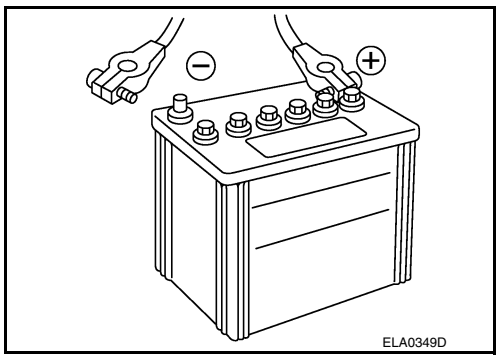
CAUTION:
- **If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.**
- **After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.**
- **Never add distilled water through the hole used to check specific gravity.**

METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.
- The battery surface (particularly its top) should always be kept clean and dry.
- The terminal connections should be clean and tight.
- At every routine maintenance, check the electrolyte level.
  This also applies to batteries designated as “low maintenance” and “maintenance-free”.



- When the vehicle is not going to be used over a long period of time, disconnect the battery cable from the negative terminal. (If the vehicle has an extended storage switch, turn it off.)



Work Flow

INFOID:0000000012591674

BATTERY DIAGNOSIS WITH EXP-800 NI OR GR8-1200 NI

To diagnose and confirm the condition of the battery, use the following special service tools:
- EXP-800 NI Battery and electrical diagnostic analyzer
- GR8-1200 NI Multitasking battery and electrical diagnostic station

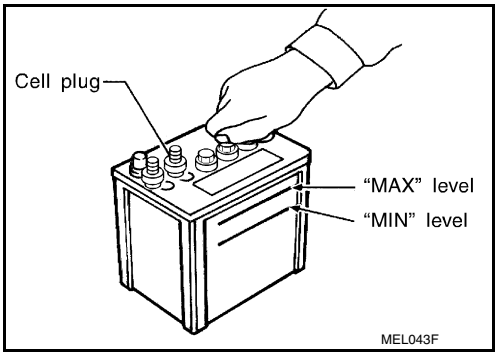
NOTE:
Refer to the applicable Instruction Manual for proper battery diagnosis procedures.

BATTERY DIAGNOSIS WITHOUT EXP-800 NI OR GR8-1200 NI

Checking Electrolyte Level

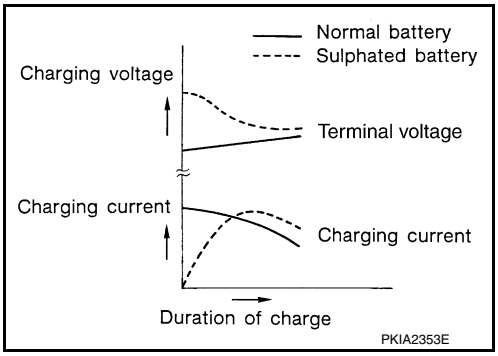
WARNING:
Never allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, never touch or rub your eyes until you have thoroughly washed your hands. If acid contacts eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention. Failure to do this may cause personal injury or damage to clothing or the painted surfaces.

- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



SULFATION

- **A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulfation on the cell plates.**
- **To determine if a battery has been "sulfated", note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulfated batteries.**
- **A sulfated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.**



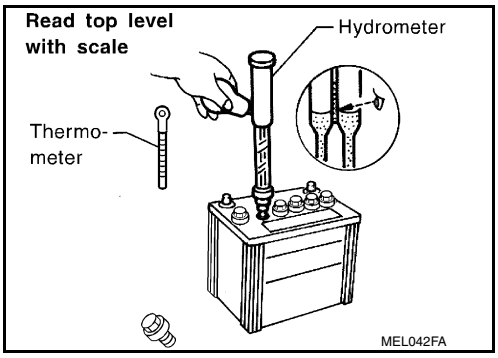
Specific Gravity Check

NOTE:

Check the charge condition of the battery.

Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.

1. Read hydrometer and thermometer indications at eye level.
2. Use the chart below to correct your hydrometer reading according to electrolyte temperature.



Hydrometer Temperature Correction

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (130)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	–0.004
16 (60)	–0.008
10 (50)	–0.012

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
4 (40)	–0.016
–1 (30)	–0.020
–7 (20)	–0.024
–12 (10)	–0.028
–18 (0)	–0.032

Corrected specific gravity	Approximate charge condition
1.260 - 1.280	Fully charged
1.230 - 1.250	3/4 charged
1.200 - 1.220	1/2 charged
1.170 - 1.190	1/4 charged
1.140 - 1.160	Almost discharged
1.110 - 1.130	Completely discharged

Charging The Battery

CAUTION:

- **Never "quick charge" a fully discharged battery.**
- **Keep the battery away from open flame while it is being charged.**
- **When connecting the charger, connect the leads first, then turn on the charger. Never turn on the charger first, as this may cause a spark.**
- **If battery electrolyte temperature rises above 55 °C (131 °F), stop charging. Always charge battery at a temperature below 55 °C (131 °F).**

