WIRING
16

CONTENTS

page

Wiring Information **16-1**

Vehicle Power Distribution **16-11**

Vehicle Ground Distribution **16-20**

Vehicle Fuse Box Information **16-28**

Vehicle Wiring Harness Information **16-33**

WIRING INFORMATION

GENERAL INFORMATION 16-2
Description 16-2
Electrical Schematics 16-2
International Symbols 16-3

ELECTRICAL TROUBLESHOOTING 16-4
Troubleshooting Wiring Problems 16-4
Testing For Voltage 16-4
Testing For Continuity 16-4
Testing For A Short To Ground 16-4
Intermittent and Poor Connections 16-4

ELECTRICAL TROUBLESHOOTING TOOLS 16-5
Jumper Wires 16-5
Voltmeter 16-5
Ohmmeter 16-6

ELECTRICAL REPAIR 16-7
Wire Repair 16-7
Fuse Replacement 16-7

ELECTRICAL COMPONENTS 16-8
Battery Cable 16-8
Sensors, Switches, and Relays 16-8
Connectors 16-8

GENERAL INFORMATION

Description

The wiring information includes wiring diagrams, proper wire and connector repair procedures, details of wire harness routing and retention, connector pin-out information and location views for the various wiring harness components, splices and grounds.

Electrical Schematics

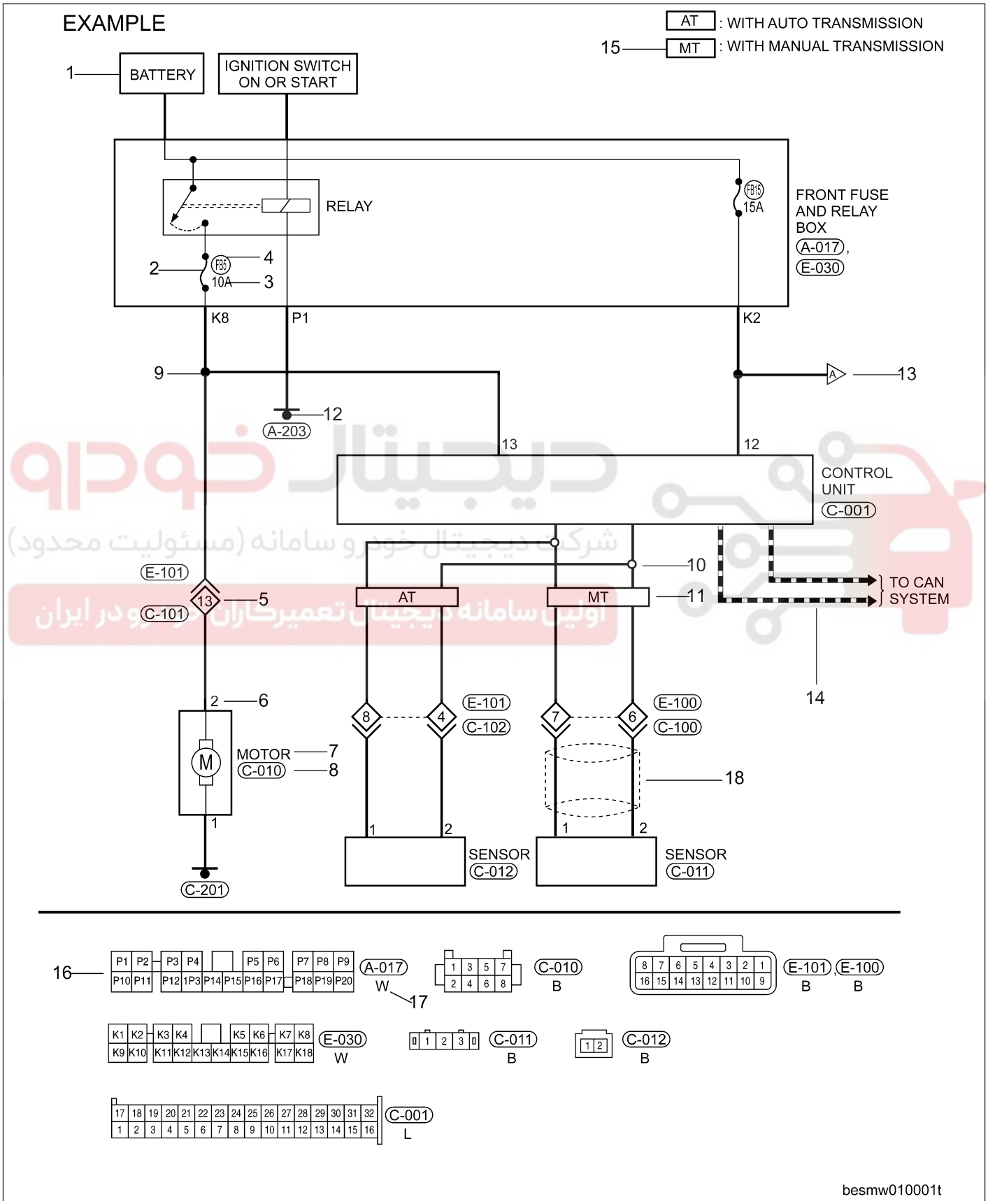
The electrical schematics are grouped into individual service manual chapters. If a component is most likely found in a particular group, it will be shown complete (all wires, connectors, and pins) within that group. For example, the Engine Control Module (ECM) is most likely to be found in Chapter 03 (Electronic Engine Controls), so it is shown there complete. It can, however, be shown partially in another group if it contains some associated wiring.

Chery electrical schematics are designed to provide information regarding the vehicles wiring content. In order to effectively use the wiring diagrams to diagnose and repair Chery vehicles, it is important to understand the following features and characteristics:

- Diagrams are arranged such that the power (B+) side of the circuit is placed near the top of the page, and the ground (B-) side of the circuit is placed near the bottom of the page.
- All switches, components, and modules are shown in the at rest position with the doors closed and the key removed from the ignition.
- Components are shown with a solid line around the component.
- It is important to realize that no attempt is made on the diagrams to represent components and wiring as they appear on the vehicle. For example, a short piece of wire is treated the same as a long one.
- Switches and other components are shown as simply as possible, with regard to function only.

International Symbols

International symbols are used throughout the wiring diagrams. These symbols are consistent with those being used around the world.



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ELECTRICAL TROUBLESHOOTING

Troubleshooting Wiring Problems

When troubleshooting wiring problems there are six steps which can aid in the procedure. The steps are listed and explained below. Always check for non-factory equipped components added to the vehicle before doing any diagnosis. If the vehicle is equipped with these items, disconnect them to verify these add-on items are not the cause of the problem.

Perform the following when troubleshooting a wiring problem:

1. Verify the problem.
2. Verify any related symptoms (do this by performing operational checks on components that are in the same circuit).
3. Analyze the symptoms (use the wiring diagrams to determine what the circuit is doing, where the problem most likely is occurring and where the diagnosis will continue).
4. Isolate the problem area.
5. Repair the problem area.
6. Verify the proper operation (for this step, check for proper operation of all items on the repaired circuit).

Testing For Voltage

1. Connect the ground lead of a voltmeter to a known good ground.
2. Connect the other lead of the voltmeter to the selected test point. The vehicle ignition may need to be turned ON to check voltage. Refer to the appropriate test procedure.

Testing For Continuity

1. Remove the fuse for the circuit being checked or, disconnect the battery.
2. Connect one lead of the ohmmeter to one side of the circuit being tested.
3. Connect the other lead to the other end of the circuit being tested (low or no resistance means good continuity).

Testing For A Short To Ground

1. Remove the fuse and disconnect all items involved with the fuse.
2. Connect a test light or a voltmeter across the terminals of the fuse.
3. Starting at the fuse block, wiggle the wiring harness about six to eight inches apart and watch the voltmeter/test light.
4. If the voltmeter registers voltage or the test light glows, there is a short to ground in that general area of the wiring harness.

Intermittent and Poor Connections

Most intermittent electrical problems are caused by faulty electrical connections or wiring. It is also possible for a sticking component or relay to cause a problem. Before condemning a component or wiring assembly, check the following items:

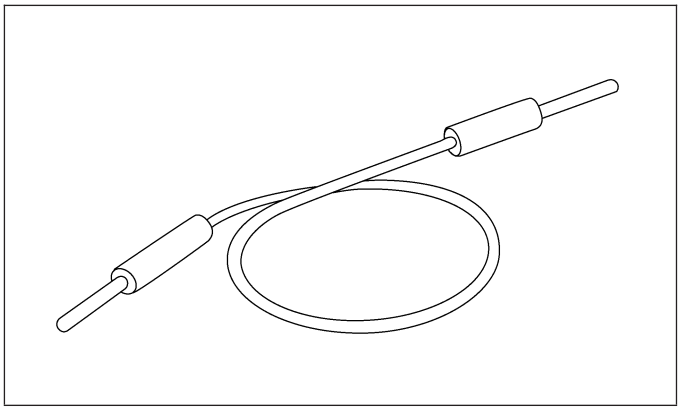
- Connectors are fully seated
- Spread terminals, or terminal push out
- Terminals in the wiring assembly are fully seated into the connector/component and locked into position
- Dirt or corrosion on the terminals (any amount of corrosion or dirt could cause an intermittent problem)
- Damaged connector/component casing exposing the item to dirt or moisture
- Wire insulation that has rubbed through causing a short to ground
- Some or all of the wiring strands broken inside of the insulation
- Wiring broken inside of the insulation

ELECTRICAL TROUBLESHOOTING TOOLS

Jumper Wires

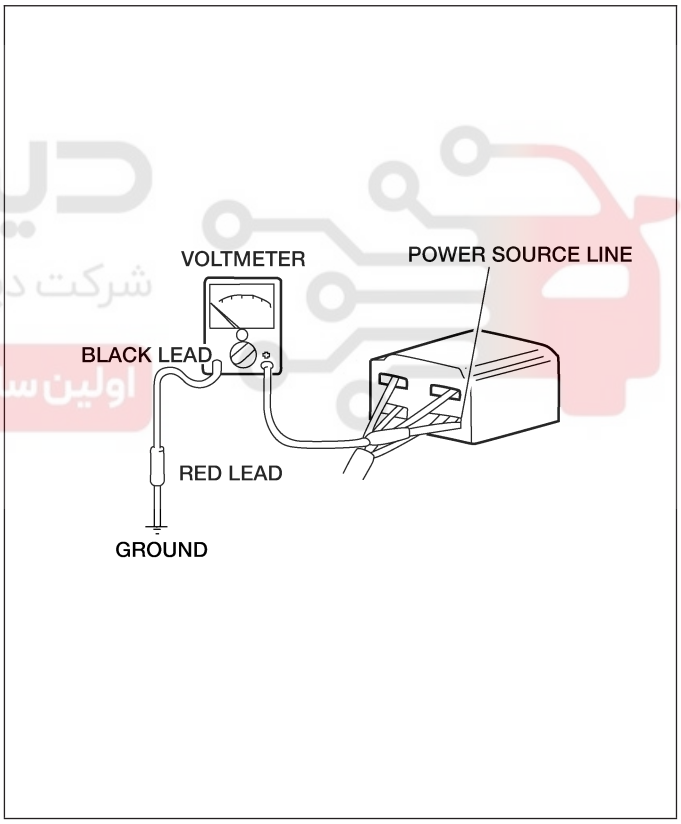
- A jumper wire is used to create a temporary circuit. Connect the jumper wire between the terminals of a circuit to bypass a switch.

CAUTION:
Do not connect a jumper wire from the power source line to a body ground. This may cause burning or other damage to wiring harnesses or electronic components.



Voltmeter

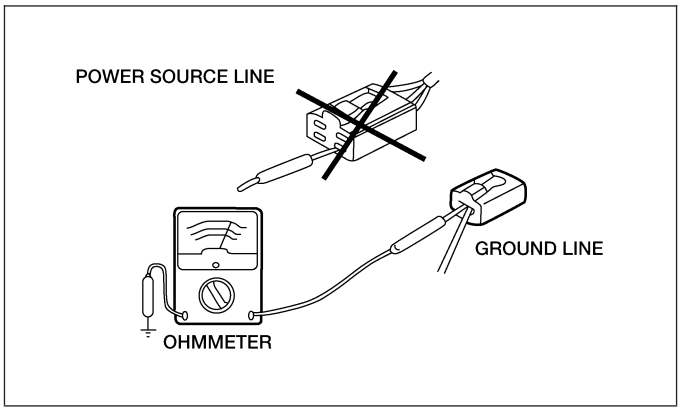
- The DC voltmeter is used to measure circuit voltage. A voltmeter with a range of 15 V or more is used by connecting the positive (+) probe (red lead wire) to the point where voltage will be measured and the negative (-) probe (black lead wire) to a body ground.



Ohmmeter

- The ohmmeter is used to measure the resistance between two points in a circuit and to check for continuity and short circuits.

CAUTION:
Do not connect the ohmmeter to any circuit where voltage is applied. This will damage the ohmmeter.



ELECTRICAL REPAIR

Wire Repair

NOTE :
When splicing a wire, it is important that the correct gage be used.

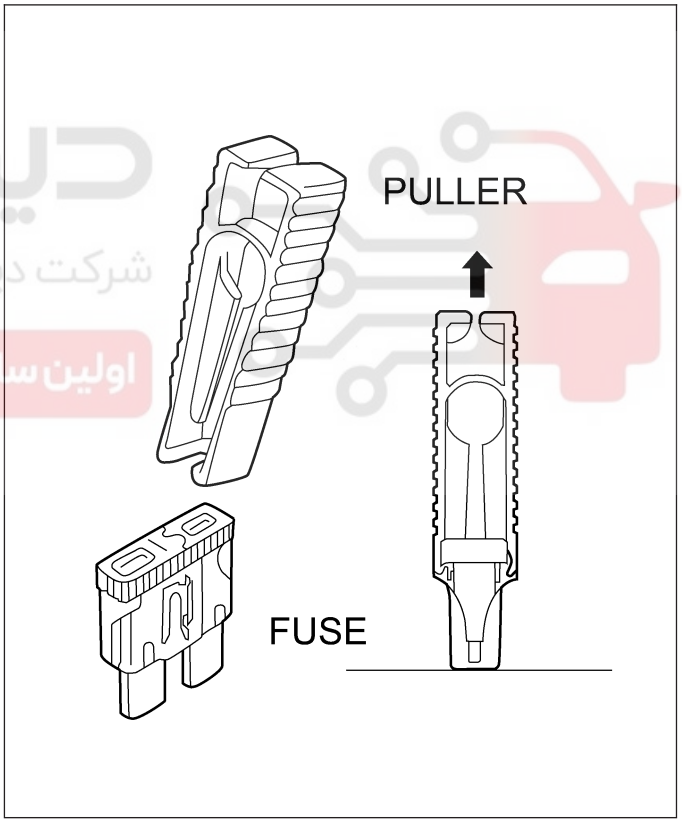
1. Remove one-half (1/2) inch of insulation from each wire that needs to be spliced.
2. Place a piece of adhesive lined heat shrink tubing on one side of the wire. Make sure the tubing will be long enough to cover and seal the entire repair area.
3. Place the strands of wire overlapping each other inside of the splice clip.
4. Using a crimping tool, crimp the splice clip and wires together.

NOTE :
Do not use acid core solder when making wiring repairs.

5. Solder the connection together using a soldering iron and rosin core type solder only.
6. Center the heat shrink tubing over the joint and heat using a heat gun. Heat the joint until the tubing is tightly sealed and sealant comes out of both ends of the tubing.

Fuse Replacement

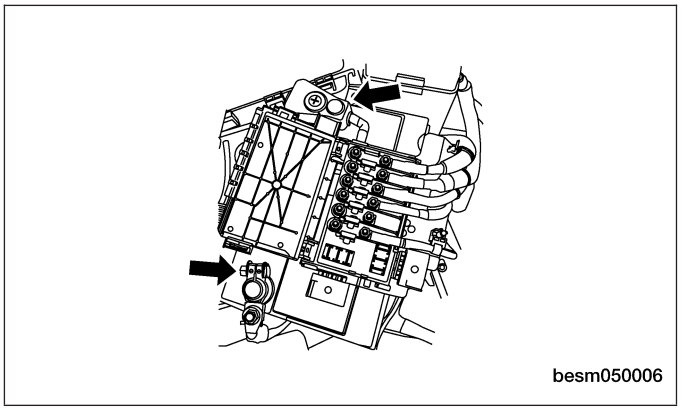
- When replacing a fuse, be sure to replace it with one of the same capacity. If a fuse fails again, the circuit probably has a short and the wiring should be checked.
- Be sure the negative battery terminal is disconnected before replacing a main fuse.
- When replacing a pullout fuse, use the fuse puller.



ELECTRICAL COMPONENTS

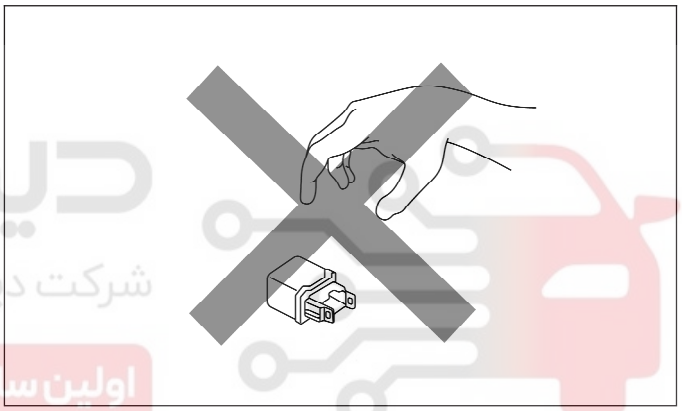
Battery Cable

- Before disconnecting connectors or removing electrical parts, disconnect the negative battery cable.



Sensors, Switches, and Relays

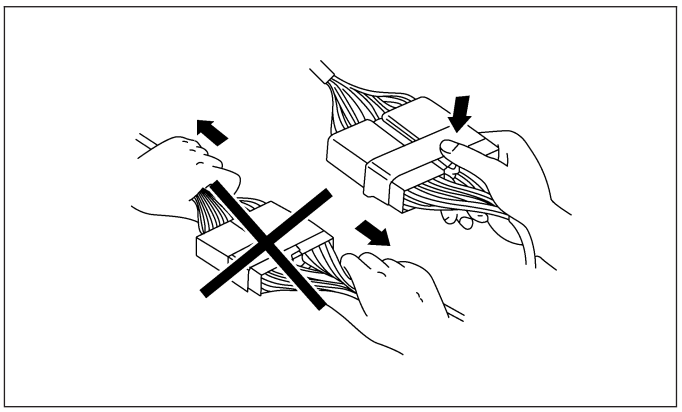
- Handle sensors, switches and relays carefully. Do not drop them or strike them against other objects.



