0901 Wiring Harness

1 Circuit Information

1.1 General information

1.1.1 Introduction

The circuit information contains brief introductions of the circuit diagrams, the inspection methods of the leads and connectors, as well as the layout of connector pins and the wiring harness assemblies.

1.1.2 Circuit diagram information

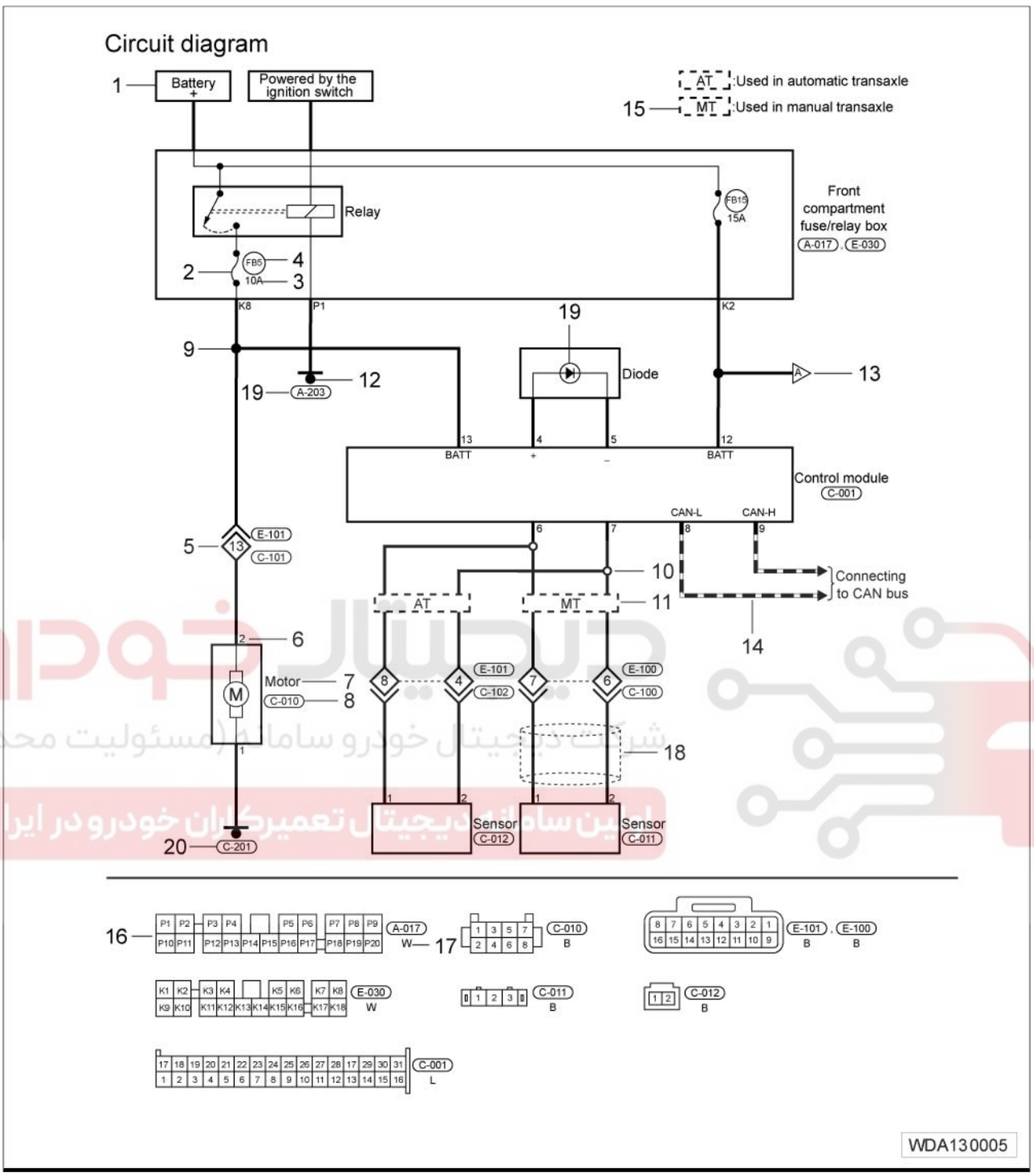
The circuit diagram is classified into the Electrical Equipment Service Manual. If some component appears in a specific system, its related information (like wires, connectors, pins etc.) will appear in the circuit diagram and be introduced emphatically. For example, the information of Body Control Module (BCM) is mainly introduced in Chapter 7. If the component wires involve other systems, the component information will also appear in the corresponding system.