Charging Rates (Standard Charge)

Approximate charge condition	Charge current (A)	Charge time (h)
Fully charged	7	2
3/4 charged		2.5
1/2 charged		5
1/4 charged		7.5
Almost discharged		9
Completely discharged		10

Charging Rates (Quick Charge)

Approximate charge condition	Charge current (A)	Charge time (h)
Fully charged	—	—
3/4 charged	16	0.5
1/2 charged	33	
1/4 charged		
Almost discharged		
Completely discharged	—	—

NOTE:

The ammeter reading on your battery charger will automatically decrease as the battery charges. This indicates that the voltage of the battery is increasing normally as the state of charge improves. The charging amps indicated above refer to initial charge rate.

- If, after charging, the specific gravity of any two cells varies more than 0.050, the battery should be replaced.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:0000000012591675

Required Procedure After Battery Disconnection

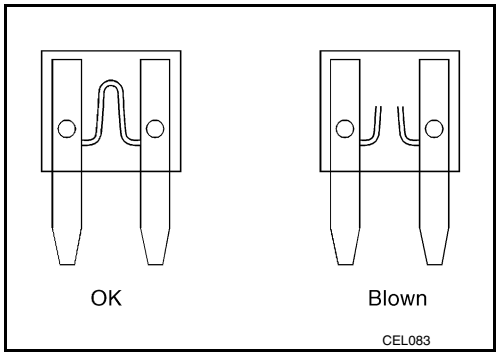
System	Item	Reference
Engine Control System	Idle Air Volume Learning	EC-187 (QR25DE) EC-732 (VQ35DE)
Power Window Control System	Power Window System Initialization	PWC-27 (LH Only Anti-Pinch) PWC-91 (LH & RH Front Anti-Pinch)
Roof	Moonroof Memory Reset/Initialization	RF-20
Heater & Air Conditioning Control System	Temperature Setting Trimmer	HAC-49 (Automatic Air Conditioner)
	Foot Position Setting Trimmer	HAC-49 (Automatic Air Conditioner)
	Inlet Port Memory Function (FRE)	HAC-49 (Automatic Air Conditioner)
	Inlet Port Memory Function (REC)	HAC-50 (Automatic Air Conditioner)
	Target Evaporator Temp Upper Limit	HAC-50 (Automatic Air Conditioner)
Audio, Visual & Navigation System	Audio (Radio Preset)	Refer to Owner's Manual.
	Navigation System	Refer to Owner's Manual.

FUSE INSPECTION

How To Check

INFOID:0000000012591676

- If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not partially install fuse; always insert it into fuse holder properly.
- Remove fuse for “ELECTRICAL PARTS (BAT)” if vehicle is not used for a long period of time.