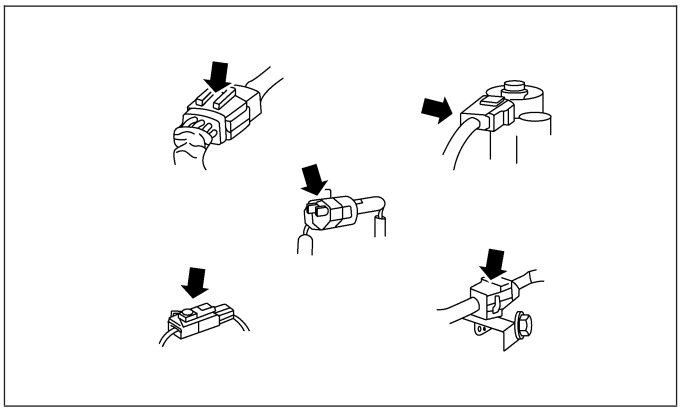
Connectors

Disconnecting Connectors

- When disconnecting two connectors, grasp the connectors, not the wires.

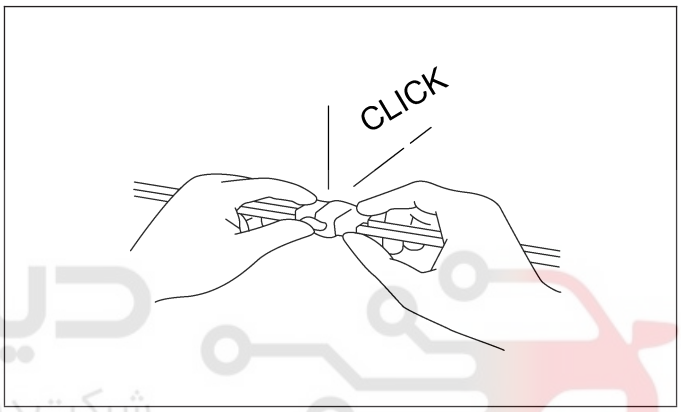


- Connectors can be disconnected by pressing or pulling the lock lever as shown.



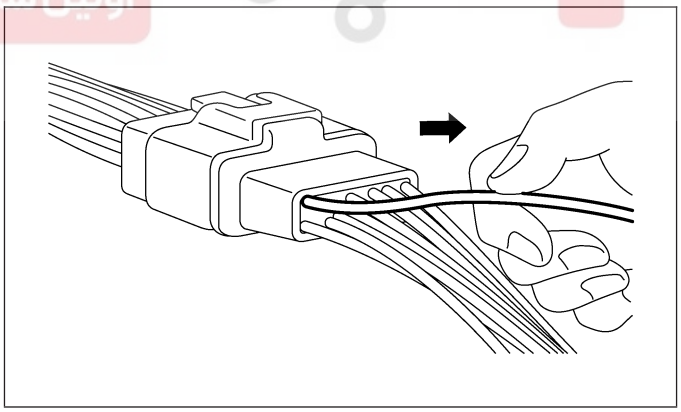
Locking Connector

- When locking connectors, listen for a click indicating they are securely locked.



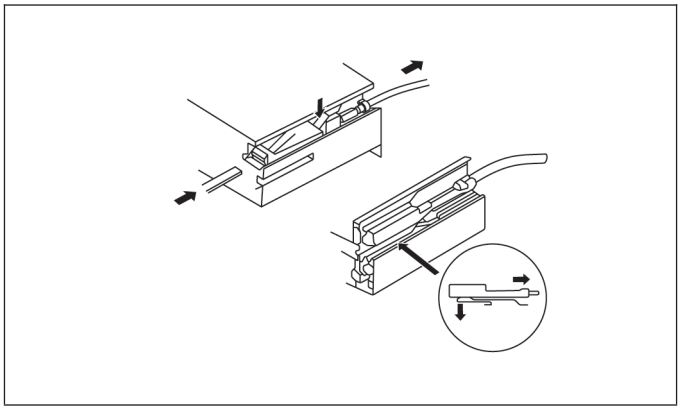
Connector Terminals

- Pull lightly on individual wires to check that they are secured in the terminal.



Connector/Terminal Replacement

- Use the appropriate tools to remove a terminal as shown. While installing a terminal, be sure to insert it until it locks securely.
- Insert a thin piece of metal from the terminal side of the connector and with the terminal locking tab pressed down, pull the terminal out from the connector.



VEHICLE POWER DISTRIBUTION

GENERAL INFORMATION 16-12
Description 16-12
Operation 16-12
Electrical Schematics 16-13

GENERAL INFORMATION

Description

The power distribution system is designed to provide safe, reliable, centralized and convenient access to the distribution of the electrical power required to operate all vehicle electrical and electronic systems.

The following components are used for power distribution:

- Battery
- Power Fuse Box
- Front Fuse and Relay Box
- Ignition Switch
- Fuses
- Circuit Breakers
- Relays

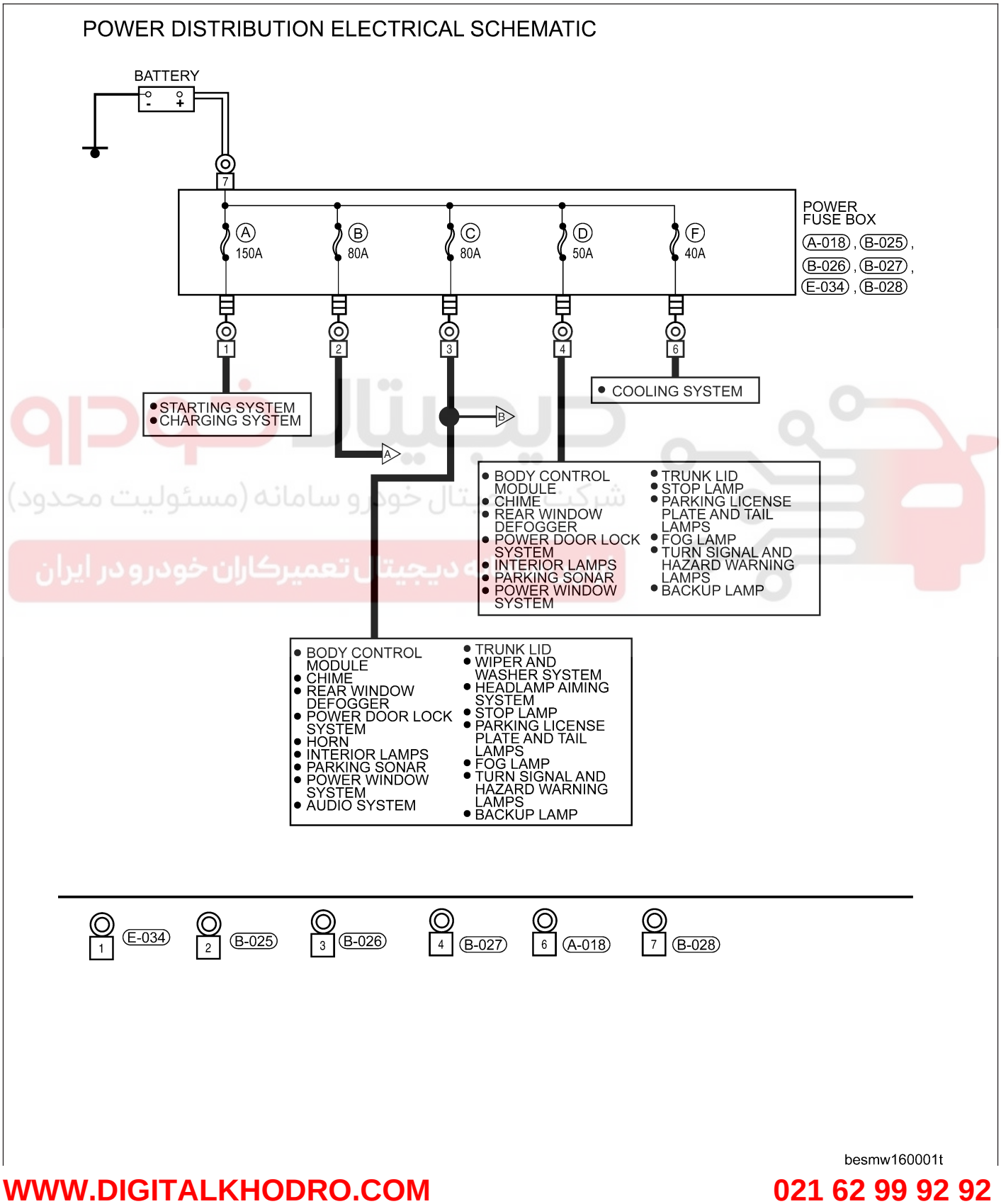
Operation

The power distribution system operates all electrical and electronic engine, transaxle, chassis, safety, comfort and convenience systems.

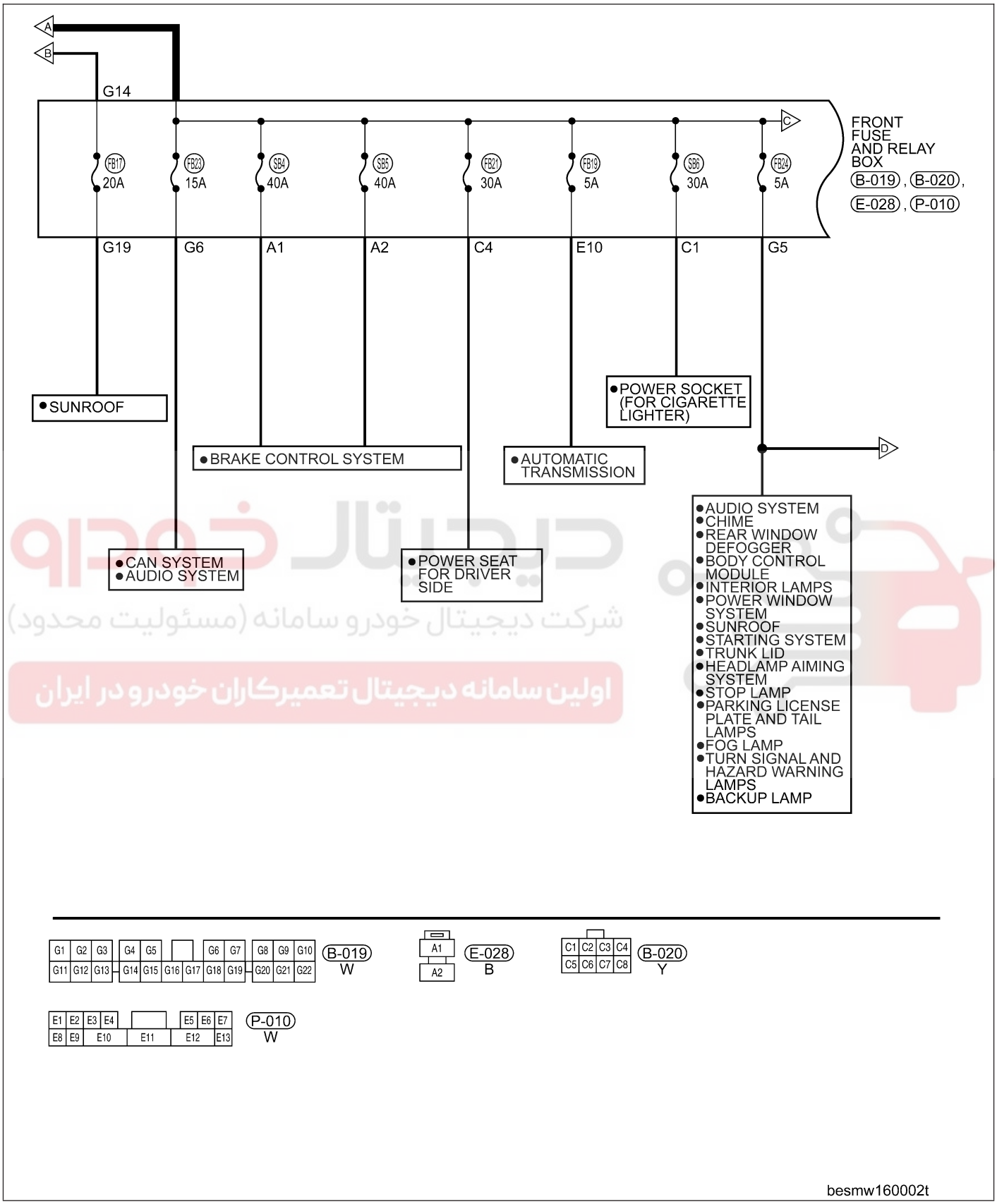
Electrical Schematics

The power distribution electrical schematics include all wiring information detailed on the power side of all vehicle circuits. This is helpful when attempting to troubleshoot a specific electrical failure, and shows connector pin-out information and splices.

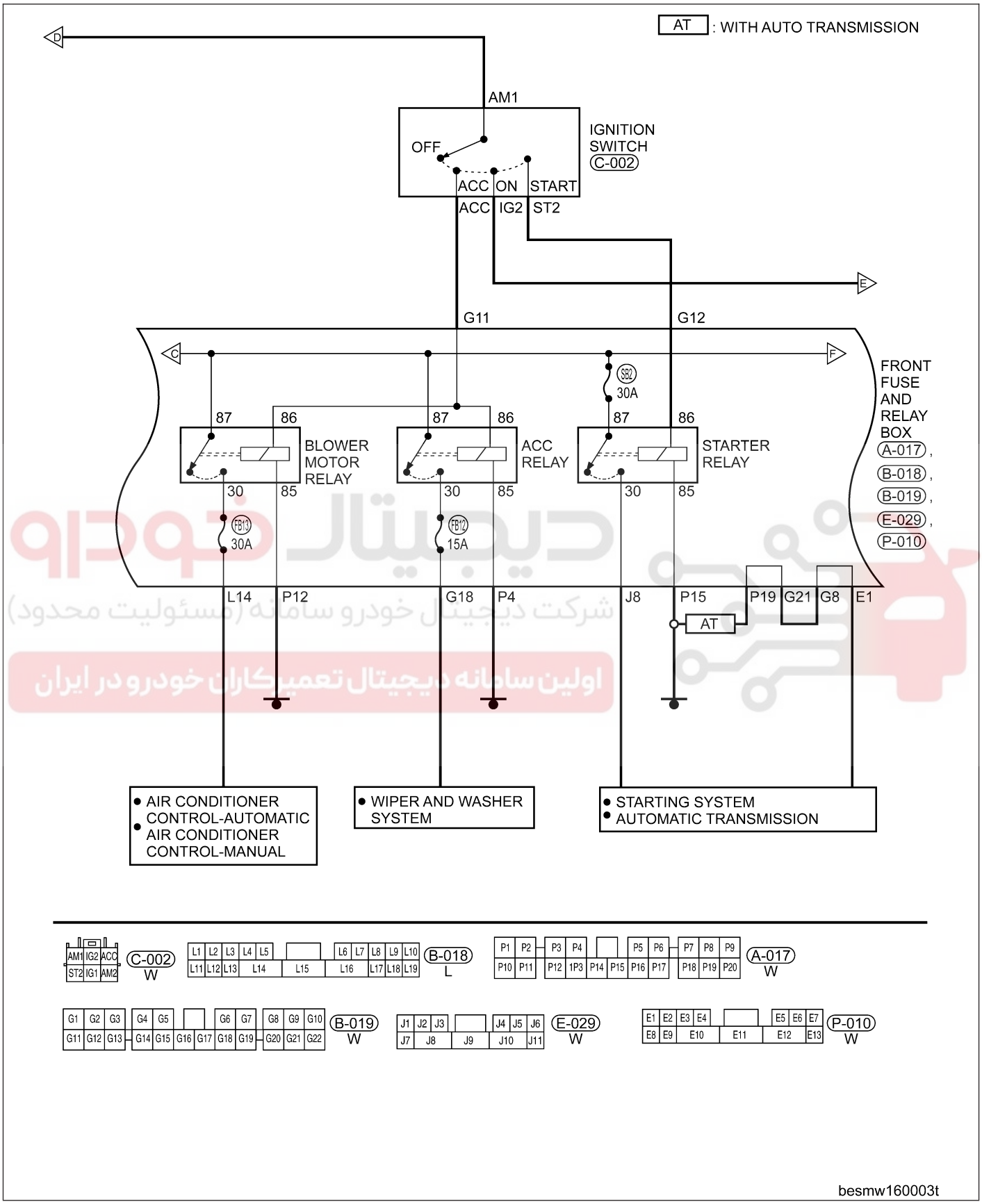
Power Distribution (Page 1 of 7)



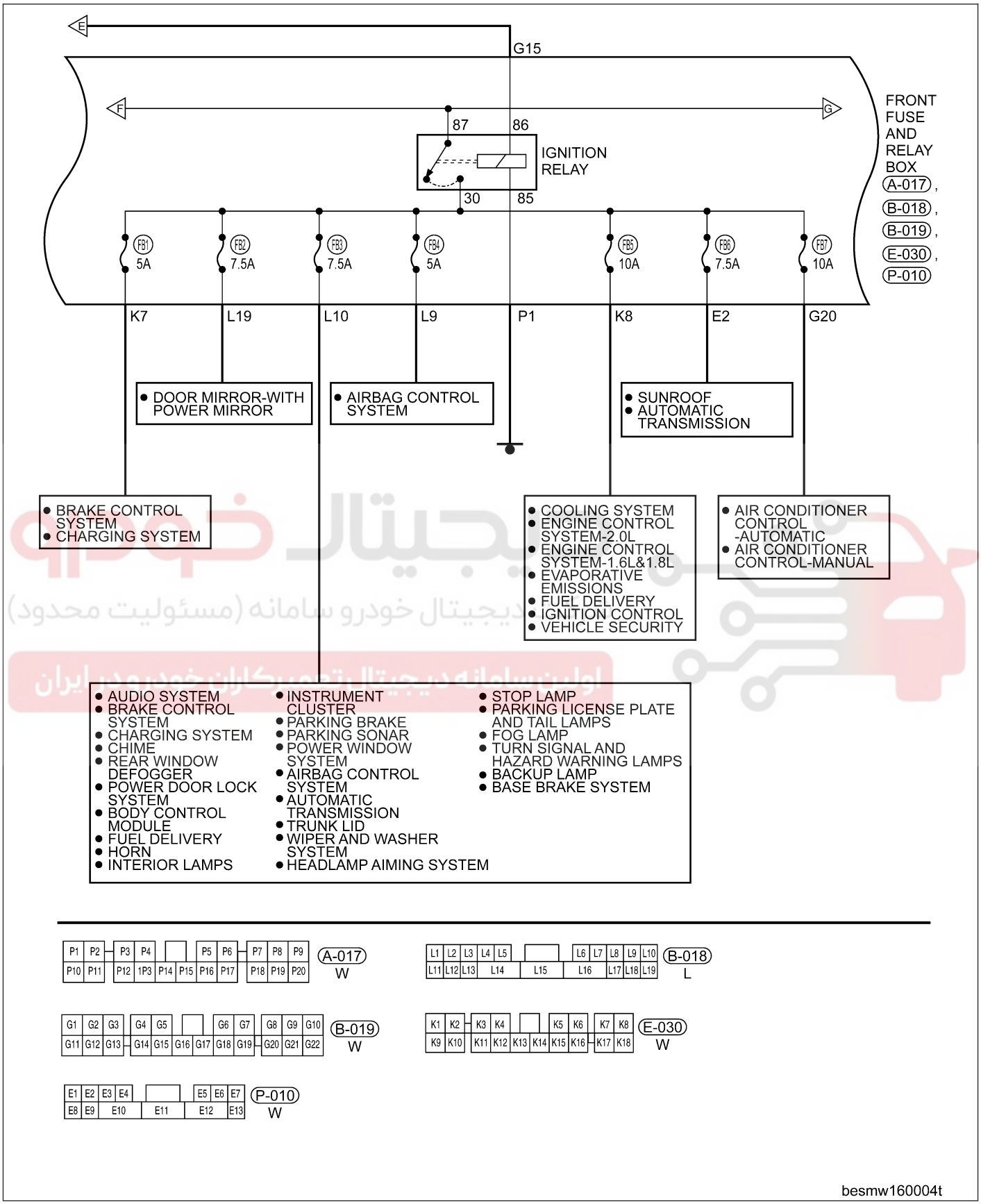
Power Distribution (Page 2 of 7)