Chery Automobile offers the related circuit diagram information of the vehicle's electrical equipment to help the technical staff to determine and inspect the vehicle failures effectively.

Functions and features of the circuit diagrams:

- The power circuit is on the top of the page, while the ground circuit is near the bottom.
- Components such as electrical switches and fuses are shown in the form of simple icons in the circuit diagram.

1.2 Instructions of the circuit diagram



No.	Component	Description
1	Power supply	Supply power to the electrical equipment
2	Fuse	The wave single line represents the fuse
3	Rated current	Refer to the rated current range of the fuse
4	Fuse No.	Distinguish the location and No. of the fuse in the front compartment

No.	Component	Description
		fuse/relay box or the instrument fuse/relay box
5	Connector	Indicate that E-101 is a female connector and C-101 is a male one
6	Connector pin code	Refer to the code No. of the connector pin
7	Name	Refer to the name of the component
8	Connector code	Refer to the code No. of the connector
9	Connection point	Solid circle indicates that the leads are interconnected
10	Optional connection point	Hollow circle indicates the circuit connection mode of the vehicle components which is optional
11	Abbreviation	The wires are selected with the actual model
12	Ground	Refer to the connection to ground
13	Connecting to ...	The wire connects to the circuit in the next page. The letter "A" corresponds to the "A"in the circuit diagram next page.
14	Data cable	Refer to the data transmission cable between the system and other system
15	Description of the option	Refer to the description of the abbreviation used in the circuit diagram
16	Connector pin drawing	Description of the connector code on the component
17	Connector color	Letters representing the connector colors are given as follows: B=Black W=White R=Red G=Green L=Blue Y=Yellow BR=Brown O=Orange GR=Gray
18	Shielding line	The dashed lines refer to the shielding lines

No.	Component	Description
19	LED (Light-emitting diode)	Serve as a lighting tool in the circuits or instruments

1.3 The electrical equipment fault diagnosis and troubleshooting

1.3.1 Basic methods of diagnosis and troubleshooting

The basic steps are as follows:

1. Checking for failures

   Energize all the components in the faulty circuit and determine if there is any failure existing according to the customer's description. Do not perform any removal or test before ascertaining the reason and location of the failure.

2. Analysing the circuit diagram

   Analyse the circuit diagram to determine the faulty circuit. Check all components from the power supply along the current path to the ground to idenfy its operating principles. If several failures appearing in circuits at the same time, it may be caused by the fuse or ground. Determine the causes based on the symptoms and the circuits' operating principles.

3. Determining the failure through a circuit test

   Determine the failure through a circuit test to check the diagnosis made in step 2. Logical and concise diagnostic steps are the key to eliminate the failures effectively. Firstly, test the most likely cause of the failure and then attempt to test for the accessible areas.

4. Eliminating the failures

   Make a service operation after determining the failure. Use the tools as required and perform safety operations according to correct procedures in repair.

5. Ensuring the circuit working properly after repair

   In all operating modes, connect all components in the circuit that has been repaired to ensure the failure has been already eliminated; if the failure is caused by a melted fuse, you must carry out a test for all power supply circuits in which the fuse is connected, and make sure the failure will no longer occur.

Testing the voltage

1. The negative pointer (black) of the voltmeter is grounded.
2. The positive pointer (red) of the voltmeter connects to the selected measuring points (switch on the ignition switch if necessary). Check the voltage value shown in the voltmeter.

Testing the circuit continuity

1. Switch off all electrical equipment and the ignition switch, and disconnect the battery negative cable.
2. Remove the circuit to be tested.
3. The two ohmmeter leads are connected to the two ends of the circuit to be tested respectively (low resistance means the circuit is in good condition).