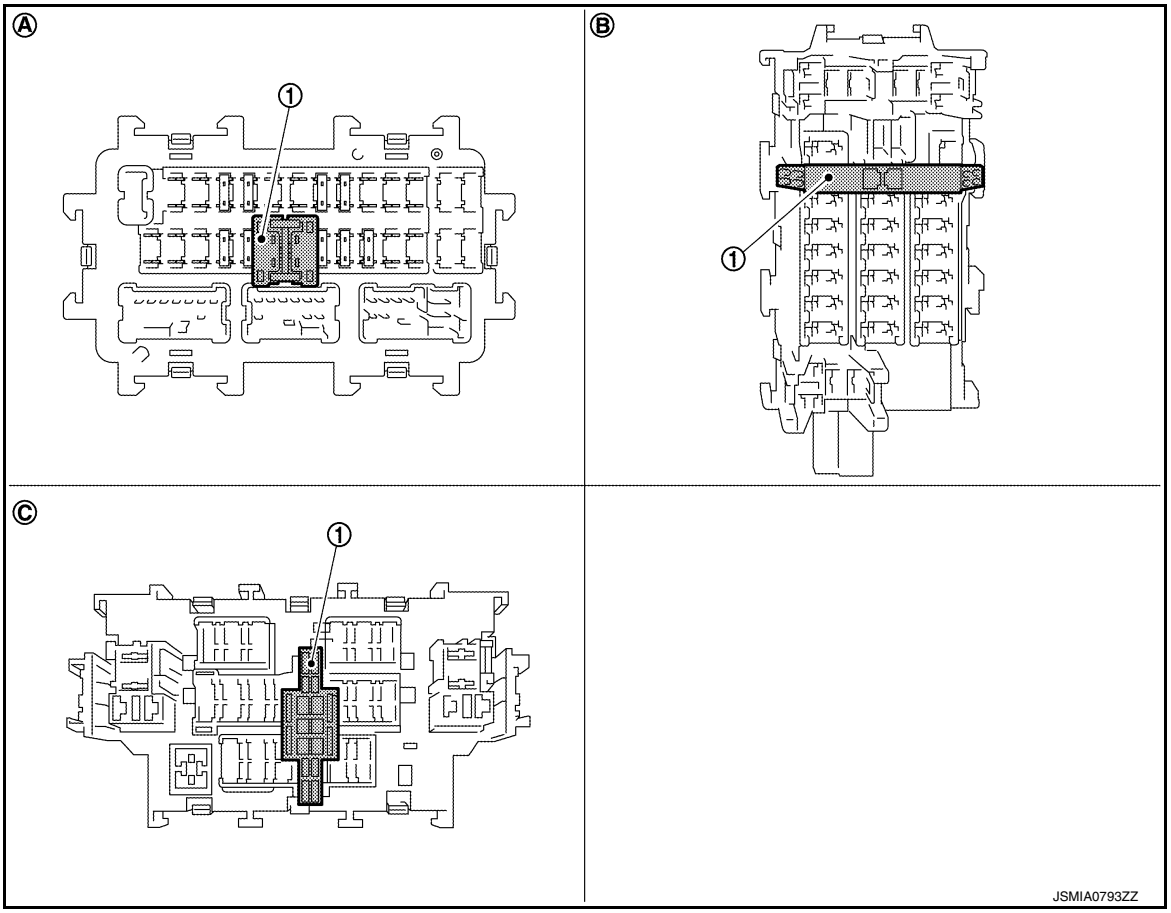


EXTENDED STORAGE SWITCH (IF EQUIPPED)

NOTE:

- When extended storage switch is pulled out, a message may be shown in the meter or display. To turn message/display off, push extended storage switch in.
- The following information is related to extended storage switch (shipping mode). For information related to BCM transit mode, refer to BCS-8, "BODY CONTROL SYSTEM : System Description".

The following switch may be mounted on the fuse block (Junction Box) for transportation and storage.



① Extended storage switch

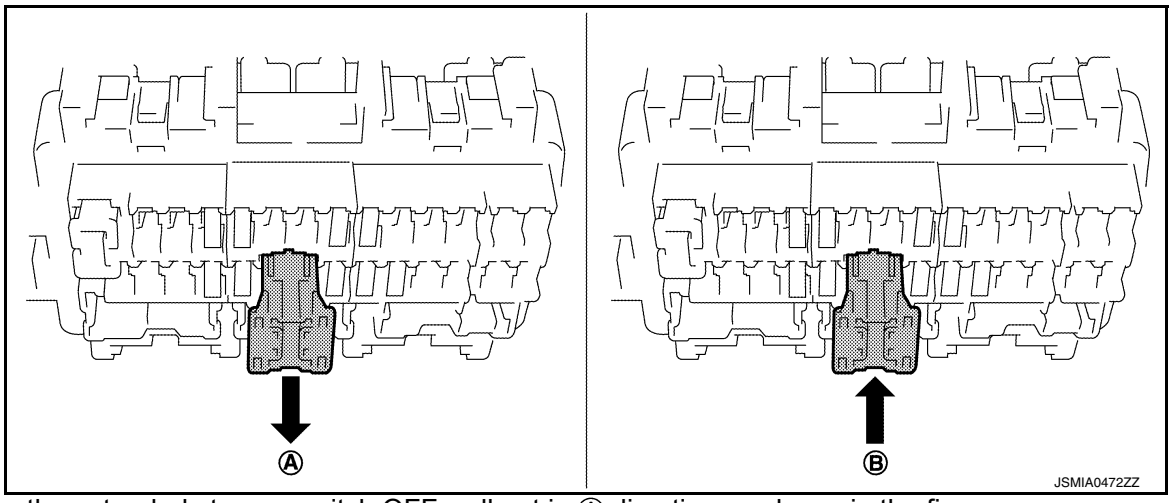
Ⓐ Type A Ⓑ Type B Ⓒ Type C

Remove the extended storage switch if it interferes when checking fuses.

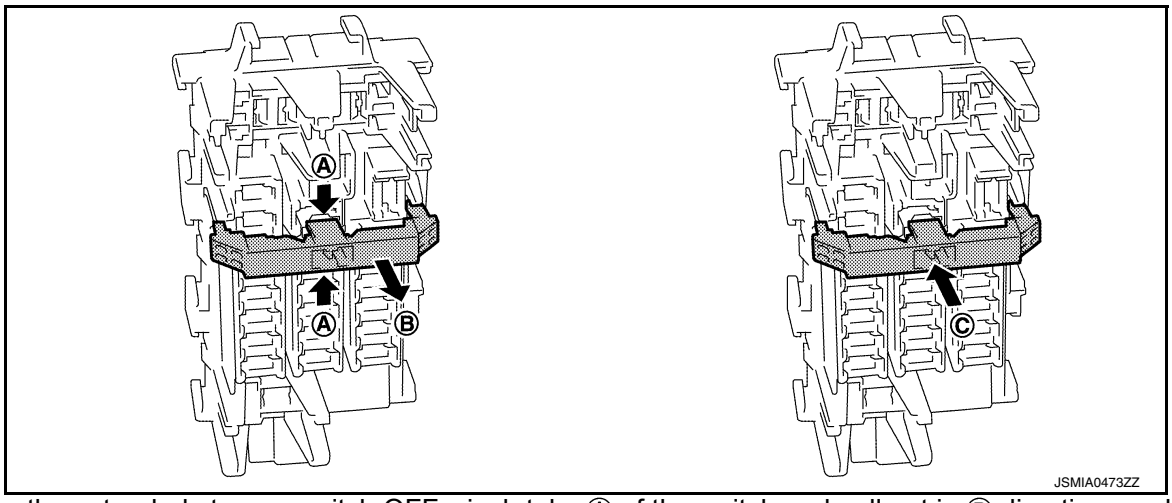
How/When to turn Extended Storage Switch ON/OFF