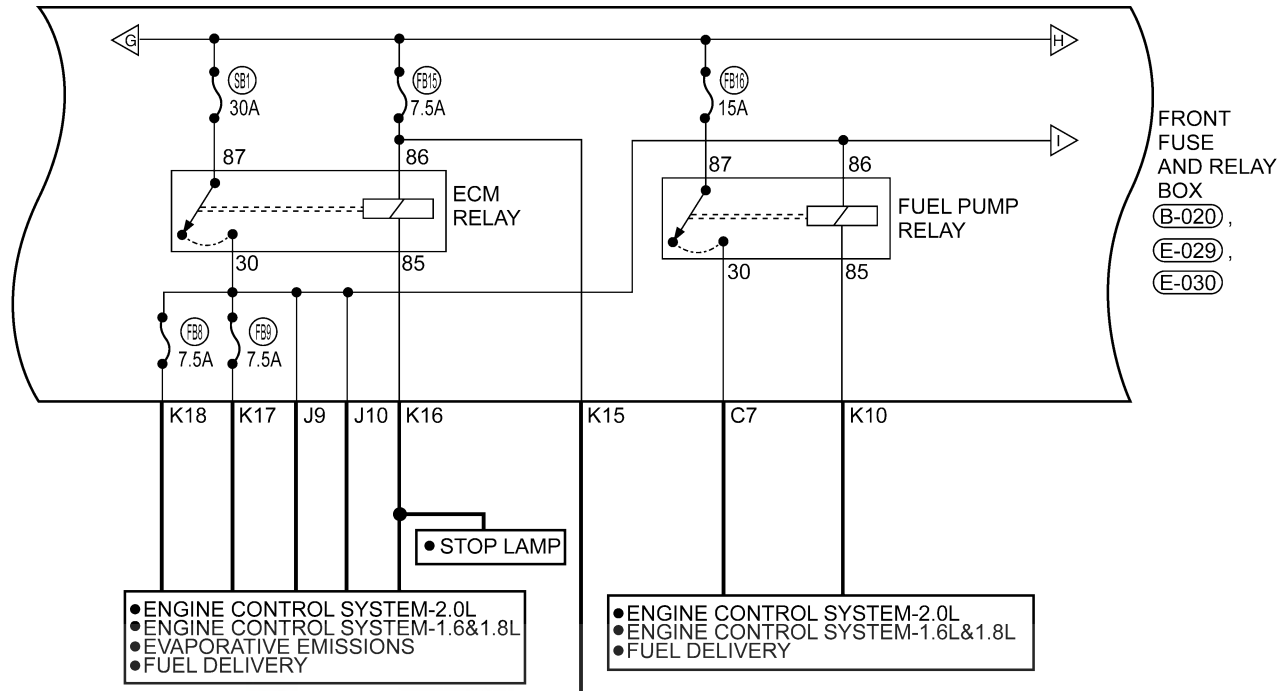
Power Distribution (Page 3 of 7)

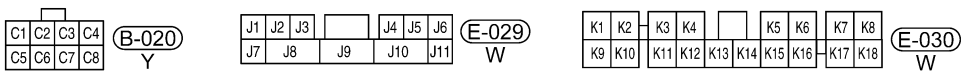


Power Distribution (Page 4 of 7)



Power Distribution (Page 5 of 7)





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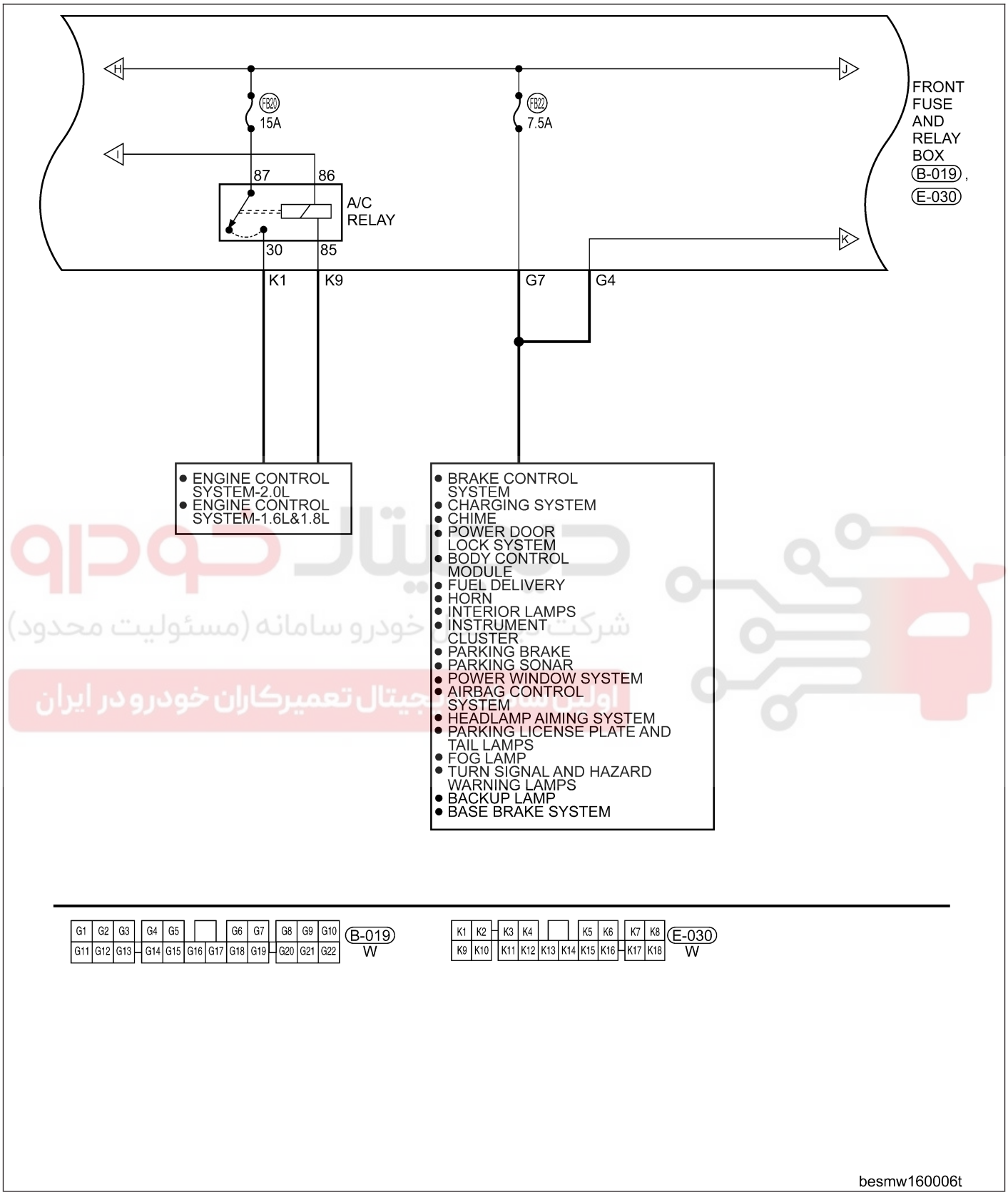
Power Distribution (Page 6 of 7)



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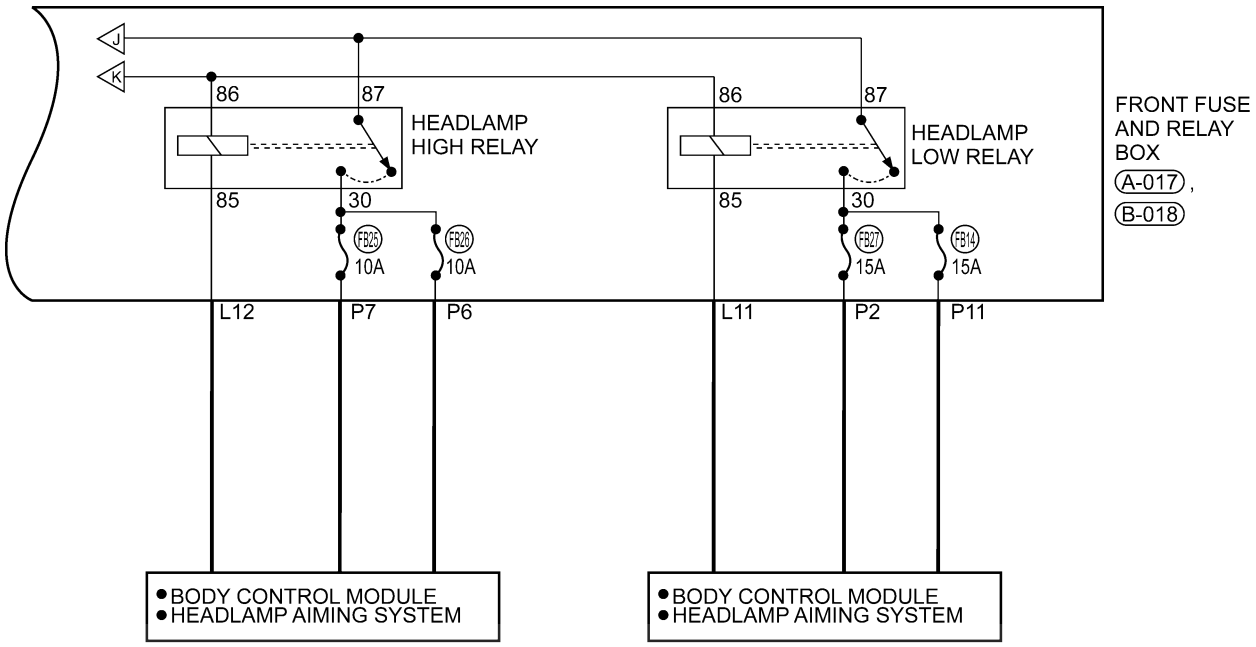
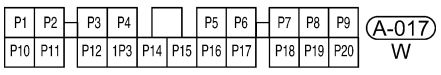
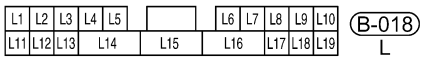
Power Distribution (Page 7 of 7)







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VEHICLE GROUND DISTRIBUTION

GENERAL INFORMATION 16-21
Description 16-21
Operation 16-21
Electrical Schematics 16-22

GENERAL INFORMATION

Description

The ground distribution system is designed to provide centralized and convenient ground locations for the entire vehicle electrical system.

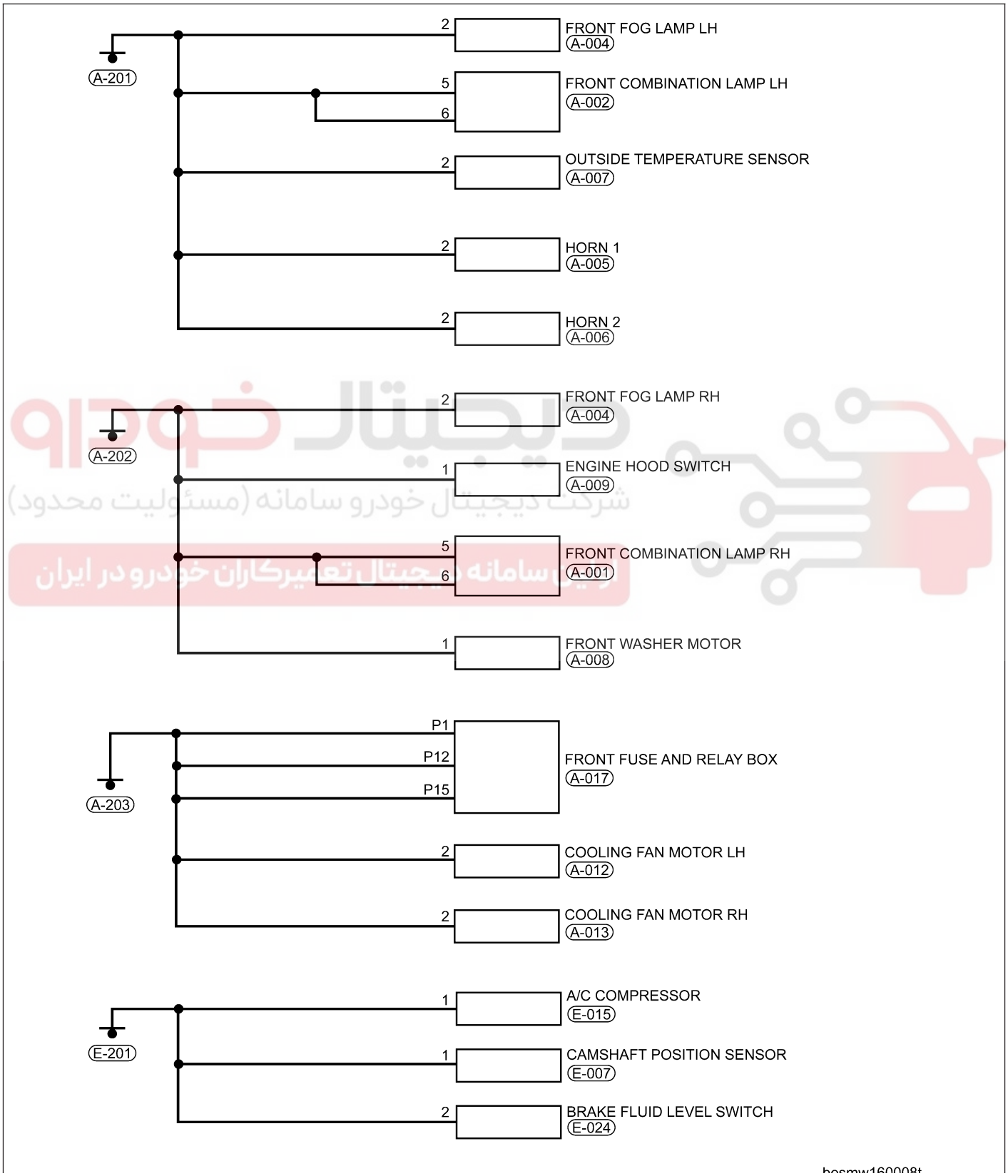
Operation

The ground distribution system provides a grounding path for all electrical and electronic engine, transaxle, chassis, safety, comfort and convenience systems.

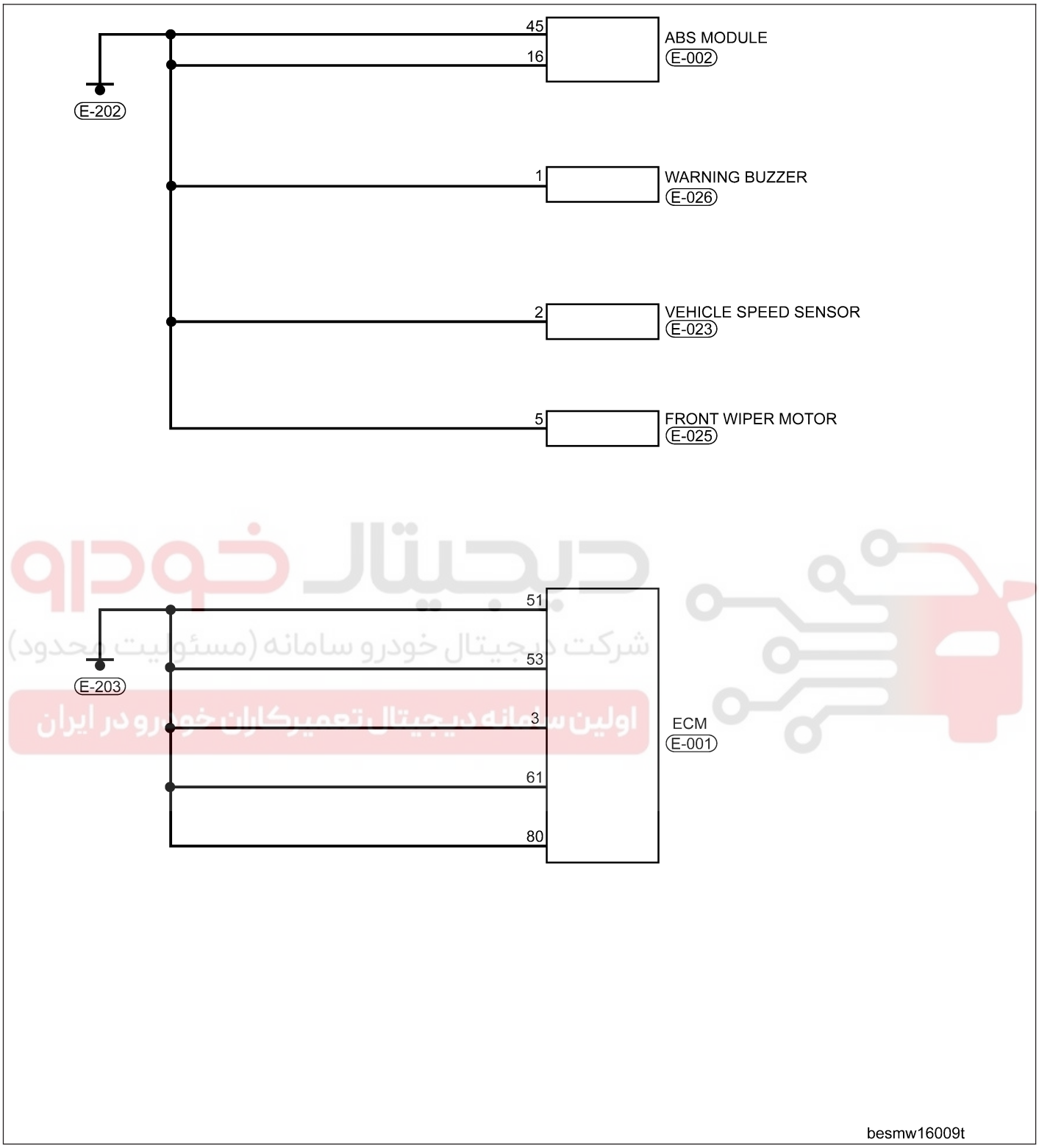
Electrical Schematics

The ground distribution electrical schematics include all wiring information detailed on the ground side of all vehicle circuits. This is helpful when attempting to troubleshoot a specific electrical failure, and shows connector pin-out information and splices.