Testing the short circuit

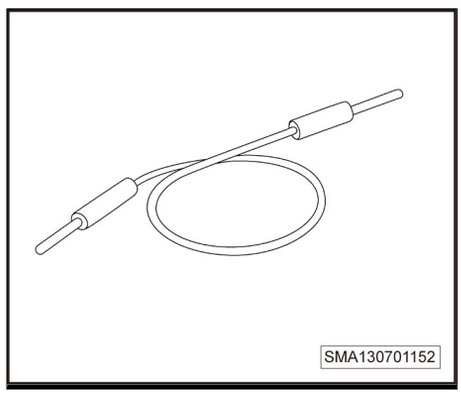
1. Measure and record the battery voltage.
2. Pull out the fuse of the wires to be tested or disconnect the power end of the test circuit.
3. One end of the voltmeter lead is connected to the positive terminal of the battery and the other to the power supply of the circuit.

4. Check the voltage value shown in the voltmeter. If it shows any voltage value, it indicates that the test circuit is shorted to ground.

1.3.2 Diagnostic tools

Short jumper

Establish a connection circuit with a short jumper, then connect both ends of the jumper to the ends of the electrical equipment component respectively.

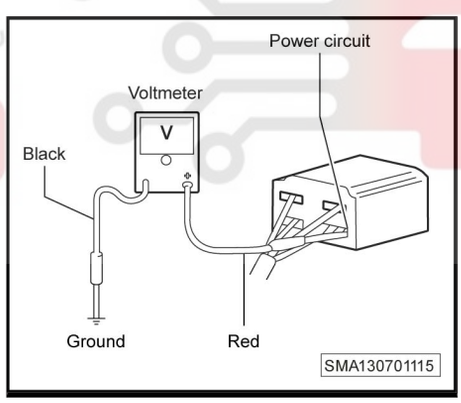


Caution

- Do not connect both ends of the short jumper to the power supply and the vehicle ground directly; otherwise it will damage the power supply and other components.

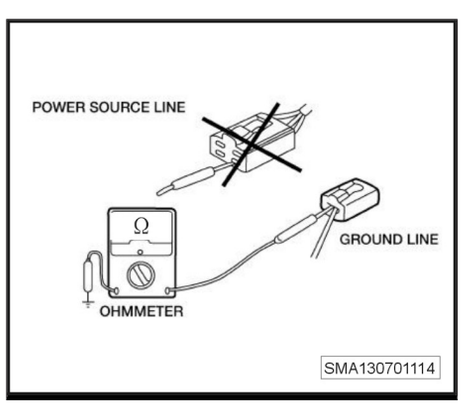
Voltmeter

The DC voltmeter is used to measure the voltage value in the circuit. Its measuring range should be set to be above 15V. Connect the red positive (+) pointer to the positive lead of the component to be tested and the black negative (-) pointer to the ground of the vehicle.



Ohmmeter

The ohmmeter is used to measure electrical resistance and test if there is a connection or short circuit between two points of the circuit.



Caution

- The ohmmeter can not be serially connected to the circuit, otherwise it will be damaged.

1.4 Electrical equipment maintenance

1.4.1 Repairing the leads

Caution

- Measure the length of the lead to be repaired and select a suitable replacement lead before repairing.
- If there are several leads to be repaired, please stagger the repairing areas.

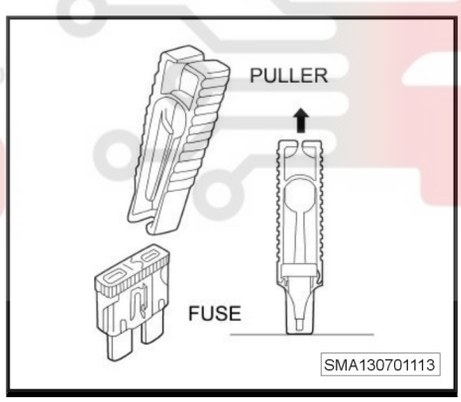
1. Peel off 0.5 inches insulating layer of the lead to be repaired and the replacement lead.
2. Connect the original lead to the replacement lead with the heat shrinkable tube and compress the metal core of the heat shrinkable tube with tools in order to make the original lead with the replacement lead fixed firmly.
3. Heat the heat shrinkable tube to shrink the outer rubber layer and ensure the sealing of repairing area.
4. Wind the repaired leads together with an electircal tape.