CAUTION:

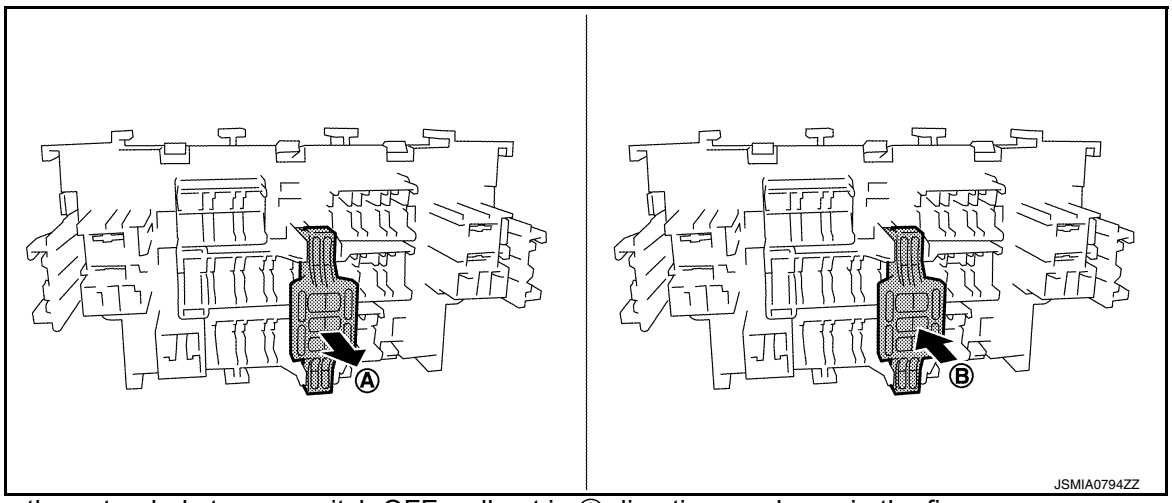
- **Turn the ignition switch OFF when operating the extended storage switch.**
- **Under normal conditions, keep the extended storage switch in ON state. Never operate the extended storage switch except when necessary.**
- Type A



- To turn the extended storage switch OFF, pull out in Ⓐ direction as shown in the figure.
- To turn the extended storage switch ON, press in Ⓑ direction as shown in the figure.
- Type B



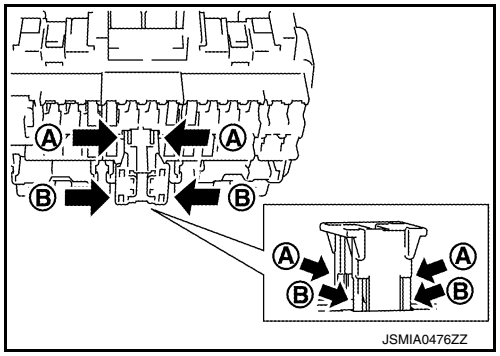
- To turn the extended storage switch OFF, pinch tabs Ⓐ of the switch and pull out in Ⓑ direction as shown in the figure.
- To turn the extended storage switch ON, press in Ⓒ direction as shown in the figure.
- Type C



- To turn the extended storage switch OFF, pull out in Ⓐ direction as shown in the figure.
- To turn the extended storage switch ON, press in Ⓑ direction as shown in the figure.

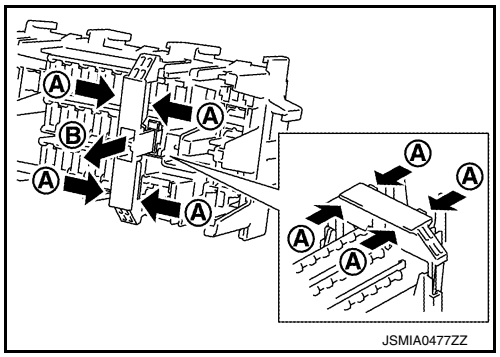
How To Remove Extended Storage Switch

Type A
1. Turn the ignition switch OFF.
2. Turn the extended storage switch OFF.
3. Pinch tabs Ⓐ and tilt to disengage the extended storage switch. Pinch tabs Ⓑ to remove the extended storage switch.