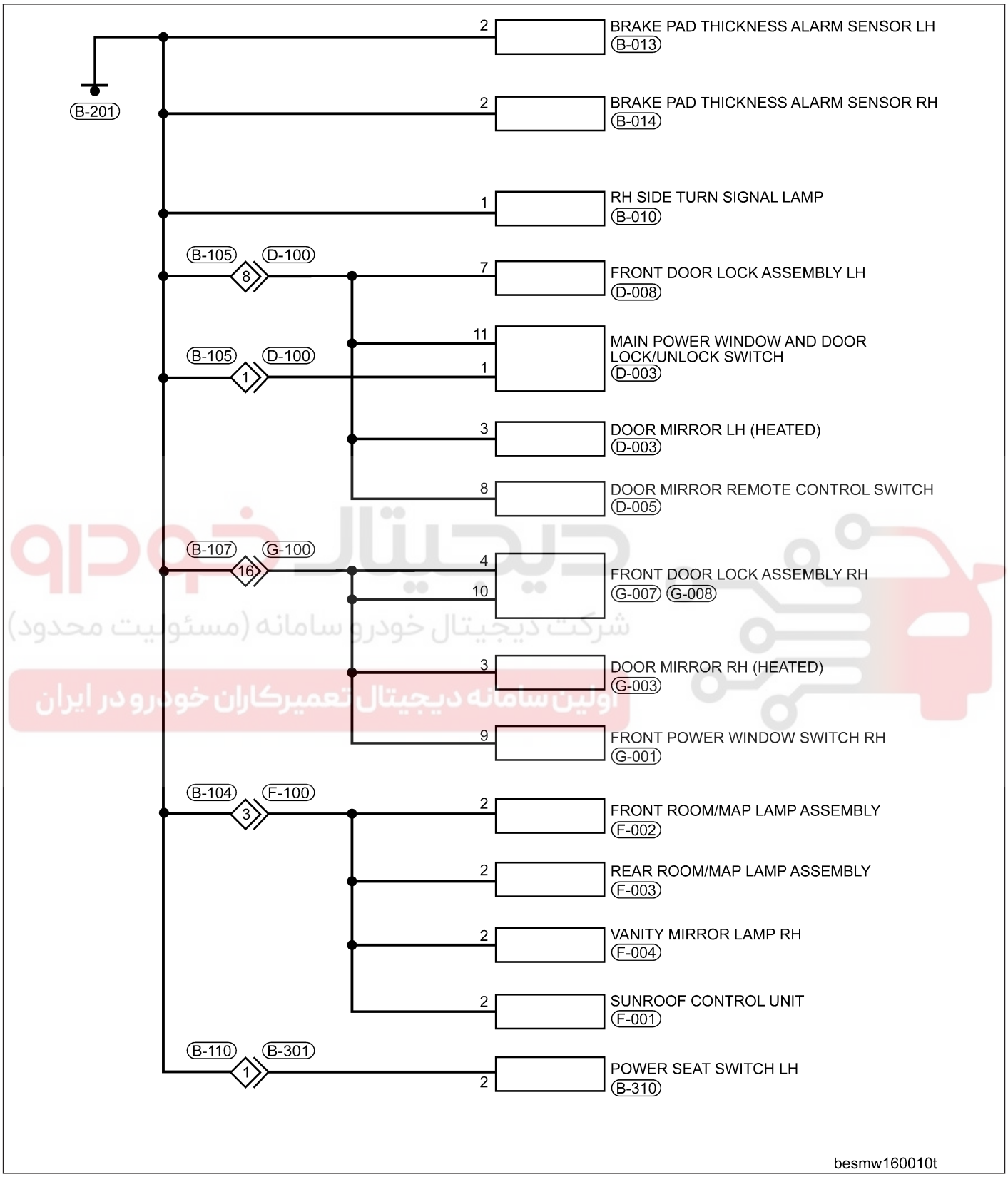
Ground Distribution (Page 1 of 6)



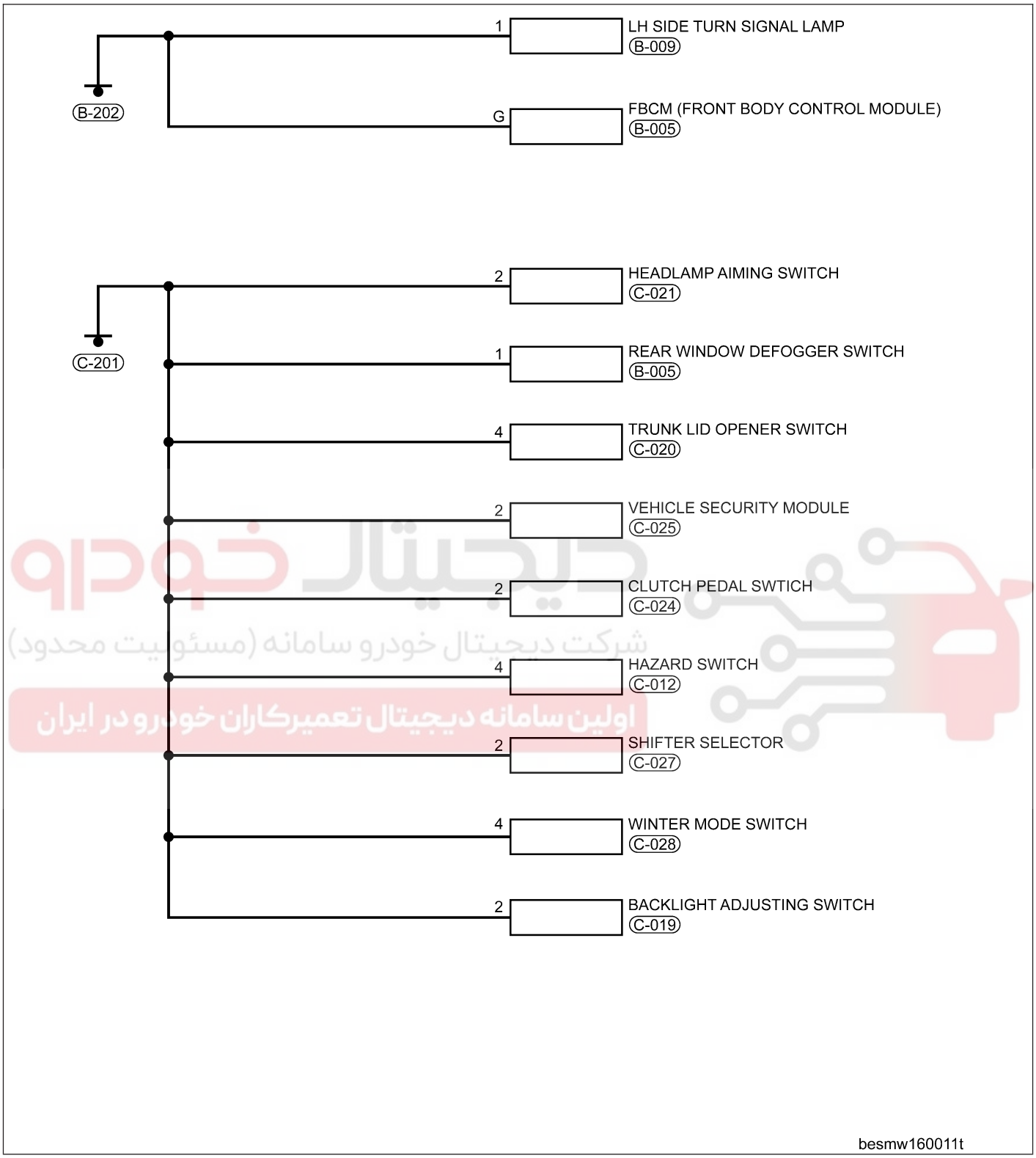
Ground Distribution (Page 2 of 6)



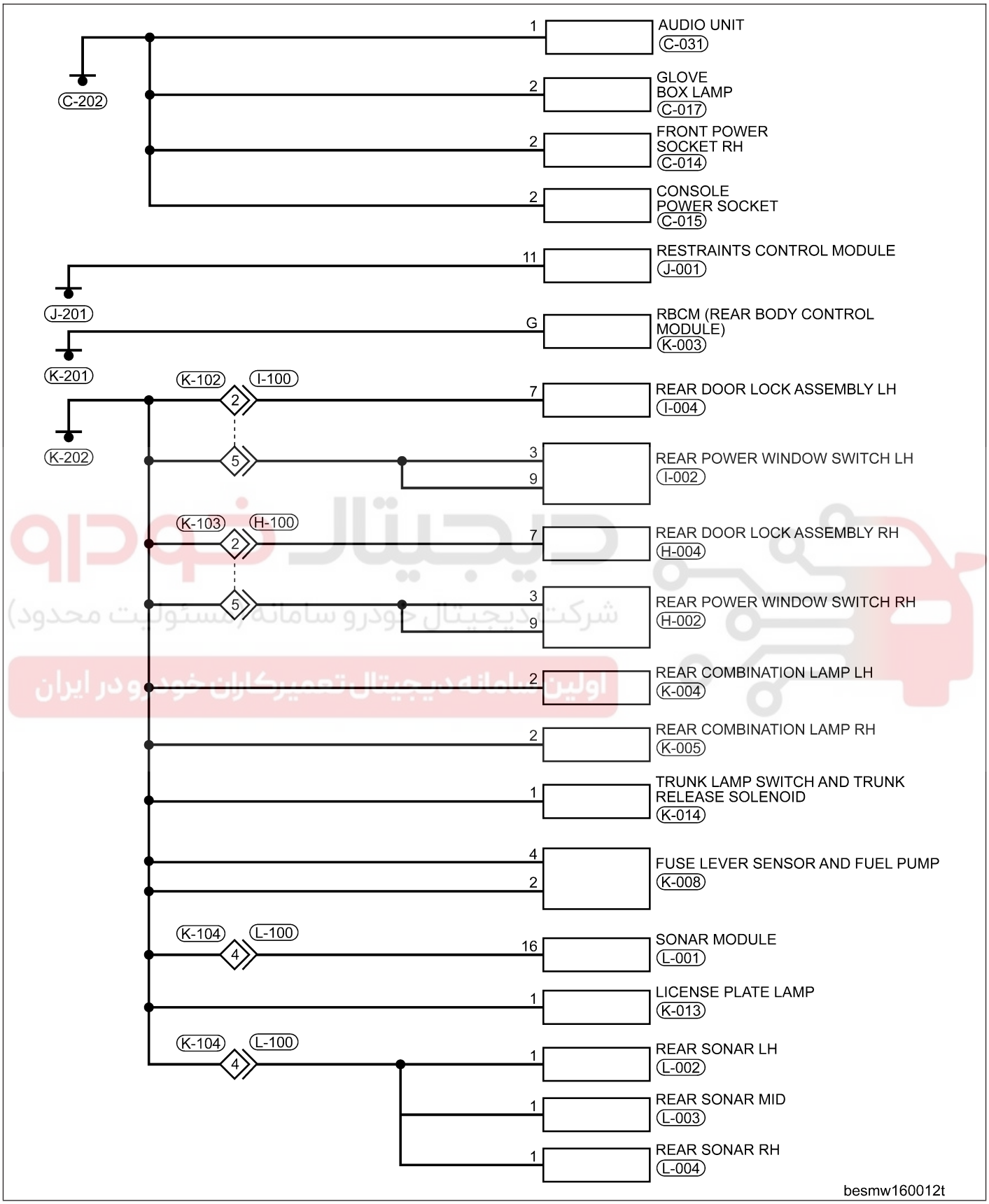
Ground Distribution (Page 3 of 6)



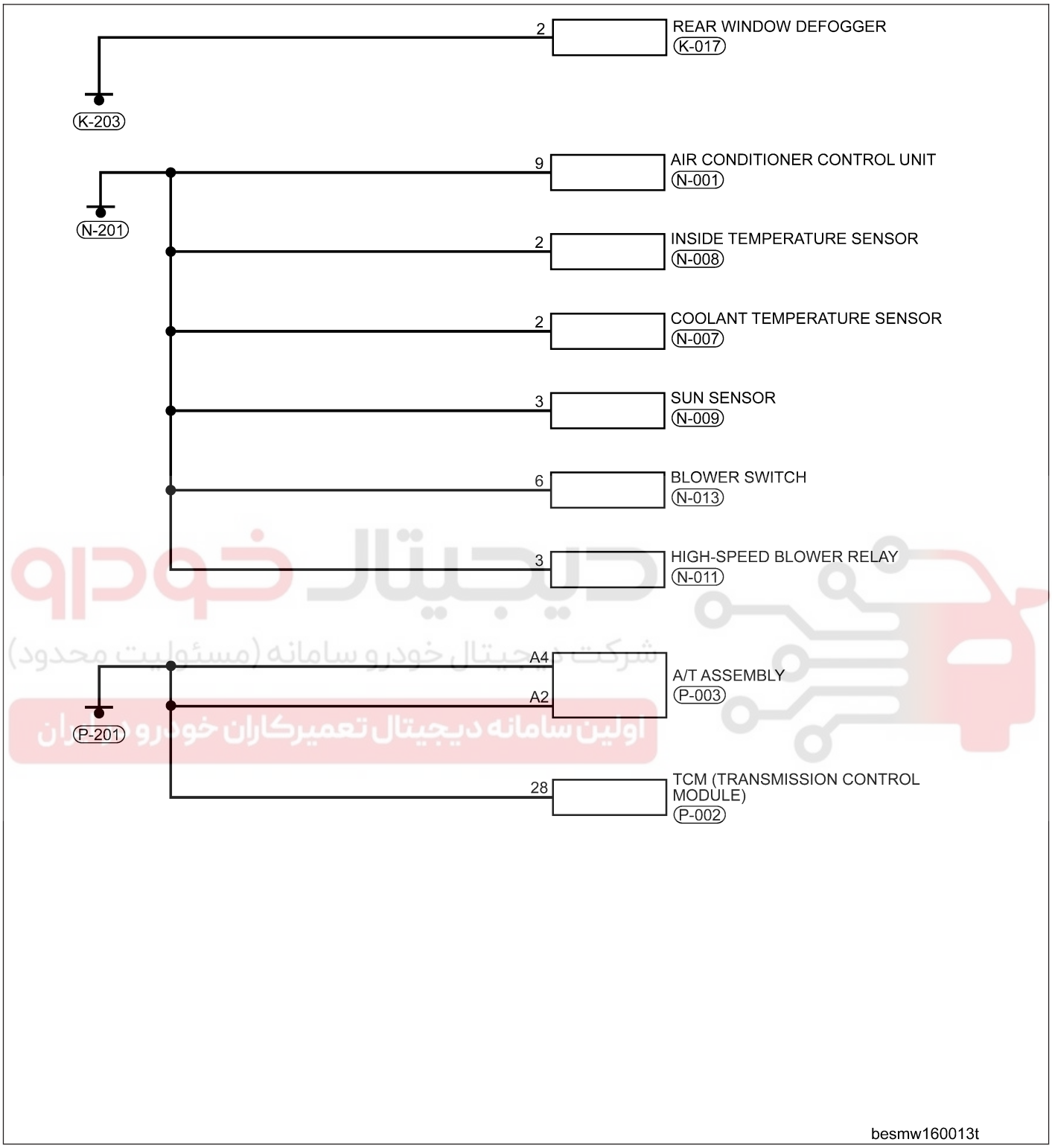
Ground Distribution (Page 4 of 6)



Ground Distribution (Page 5 of 6)



Ground Distribution (Page 6 of 6)



VEHICLE FUSE BOX INFORMATION

GENERAL INFORMATION 16-29
Description 16-29
Operation 16-29
Power Fuse Box 16-29
Description 16-29
Operation 16-29
Overview 16-30
Front Fuse And Relay Box 16-31
Description 16-31
Operation 16-31
Overview 16-32

GENERAL INFORMATION

Description

The fuse boxes are located in the engine compartment near the battery. The front fuse and relay box is equipped with a label that identifies each component. The label is printed on the inside of the cover. The power fuse box identifies the rating of each fuse individually.

The vehicle fuses are located in the following locations:

- Power Fuse Box
- Front Fuse And Relay Box

Operation

When replacing a blown fuse, it is important to use only a fuse having the correct amperage rating. The use of a fuse with a rating other than indicated may result in a dangerous electrical system overload. If a properly rated fuse continues to blow, it indicates a problem in the circuit that must be corrected.

Power Fuse Box

Description

All of the electrical current distributed throughout the vehicle is directed through the power fuse box. The power fuse box houses six maxi-type bolt in fuses. The power fuse box is located on top of the battery, mounted to the battery hold down bracket.

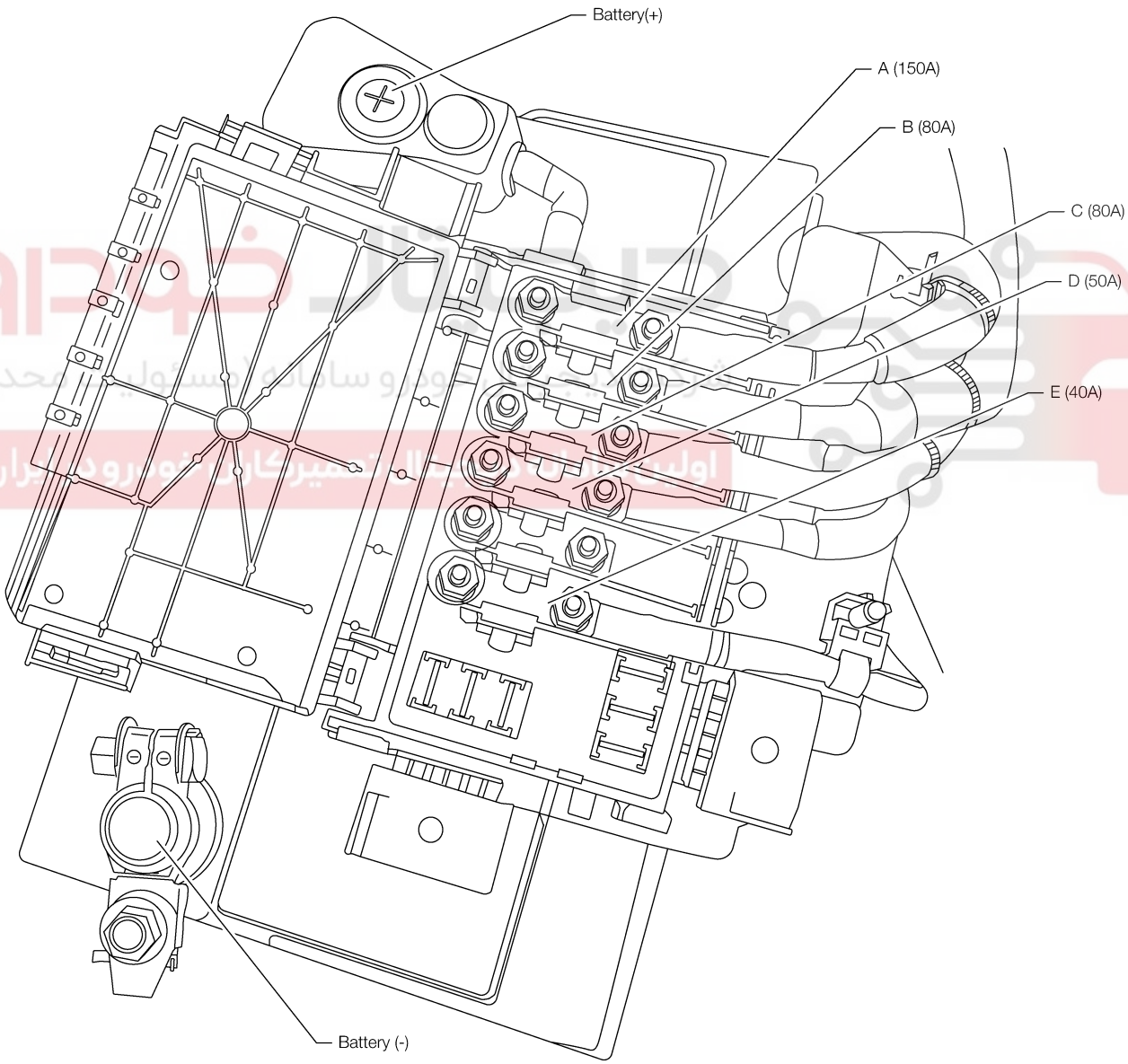
Operation

All of the current from the battery and the generator output enters the power fuse box through the cable and eyelet that are secured with a nut to the power fuse box B(+) terminal stud located on one end of the power fuse box housing. The power fuse box terminal stud cover is unlatched and opened to access the fuses.

Overview

Power Fuse Box

POWER FUSE BOX (BATTERY)



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Front Fuse And Relay Box

Description

The front fuse and relay box houses many of the fuses and relays for the vehicles electrical system. The front fuse and relay box is located on the left side of the engine compartment just in front of the brake booster. The front fuse and relay box cannot be serviced it must be replaced as a unit.

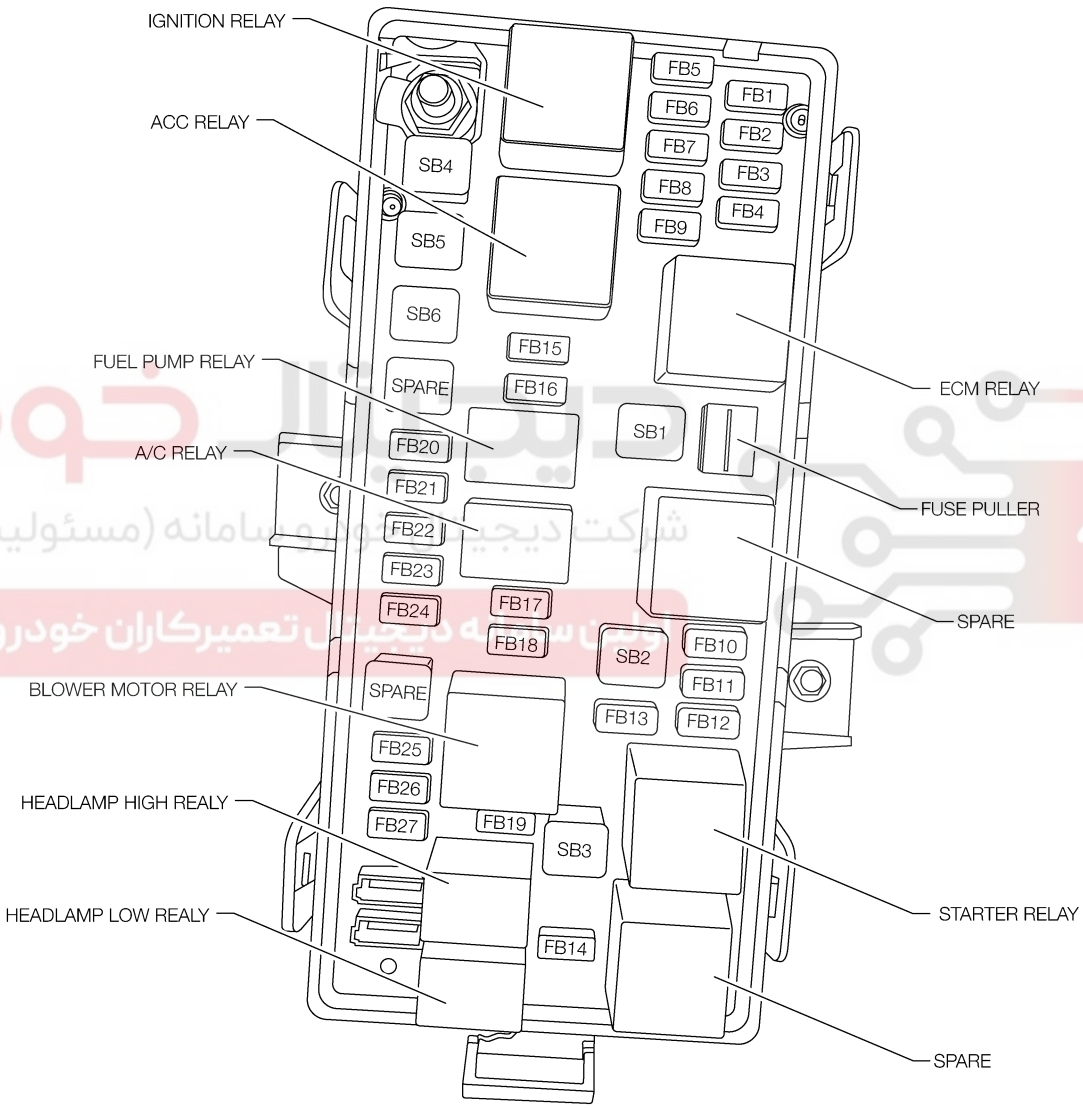
Operation

All of the circuits entering and leaving the front fuse and relay box do so through separate wires. There are NO separate wiring harness connectors that connect to the front fuse and relay box. Each circuit is connected individually to the front fuse and relay box, and held in place by the use of connector retention combs.

Overview

Front Fuse And Relay Box

FRONT FUSE AND RELAY BOX



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VEHICLE WIRING HARNESS INFORMATION

GENERAL INFORMATION 16-34
- Description 16-34
- Operation 16-34
- How To Read Harness Layout Diagrams 16-34

VEHICLE HARNESS ROUTING MAPS 16-35
- Vehicle Harness Layout 16-35
- Engine Control Harness 16-36
- Main Harness 16-38
- Rear Body Harness 16-40
- Instrument Panel Harness 16-42
- Front End Module Harness 16-44
- LH Front Door Harness 16-46
- RH Front Door Harness 16-48
- LH Rear Door Harness 16-50
- RH Rear Door Harness 16-52
- Transmission Harness 16-54
- Roof Harness 16-56
- Sonar Harness 16-58
- Air Conditioner Harness 16-60
- Airbag Harness 16-62

GENERAL INFORMATION

Description

This section provides illustrations identifying component, ground and splice locations in the vehicle.

To help locate all electrical components on the drawings, the following harness layouts use a map style grid:

- Engine Control Harness
- Instrument Panel Harness
- Rear Body Harness
- Main Harness
- Front End Module Harness
- LH Front Door Harness
- RH Front Door Harness
- LH Rear Door Harness
- RH Rear Door Harness
- Transmission Harness
- Roof Harness
- Sonar Harness
- Air Conditioning Harness
- Airbag Harness

Operation

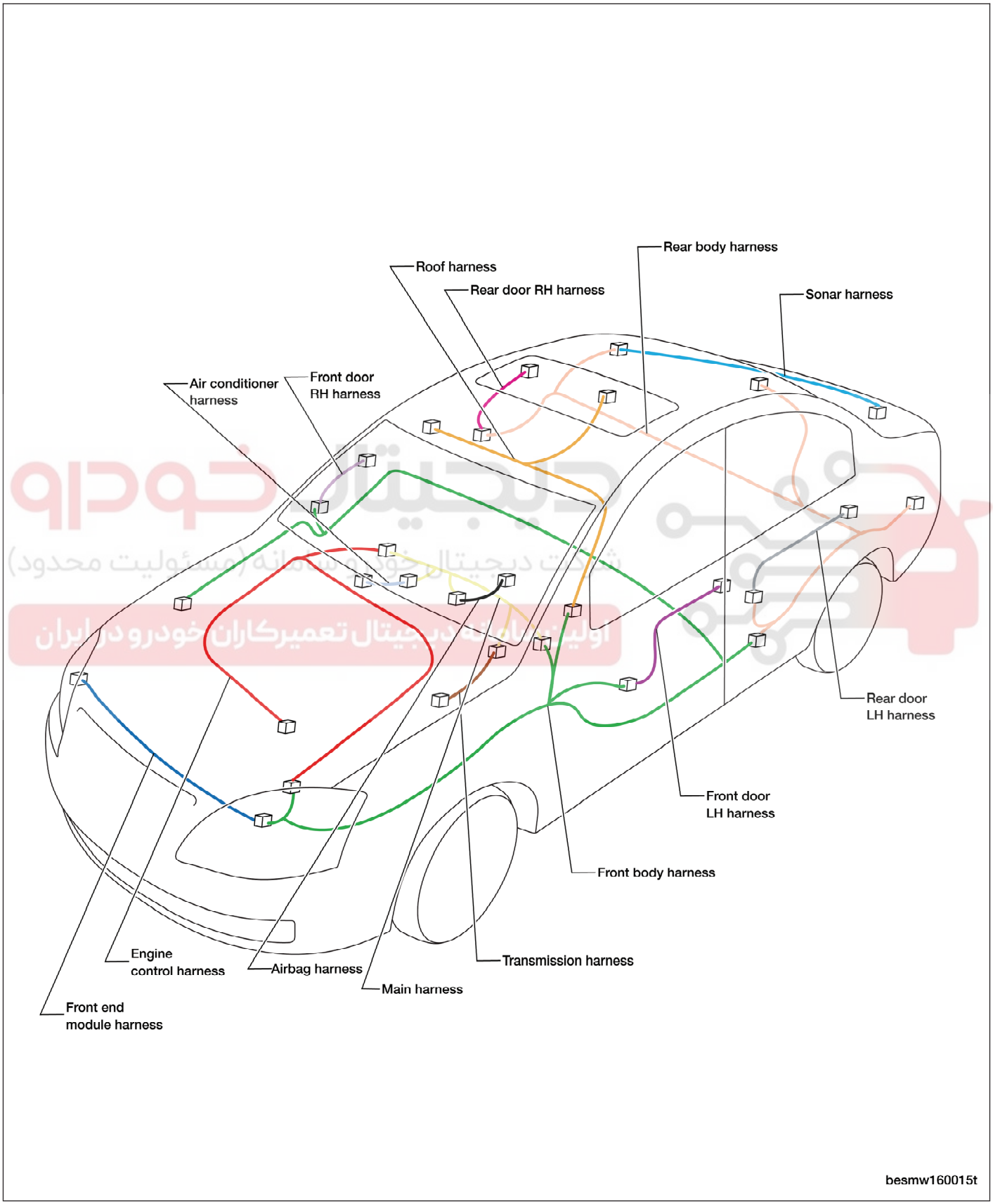
Use the wiring harness diagrams in each harness section for component, ground and splice identification. Refer to the appropriate index for the specific vehicle harness.

How To Read Harness Layout Diagrams

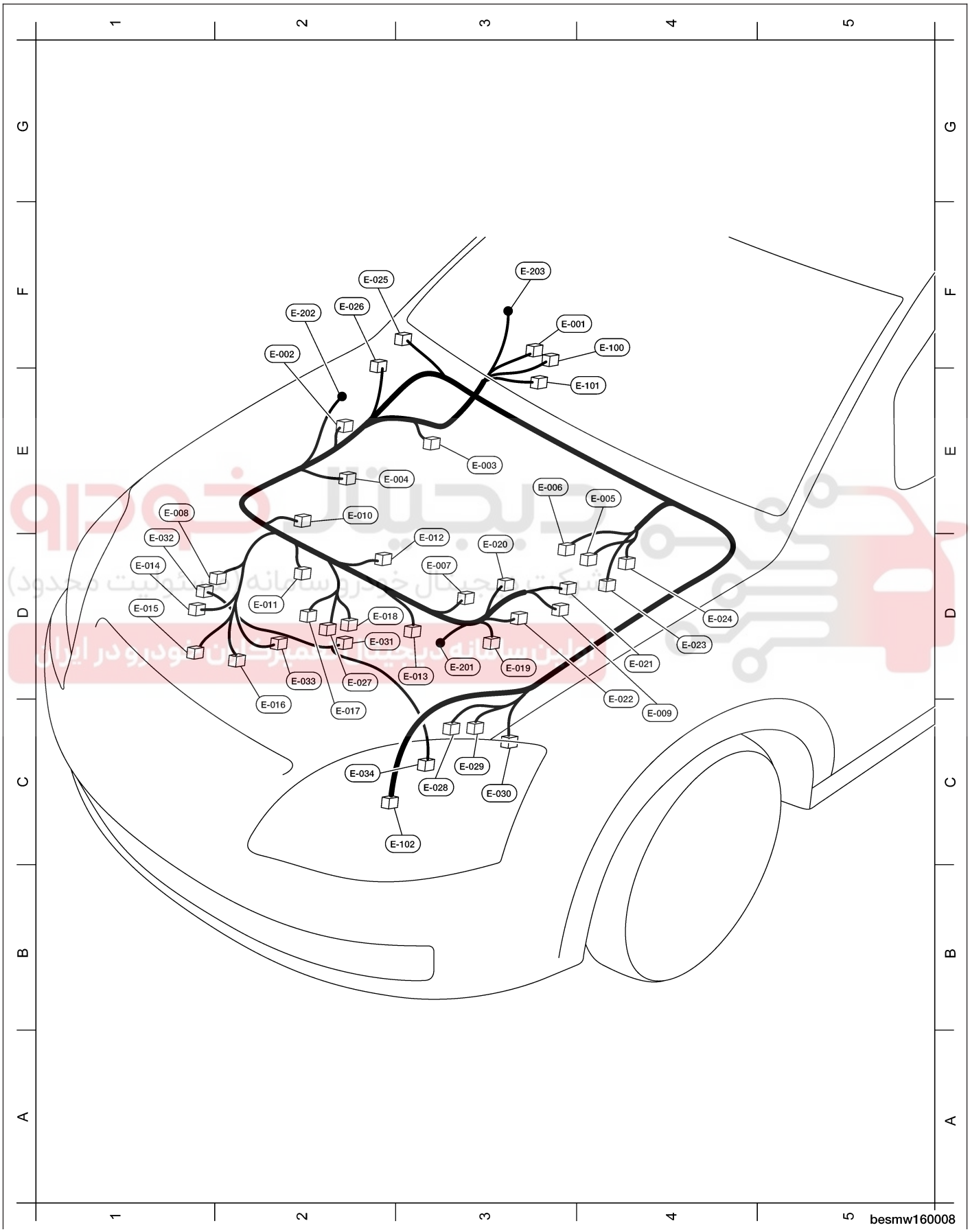
1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference column letter and row number.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