CAUTION:
For bus bar type extended storage switch, never replace bus bar with a fuse, or fuse may continually open.
NOTE:
- Extended storage switch and fuse (or bus bar) are removed together. Remove fuse (or bus bar) from extended storage switch, if necessary.
- Install removed fuse (or bus bar) to fuse block.
- Extended storage switch is for transportation and storage. Reinstallation of switch is not required after removal, but fuse (or bus bar) must be reinstalled/pushed back in to activate all electrical systems and turn message off (which may be shown in meter/display).

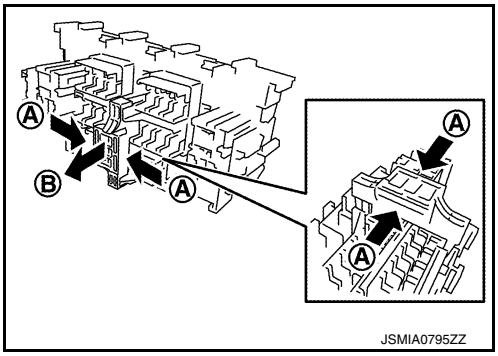
Type B
1. Turn the ignition switch OFF.
2. Turn the extended storage switch OFF.
3. Pinch tabs Ⓐ and firmly pull out the extended storage switch in Ⓑ direction.



CAUTION:
For bus bar type extended storage switch, never replace bus bar with a fuse, or fuse may continually open.
NOTE:
- Extended storage switch and fuse (or bus bar) may be removed together. Remove fuse (or bus bar) from extended storage switch, if necessary.
- Install removed fuse (or bus bar) to fuse block.
- Extended storage switch is for transportation and storage. Reinstallation of switch is not required after removal, but fuse (or bus bar) must be reinstalled/pushed back in to activate all electrical systems and turn message off (which may be shown in meter/display).

Type C
1. Turn the ignition switch OFF.
2. Turn the extended storage switch OFF.

3. Pinch tabs Ⓐ and firmly pull out the extended storage switch in Ⓑ direction.



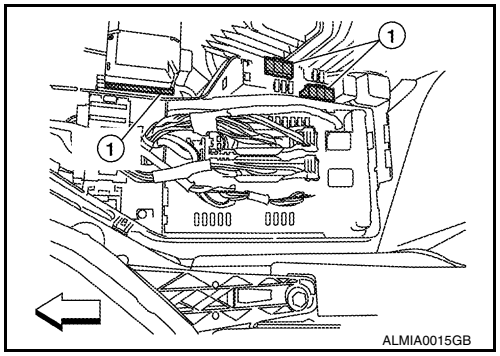
CAUTION:
For bus bar type extended storage switch, never replace bus bar with a fuse, or fuse may continually open.
NOTE:
- Extended storage switch and fuse (or bus bar) are removed together. Remove fuse (or bus bar) from extended storage switch, if necessary.
- Install removed fuse (or bus bar) to fuse block.
- Extended storage switch is for transportation and storage. Reinstallation of switch is not required after removal, but fuse (or bus bar) must be reinstalled/pushed back in to activate all electrical systems and turn message off (which may be shown in meter/display).

FUSIBLE LINK INSPECTION

Fusible Link

INFOID:0000000012591677

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.



1 : Fusible link

⇦: Vehicle front

CAUTION:

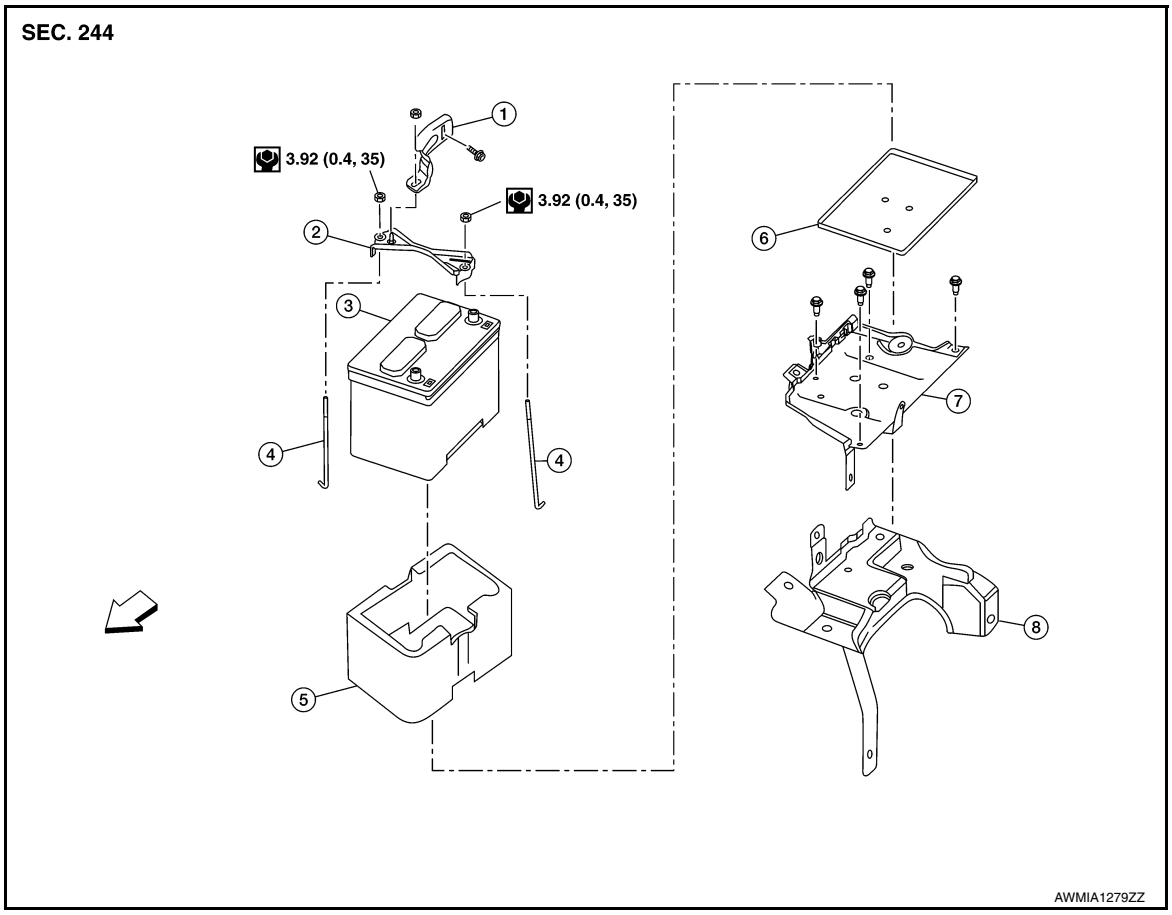
- **If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of malfunction.**
- **Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any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

REMOVAL AND INSTALLATION

BATTERY

Exploded View

INFOID:0000000012591678



1.	Upper ECM bracket	2.	Battery frame	3.	Battery
4.	Battery rods	5.	Battery tray cover	6.	Battery tray liner
7.	Battery tray	8.	Battery tray support	⇦	Front

Removal and Installation

INFOID:0000000012591679

REMOVAL

1. Disconnect negative battery terminal. Refer to PG-82, "Exploded View".
   CAUTION:
   To prevent damage to the parts, disconnect the negative terminal from the battery negative post first.
2. Remove the cover of the battery positive terminal and disconnect the positive battery terminal. Refer to PG-81, "Exploded View".
3. Remove battery frame nuts, battery frame and battery rods.
4. Remove battery cover.
5. Remove battery.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **To prevent damage to the parts, connect the positive terminal to the battery positive post first.**

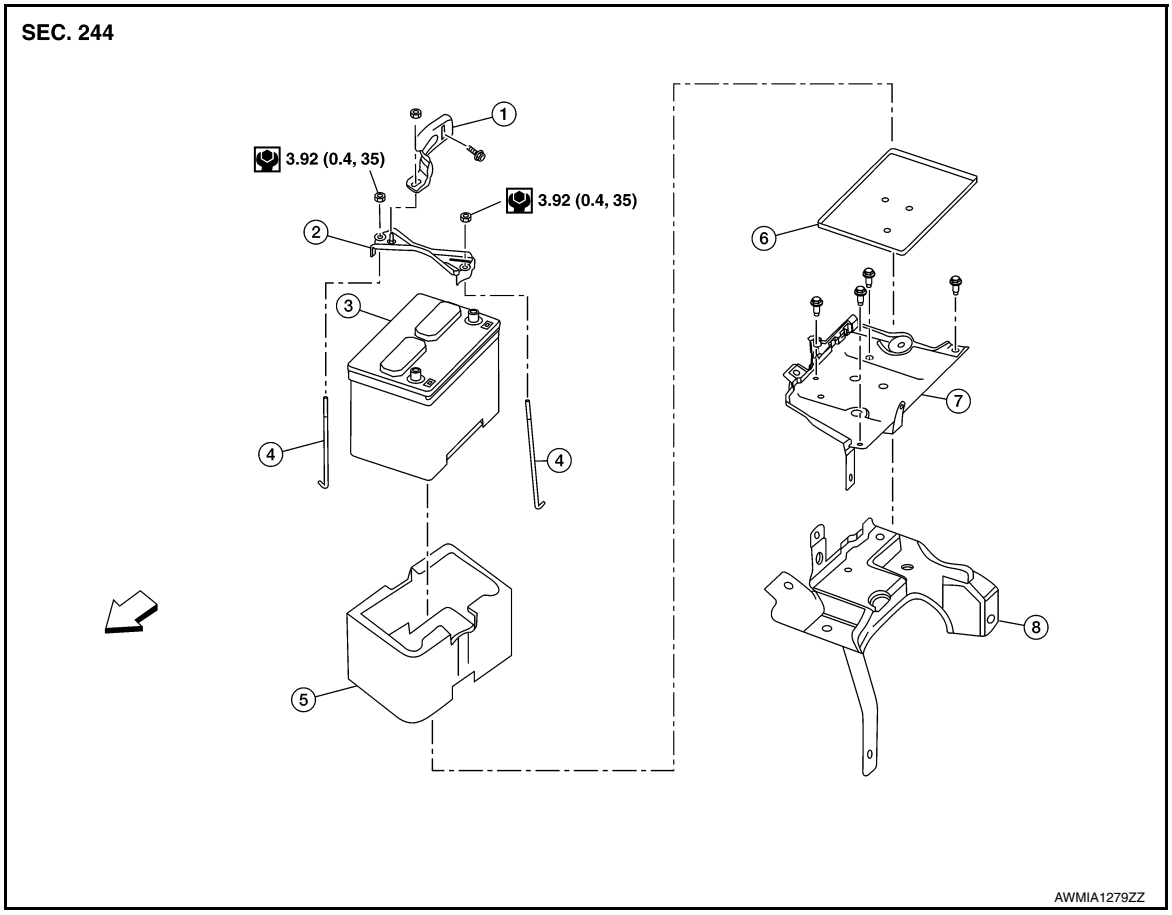
- **After connecting the positive and negative terminals, to securely supply battery voltage, ensure that the positive and negative terminals are tightly clamped to battery positive and negative posts for good contact.**
- **To securely supply battery voltage, check the positive and negative terminals for poor connection caused by corrosion.**