VEHICLE HARNESS ROUTING MAPS

Vehicle Harness Layout

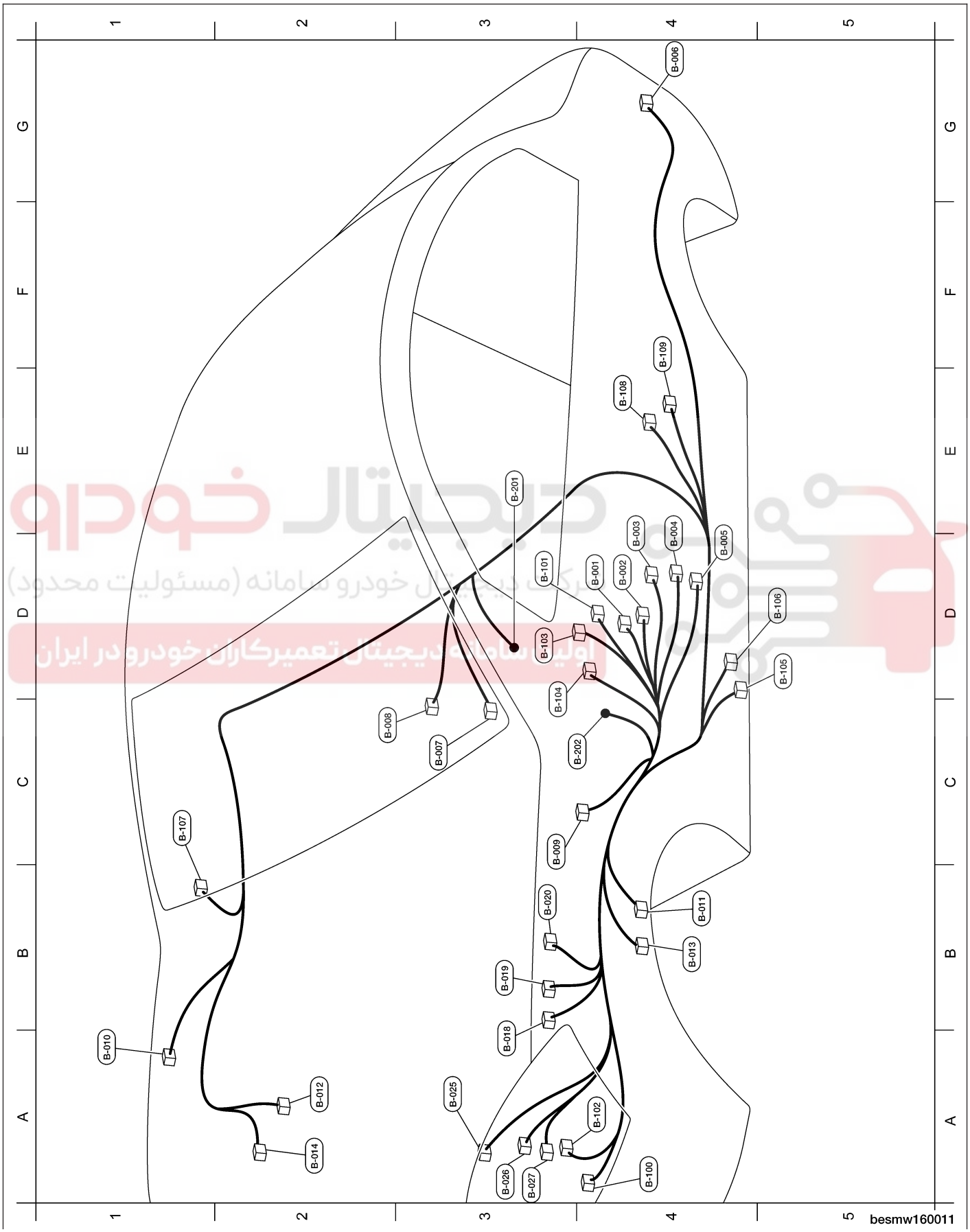


Engine Control Harness



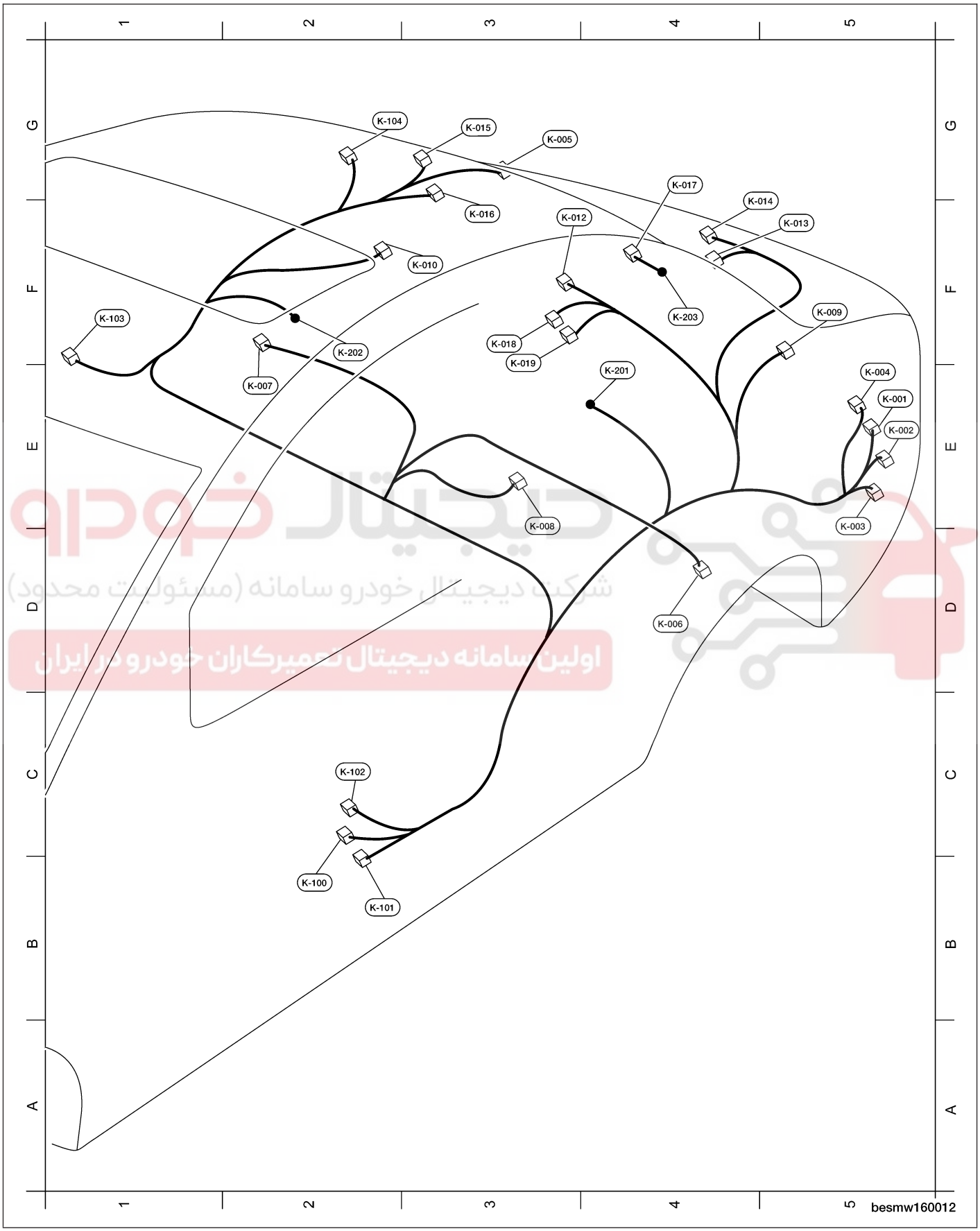
E-001	B/81	ECM	F3
E-002	B/46	ABS Module	F2
E-003	B/4	A/C Pressure Switch	E3
E-004	W-O/4	Oxygen Sensor 1	E2
E-005	W-O/4	Oxygen Sensor 2	E4
E-006	B/3	Crankshaft Position Sensor	E3
E-007	B/3	Camshaft Position Sensor	D3
E-008	B/3	Generator	E1
E-009	B/5	Air Flow Sensor	C4
E-010	B/2	Fuel Injector No. 1	E2
E-011	B/2	Fuel Injector No. 2	D2
E-012	B/2	Fuel Injector No. 3	D3
E-013	B/2	Fuel Injector No. 4	D3
E-014	GR/1	Power Steering Switch	D1
E-015	B/2	A/C Compressor	D1
E-016	W/1	Oil Pressure Switch	C2
E-017	B/3	Knock Sensor	C2
E-018	B/1	Starter Motor	D2
E-019	B/2	Engine Coolant Temperature Sensor	D3
E-020	B/4	Ignition Coil	D3
E-021	B/2	Backup Lamp Switch	D4
E-022	B/2	Canister Control Valve	D4
E-023	B/3	Vehicle Speed Sensor	D4
E-024	B/2	Brake Fluid Level Switch	D4
E-025	W/5	Front Wiper Motor	F2
E-026	B/2	Warning Buzzer	F2
E-027	B/6	Electric Throttle Control Actuator	D2
E-028	B/2	Front Fuse And Relay Box	C3
E-029	W/11	Front Fuse And Relay Box	C3
E-030	W/18	Front Fuse And Relay Box	C3
E-031	B/1	Starter Motor (Battery)	D2
E-032	B/1	Generator (Battery)	D1
E-033	B/4	Manifold Absolute Pressure Sensor	D2
E-034	/1	Power Fuse Box	C2
E-100	B/16	To C-100	F4
E-101	B/16	To C-101	E4
E-102	B/16	To B-102	C3
E-201	-	Ground	D3
E-202	-	Ground	F2
E-203	-	Ground	F3

Main Harness



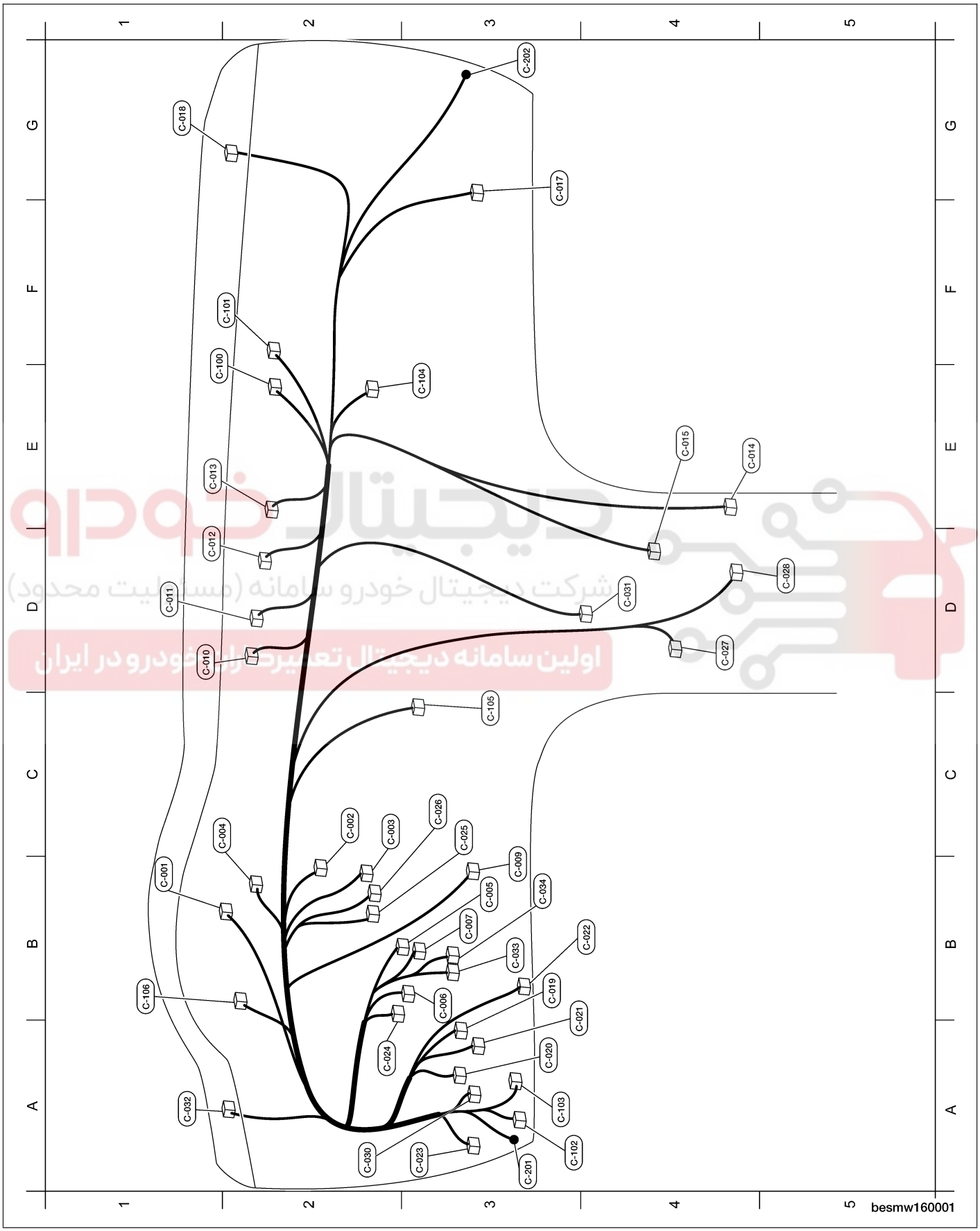
B-001	L/32	FBCM (Front Body Control Module)	D4
B-002	W/20	FBCM (Front Body Control Module)	D4
B-003	W/12	FBCM (Front Body Control Module)	D4
B-004	B/1	FBCM (Front Body Control Module)	D4
B-005	B/1	FBCM (Front Body Control Module)	D4
B-006	B/1	RBCM (Rear Body Control Module)	G4
B-007	W/2	Seat Belt Buckle Switch	C3
B-008	W/1	Parking Brake Switch	C2
B-009	B/2	LH Side Turn Signal Lamp	C3
B-010	B/2	RH Side Turn Signal Lamp	A1
B-011	W/2	Front Left Wheel Speed Sensor	B4
B-012	W/2	Front Right Wheel Speed Sensor	A2
B-013	B/2	Brake Pad Thickness Alarm Sensor	B4
B-014	B/2	Brake Pad Thickness Alarm Sensor	A2
B-018	L/19	Front Fuse And Relay Box	A3
B-019	W/22	Front Fuse And Relay Box	B3
B-020	W/8	Front Fuse And Relay Box	B3
B-025	/1	Power Fuse Box	A3
B-026	/1	Power Fuse Box	A3
B-027	/1	Power Fuse Box	A3
B-100	B/14	To A-100	A4
B-101	B/16	To C-102	D3
B-102	B/16	To E-102	A3
B-103	B/40	To C-103	D3
B-104	B/8	To F-100	D3
B-105	B/16	To D-100	D4
B-106	B/16	To D-101	D4
B-107	B/16	To G-100	C1
B-108	B/16	To K-100	E4
B-109	B/16	To K-101	E4
B-201	-	Ground	E3
B-202	-	Ground	C4

Rear Body Harness



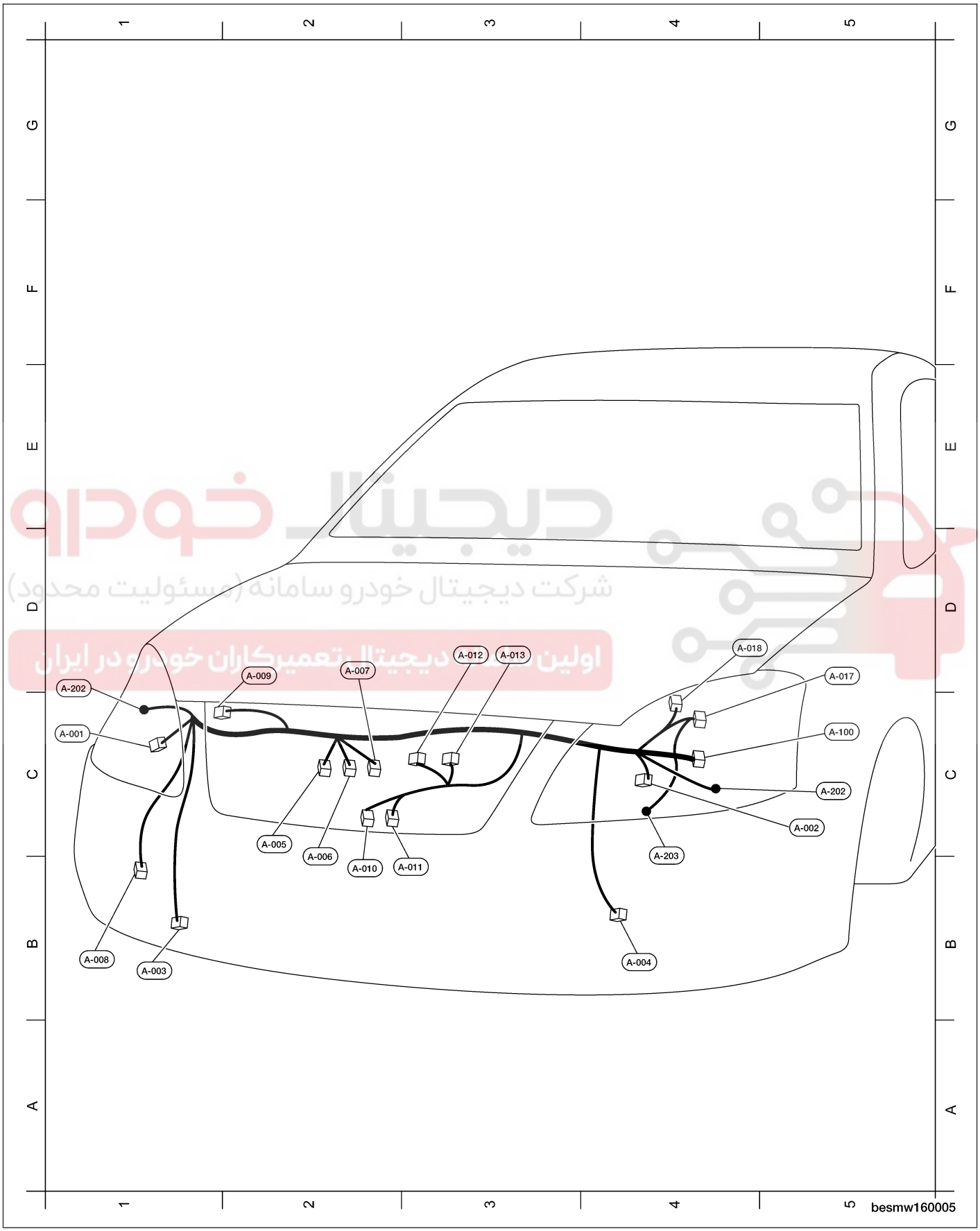
K-001	G/32	RBCM (Rear Body Control Module)	E5
K-002	W/20	RBCM (Rear Body Control Module)	E5
K-003	B/1	RBCM (Rear Body Control Module)	E5
K-004	B/6	Rear Combination Lamp LH	E5
K-005	B/6	Rear Combination Lamp RH	G3
K-006	B/2	Rear Left Wheel Speed Sensor LH	D4
K-007	B/2	Rear Left Wheel Speed Sensor RH	E2
K-008	B/4	Fuel Level Sensor And Fuel Pump	E3
K-009	B/2	Rear Speaker LH	F5
K-010	B/2	Rear Speaker RH	F3
K-012	W/2	High Mounted Stop Lamp	F3
K-013	W/2	License Plate Lamp	F5
K-014	W/3	Trunk Lamp Switch And Trunk Release Solenoid	G4
K-015	W/2	Antenna Amp.	G3
K-016	W/1	Rear Window Defogger	G3
K-017	W/1	Rear Window Defogger	F4
K-018	G/1	Trunk Lamp	F3
K-019	G/1	Trunk Lamp	F3
K-100	B/16	To B-108	C2
K-101	B/8	To B-109	B2
K-102	Y/10	To I-100	C3
K-103	Y/10	To H-100	F1
K-104	B/6	To L-100	G2
K-201	-	Ground	E4
K-202	-	Ground	F2
k-203	-	Ground	F4