Reset electronic systems as necessary. Refer to PG-72, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

BATTERY TRAY

Exploded View

INFOID:0000000012591680



1.	Upper ECM bracket	2.	Battery frame	3.	Battery
4.	Battery rods	5.	Battery tray cover	6.	Battery tray liner
7.	Battery tray	8.	Battery tray support	⇦	Front

Removal and Installation

INFOID:0000000012591681

REMOVAL

1. Remove the battery. Refer to PG-78, "Removal and Installation".
2. Remove front air duct and air cleaner case assembly. Refer to EM-29, "Removal and Installation" (QR25DE models) or EM-146, "Removal and Installation" (VQ35DE models).
3. Disconnect harness connector from ECM.
4. Disconnect harness connector from transmission control module (TCM). Refer to TM-190, "Exploded View" (RE0F10D models) or TM-395, "Exploded View" (RE0F10H models).
5. Remove bracket securing ECM/TCM.
6. Remove current sensor from battery tray.
7. Remove the battery tray bolts and battery tray.

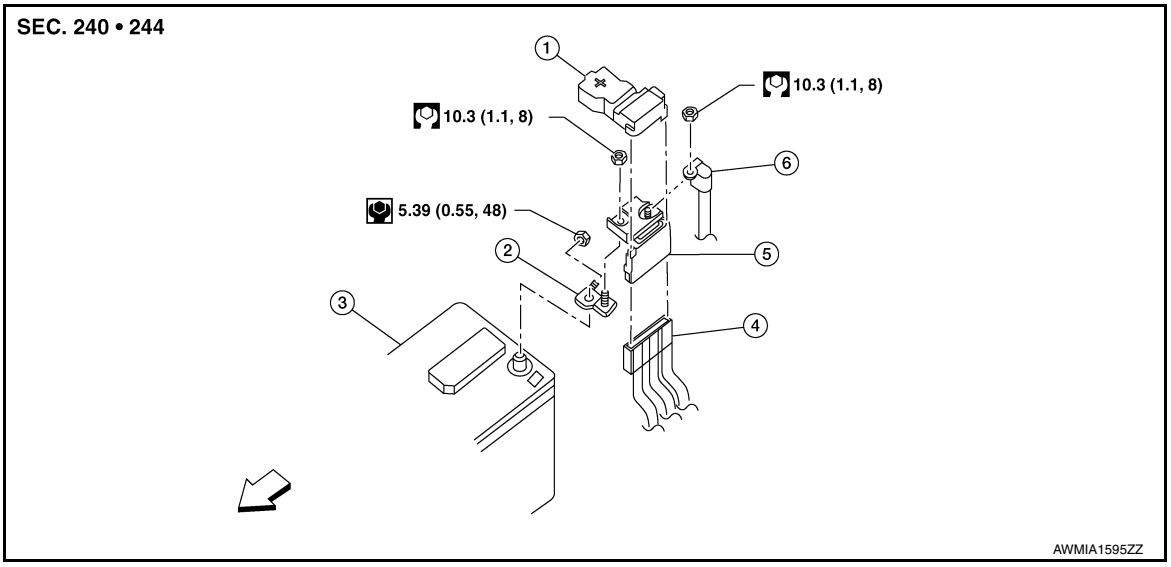
INSTALLATION

Installation is in the reverse order of removal.
Reset electronic systems as necessary. Refer to PG-72, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

BATTERY TERMINAL WITH FUSIBLE LINK

Exploded View

INFOID:0000000012591682



1. Cover
2. Positive Terminal
3. Battery
4. Harness connectors
5. Fusible link box (battery)
6. Positive cable

⇦ Front

Removal and Installation

INFOID:0000000012591683

REMOVAL

1. Remove cover from positive terminal.
2. Disconnect negative terminal from the battery and reposition.
   CAUTION:
   To prevent damage to the parts, disconnect the negative terminal from the battery negative post first.
3. Remove the cover from the positive terminal and disconnect the positive terminal from the battery.
4. Disconnect positive cable from fusible link box (battery).
5. Disconnect harness connectors and separate positive terminal from fusible link box (battery).

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Replace the fusible link box (battery) if it has been dropped or sustained an impact.

To install the fusible link box (battery), carefully read the following instructions:

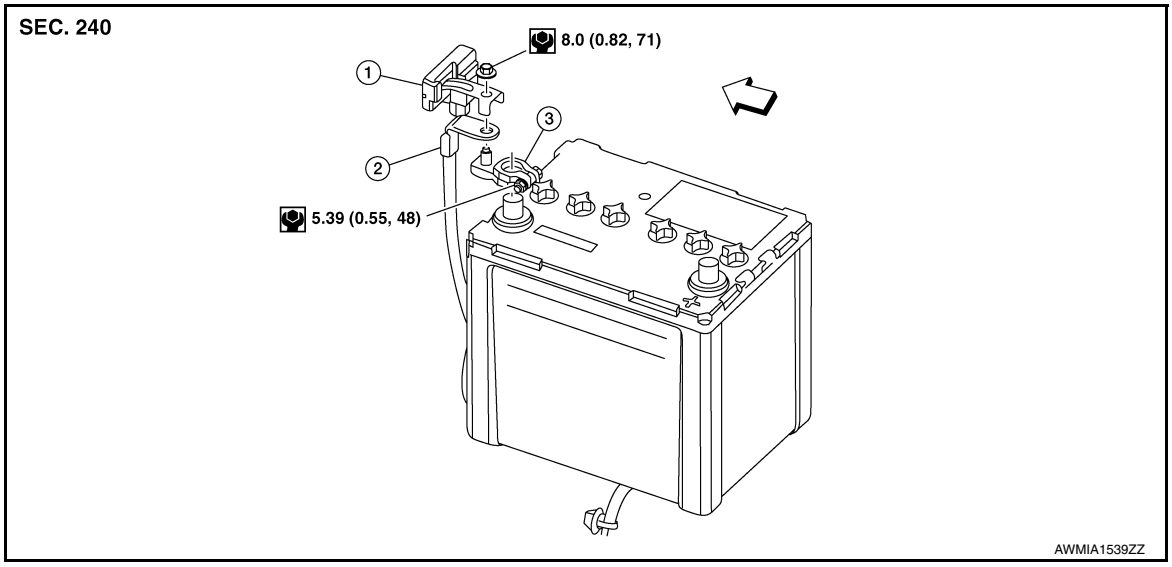
- **To prevent damage to the parts, connect the positive terminal to the battery positive post first.**
- **After connecting the positive terminal, to securely supply battery voltage, ensure that the positive and negative terminals are tightly clamped to battery posts for good contact.**
- **To securely supply battery voltage, check the positive and negative terminals for poor connection caused by corrosion.**

Reset electronic systems as necessary. Refer to PG-72, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

BATTERY CURRENT SENSOR

Exploded View

INFOID:0000000012591684



1. Current sensor
2. Negative cable
3. Negative terminal

⇦ Front

Removal and Installation

INFOID:0000000012591685

REMOVAL

1. Disconnect negative terminal from the battery.
2. Disconnect harness connector from current sensor.
3. Remove nut and separate negative cable from the current sensor and remove the current sensor.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Replace the current sensor if it has been dropped or sustained and impact.

To install the current sensor, carefully read the following instructions:

- **After connecting the negative terminal, to securely supply battery voltage, ensure that the positive and negative terminals are tightly clamped to battery posts for good contact.**
- **To securely supply battery voltage, check the positive and negative terminals for poor connection caused by corrosion.**

Reset electronic systems as necessary. Refer to PG-72, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

SERVICE DATA AND SPECIFICATIONS (SDS)

BATTERY

Battery

INFOID:0000000012591686

Type*	GR35
Capacity (20HR) minimum V-AH	12-63
Cold cranking current A @ -18°C (0°F)	550

*: Always check with the Parts Department for the latest parts information.