Instrument Panel Harness



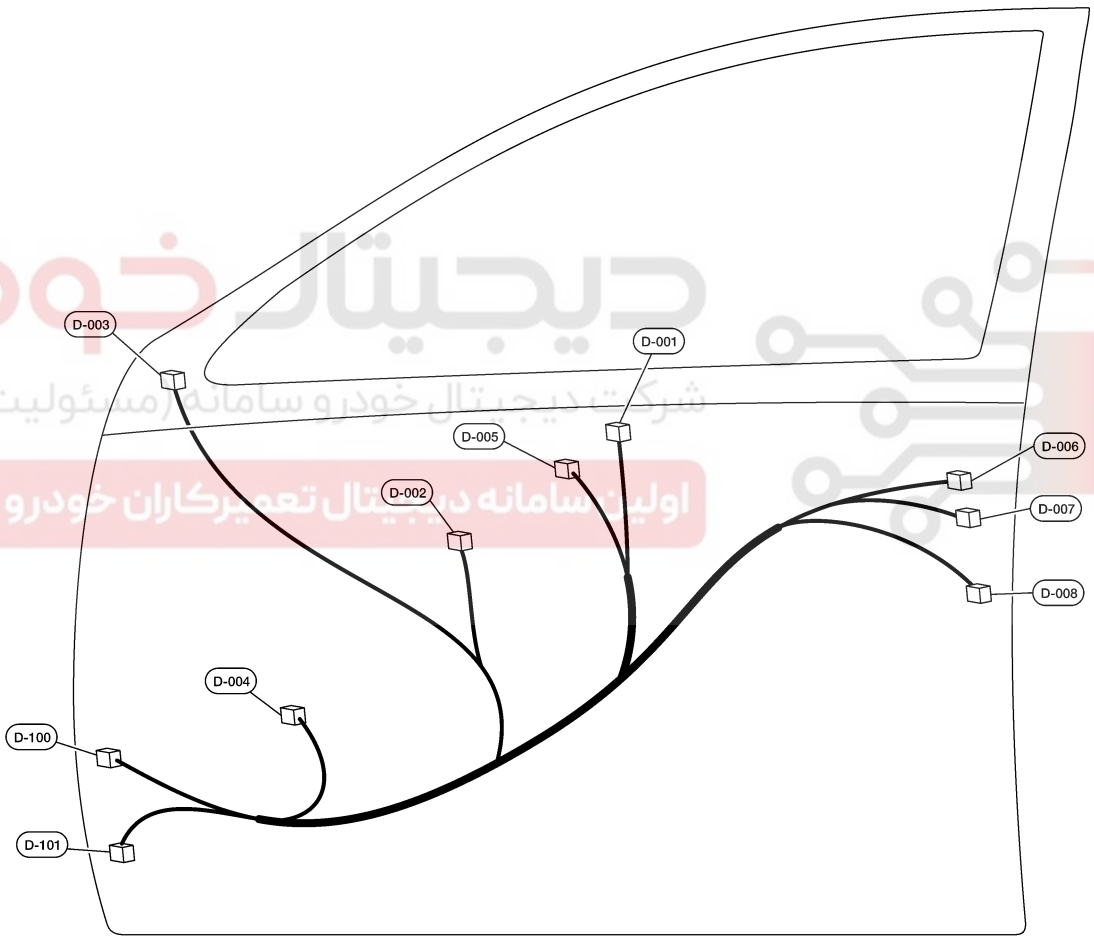
C-001	L/32	Instrument Cluster	B1
C-002	W/6	Ignition Switch	C2
C-003	W/4	Key Switch	C2
C-004	W/2	Key Hole Lamp	C2
C-005	Y/4	Brake Switch	B3
C-006	W/13	Lighting And Turn Signal Switch	B3
C-007	B/10	Wiper And Washer Switch	B3
C-009	B/6	Throttle Pedal Position Sensor	B3
C-010	W/6	Front Fog Lamp Switch	D1
C-011	Y/6	Rear Fog Lamp Switch	D1
C-012	L/6	Hazard Switch	D1
C-013	B/6	Rear Window Defogger Switch	E1
C-014	W/2	Front Power Socket RH	E3
C-015	W/2	Console Power Socket (For Cigarette Lighter)	E4
C-017	B/2	Glove Box Lamp	G3
C-018	B/2	Front Tweeter RH	G1
C-019	B/6	Backlight Adjusting Switch	B3
C-020	G/6	Trunk Lid Opener Switch	A3
C-021	L/32	CAN Converter	A3
C-022	B/16	Data Link Connector	B4
C-023	G/32	FBCM (Front Body Control Module)	A3
C-024	B/2	Clutch Pedal Switch	A2
C-025	B/8	Vehicle Security	C3
C-026	B/3	Vehicle Security	C3
C-027	GR/6	Shift Selector	D4
C-028	B/6	Winter Mode Switch	D5
C-030	L/32	CAN Converter	A2
C-031	B/16	Audio	D4
C-032	B/2	Front Tweeter LH	A1
C-033	W/5	Spiral Cable	B3
C-034	W/1	Horn Switch	B3
C-100	B/16	To E-100	E1
C-101	B/16	To E-101	F1
C-102	B/16	To B-101	A3
C-103	B/40	To B-103	A3
C-104	W/15	To N-100	E3
C-105	B/8	To J-100	C3
C-106	B/16	To P-100	B1
C-201	-	Ground	A3
C-202	-	Ground	G3

Front End Module Harness



A-001	B/10	Front Combination Lamp RH	C1
A-002	B/10	Front Combination Lamp LH	C5
A-003	B/2	Fog Lamp RH	B1
A-004	B/2	Fog Lamp LH	B4
A-005	GR/2	Horn 1	C2
A-006	GR/2	Horn 2	C2
A-007	B/2	Outside Temperature Sensor	D2
A-008	GR/2	Front Washer Motor	B1
A-009	W/3	Engine Hood Switch	D2
A-010	B/6	Cooling Fan Control Module	B2
A-011	B/4	Cooling Fan Control Module	B3
A-012	B/2	Cooling Fan Motor LH	D3
A-013	B/2	Cooling Fan Motor RH	D3
A-017	W/20	Front Fuse And Relay Box	D5
A-018	/1	Power Fuse Box	D4
A-100	B/14	To B-100	C5
A-201	-	Ground	C5
A-202	-	Ground	D1
A-203	-	Ground	C4

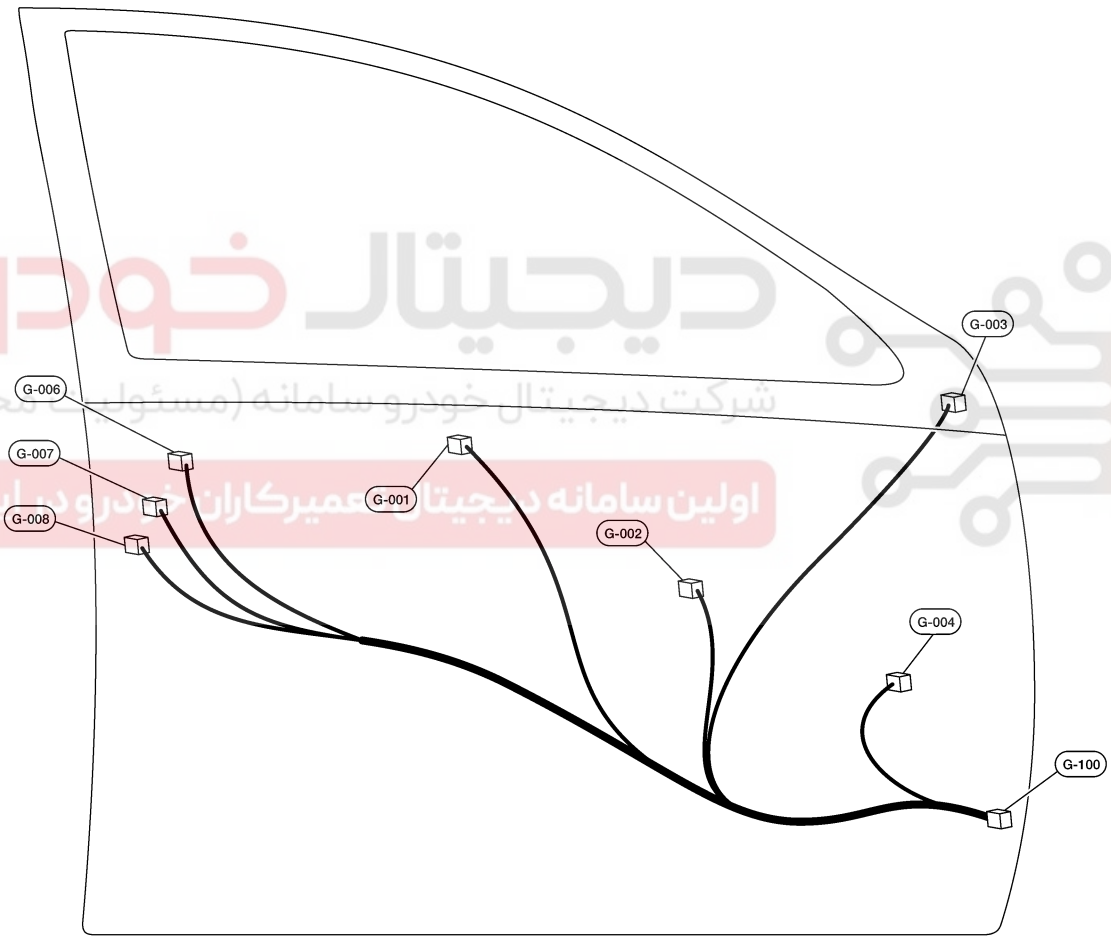
LH Front Door Harness



besmw160009

D-001	Y/16	Main Power Window And Door Lock/Unlock Switch
D-002	W/2	Front Power Window Motor LH
D-003	W/16	Door Mirror LH
D-004	B/2	Front Speaker LH
D-005	B/10	Door Mirror Remote Control Switch
D-006	B/2	Front Door Lock Assembly LH
D-007	GR/2	Front Door Lock Assembly LH
D-008	B/2	Front Door Lock Assembly LH
D-100	B/16	To B-105
D-101	B/16	To B-106

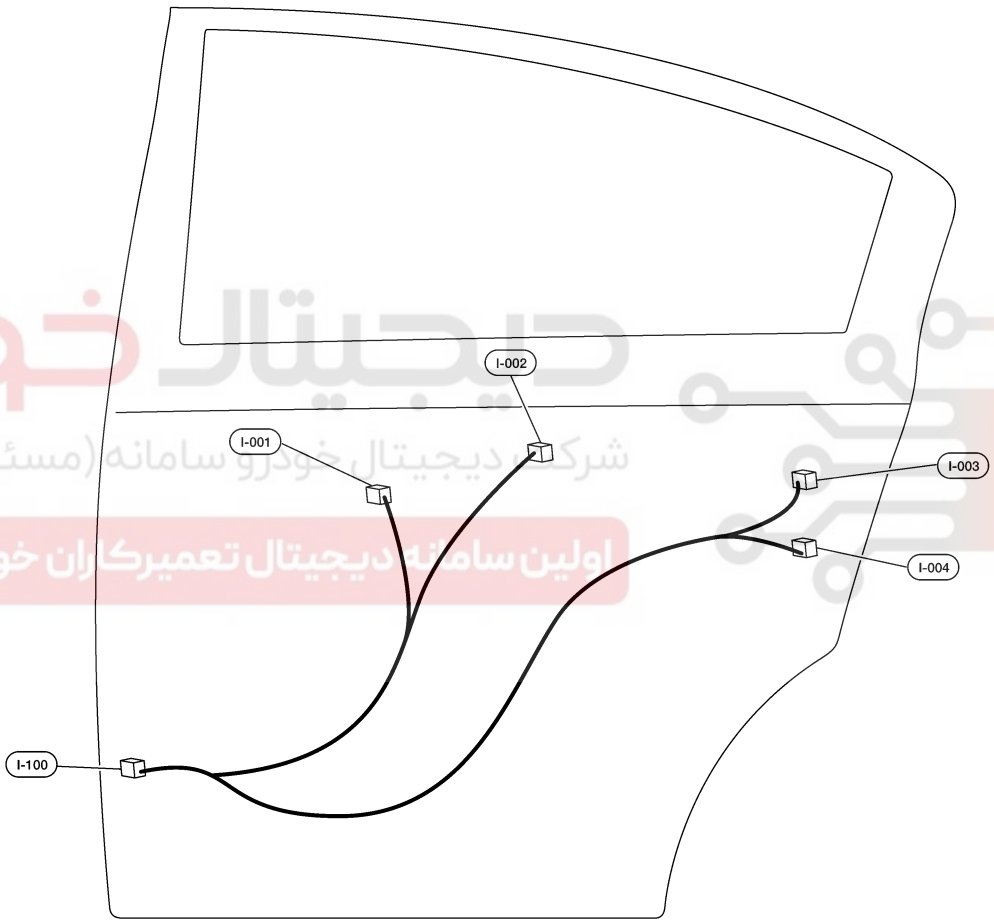
RH Front Door Harness



besmw160002

G-001	B/10	Front Power Window Switch RH
G-002	W/2	Front Power Window Motor RH
G-003	W/16	Door Mirror RH
G-004	B/2	Front Speaker RH
G-006	B/2	Front Door Lock Assembly RH
G-007	GR/2	Front Door Lock Assembly RH
G-008	B/2	Front Door Lock Assembly RH
G-100	B/16	To B-107

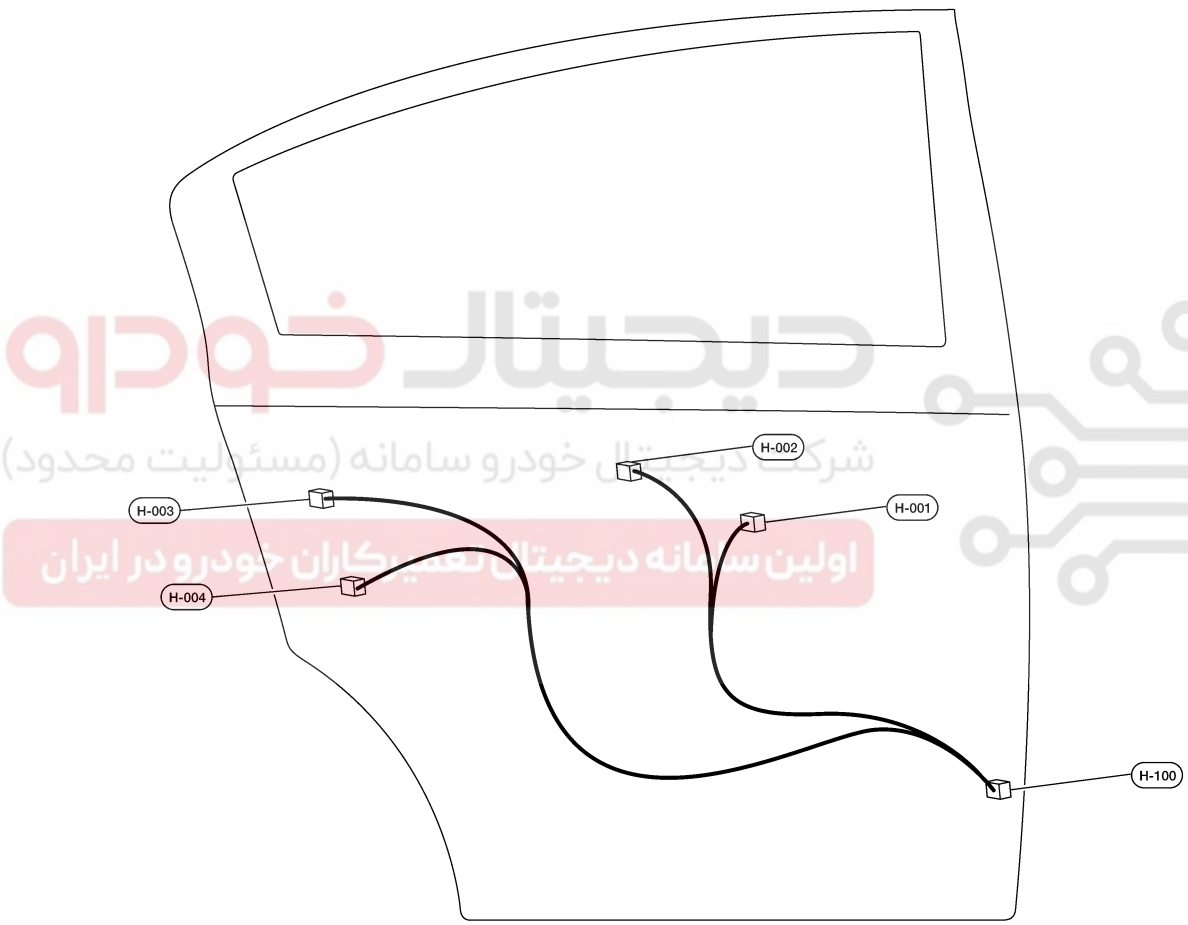
LH Rear Door Harness



besmw160010

I-001	W/2	Rear Power Window Motor LH
I-002	B/10	Rear Power Window Switch LH
I-003	B/2	Rear Door Lock Assembly LH
I-004	B/2	Rear Door Lock Assembly LH
I-100	Y/10	To K-102

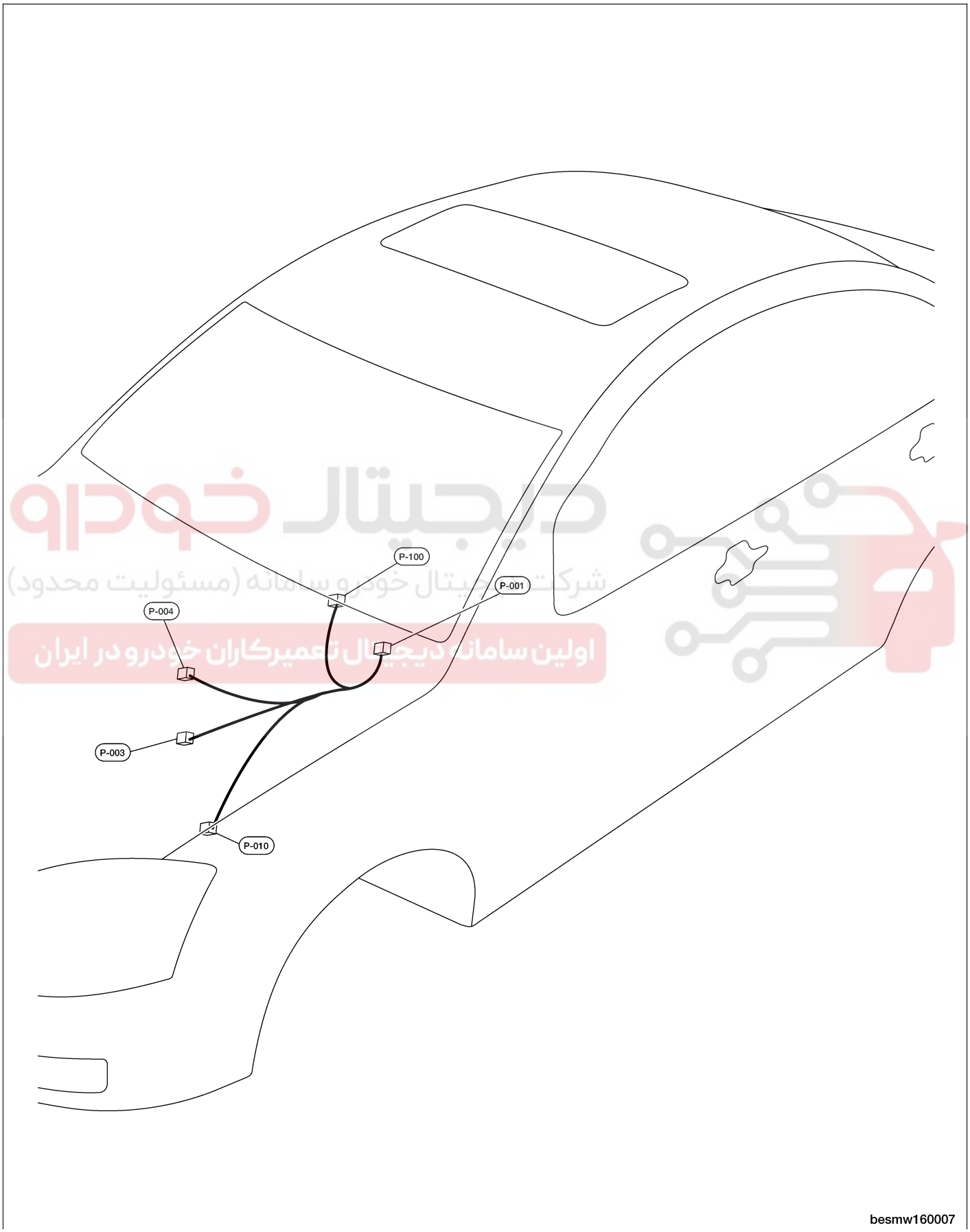
RH Rear Door Harness



besmw160003

H-001	W/2	Rear Power Window Motor RH
H-002	B/10	Rear Power Window Switch RH
H-003	B/2	Rear Door Lock Assembly RH
H-004	B/2	Rear Door Lock Assembly RH
H-100	Y/10	To K-103

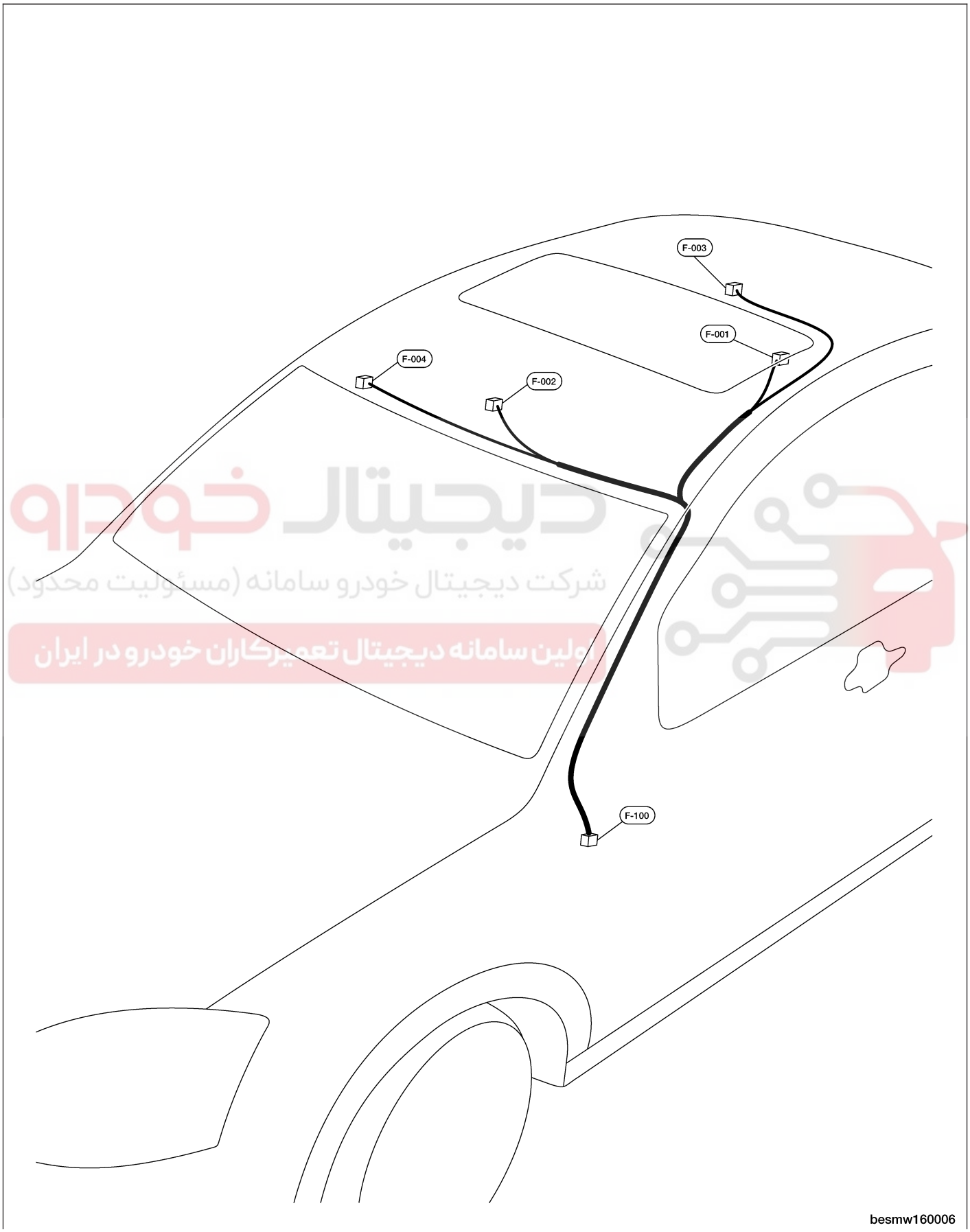
Transmission Harness



besmw160007

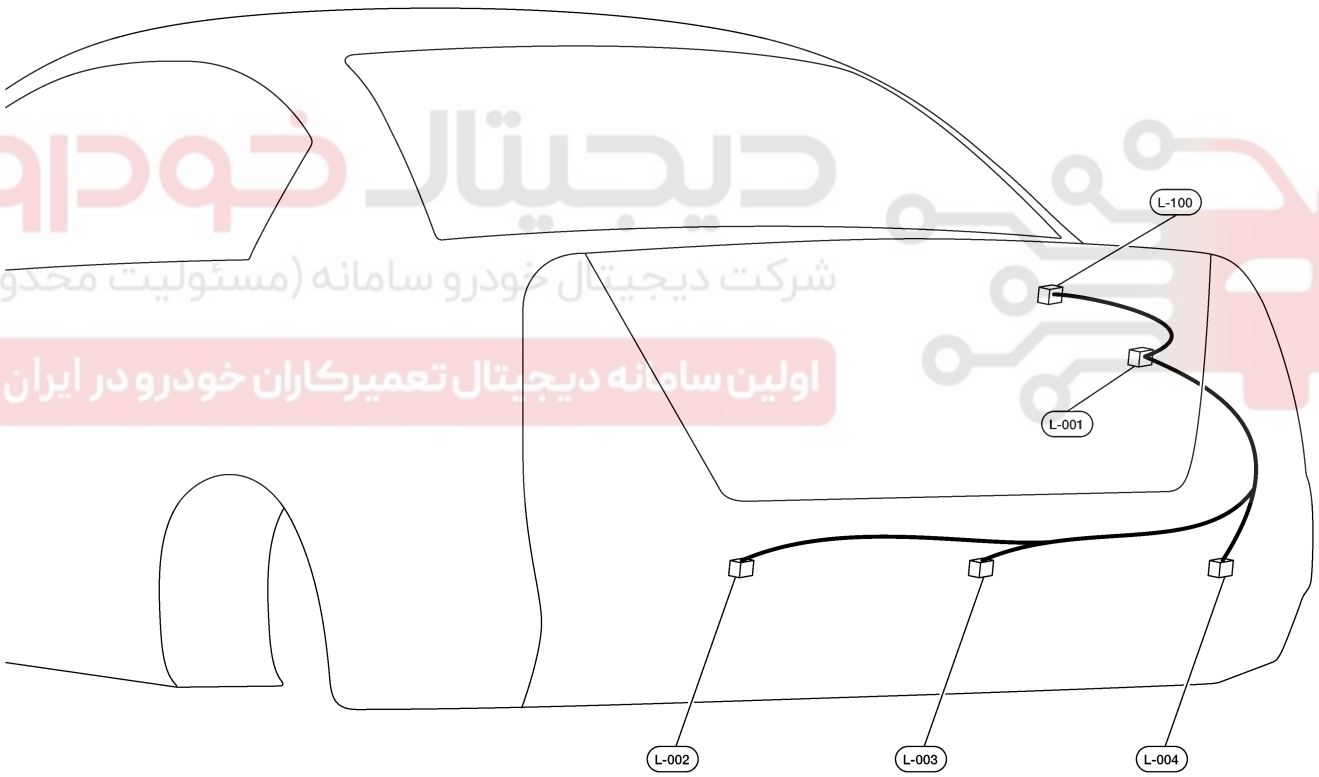
P-001	GR/28	TCM (Transmission Control Module)
P-003	GR/33	A/T Assembly
P-004	B/2	Oil Cooler Flow Control Solenoid Valve
P-010	W/13	Front Fuse And Relay Box
P-100	B/16	To C-106

Roof Harness



F-001	B/6	Sunroof Control Unit
F-002	W/6	Front Room/Map Lamp Assembly
F-003	W/6	Rear Room/Map Lamp Assembly
F-004	W/2	Vanity Mirror Lamp RH
F-100	B/8	To B-104

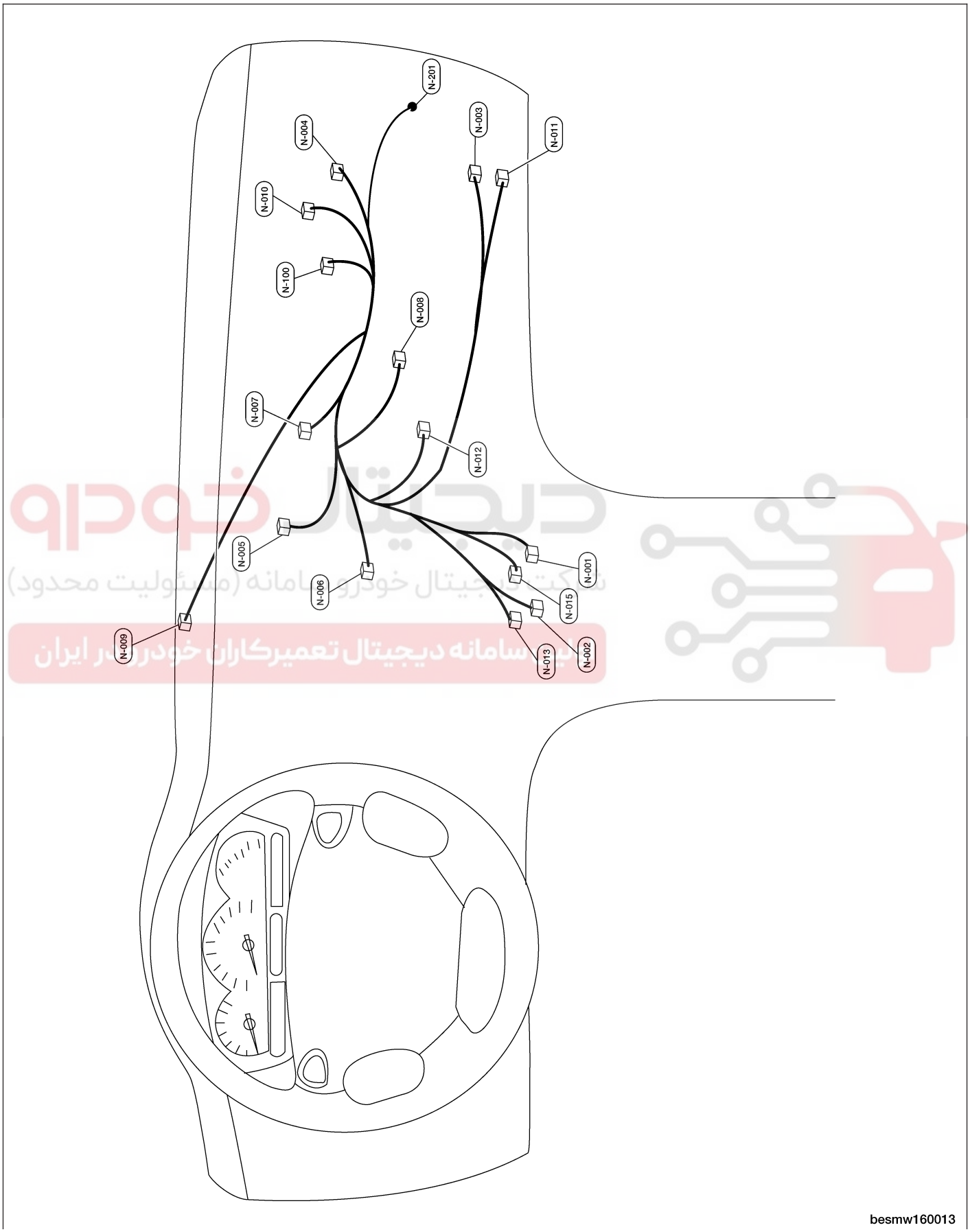
Sonar Harness



besmw160004

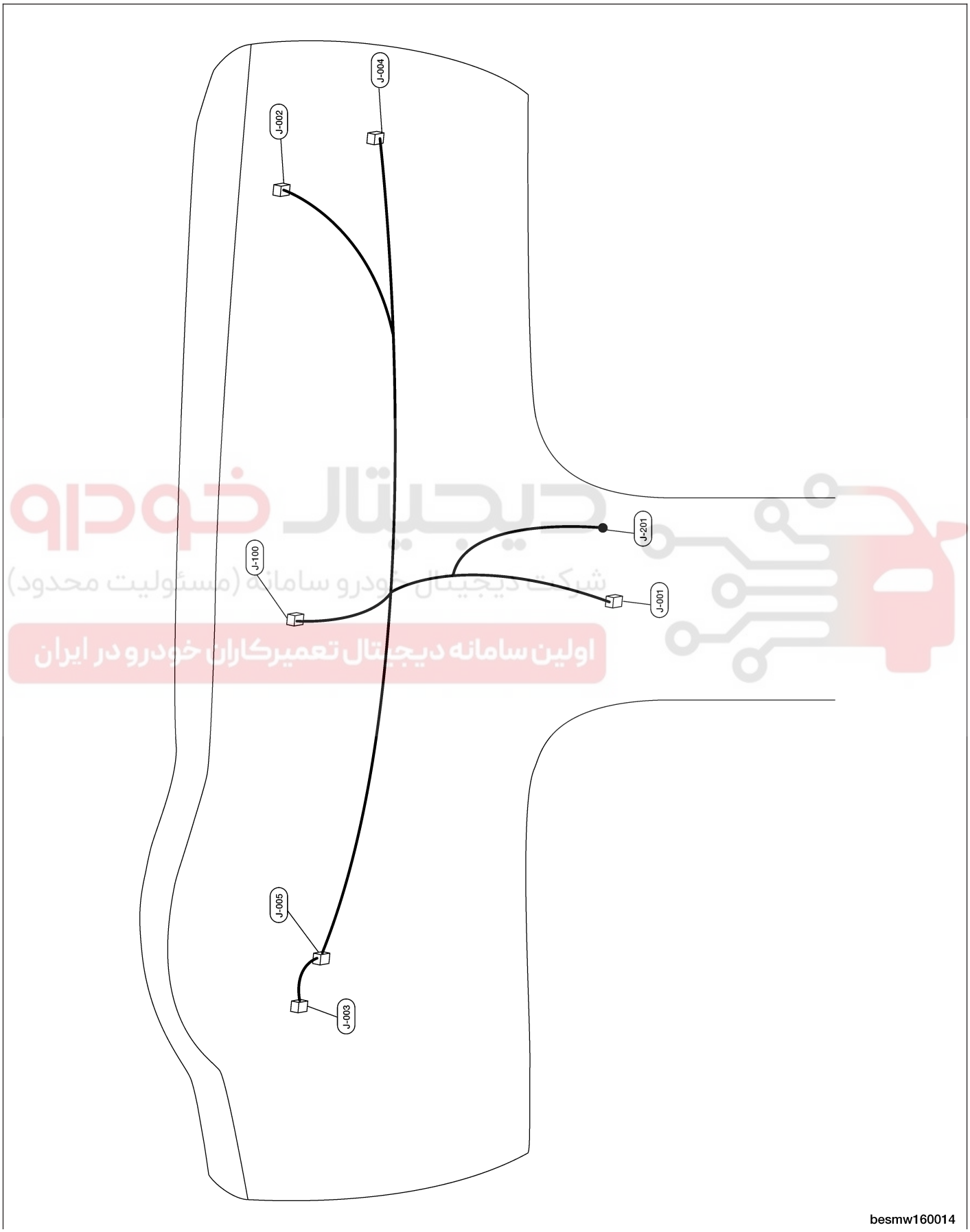
L-001	B/6	Sonar Module
L-002	B/2	Rear Sonar LH
L-003	B/2	Rear Sonar MID
L-004	B/2	Rear Sonar RH
L-100	B/6	To K-104

Air Conditioner Harness



N-001	B/20	Air Conditioner Control Unit
N-002	B/16	Air Conditioner Control Unit
N-003	W/7	Blower Motor
N-004	W/7	Intake Door Motor
N-005	W/7	Air Mix Door Motor
N-006	W/7	Mode Door Motor
N-007	G/2	Coolant Temperature Sensor
N-008	B/2	Inside Temperature Sensor
N-009	W/4	Sun Sensor
N-010	B/6	Coolant Valve
N-011	W/4	High-Speed Blower Relay
N-012	W/4	Speed Resistance
N-013	W/6	Blower Switch
N-015	B/10	Air Control Module
N-100	W/15	To C-104
N-201	-	Ground

Airbag Harness



J-001	O/50	Restraints Control Module
J-002	Y/2	Front Passenger Airbag Module
J-003	Y/2	Driver Airbag Module
J-004	B/2	Front Passenger Airbag Off Switch
J-005	O/2	Spiral Cable
J-100	B/8	To C-105
J-201	-	Ground