1.4.2 Replacing the fuse

Caution

- Electrical equipment should be energized after replacing the fuse. If the fuse is melted again, check the corresponding circuit for short circuit or if the owner installs any electrical equipment powered more than rated or additional consumers. Please replace them with the fuse of larger amperes in these cases.

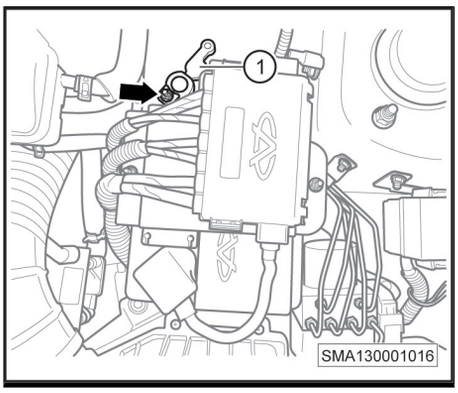
- Switch off all electrical equipment and the ignition switch, and disconnect the battery negative cable before repair.
- Remove the melted fuse with a fuse clip.
- Replace the melted fuse with new one which has the same specifications.



1.5 Notes on the electrical equipment maintenance

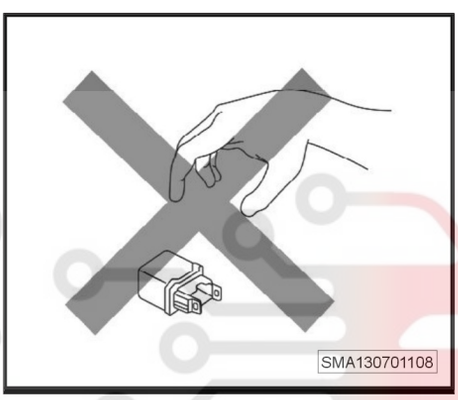
1.5.1 Battery cable

- Unscrew the nut (-arrow-) and disconnect the battery negative cable (-1-) before any repair.



1.5.2 Sensor, switch and relay

- Be careful not to make the sensor, switch or relay fall to the ground from high to avoid unnecessary damage in repair work.



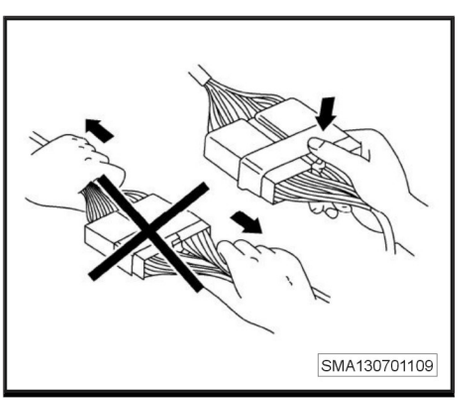
1.5.3 Connector

Diconnecting the connector

Caution

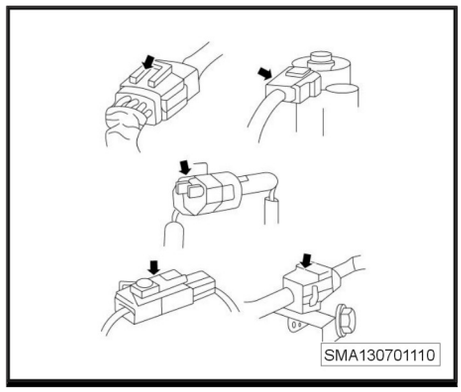
- Be careful not to pull the wiring harness with force to avoid damage when disconnecting the connector.

- Hold the connector with hand and press the connector clips to disconnect it.



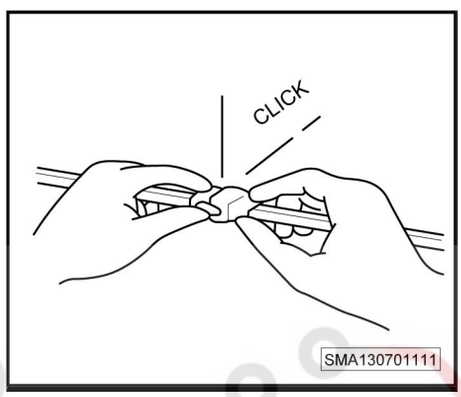
Common ways of disconnecting the connectors

- There are several ways of fixing the connector clips. And their removal procedures are shown in the figure.



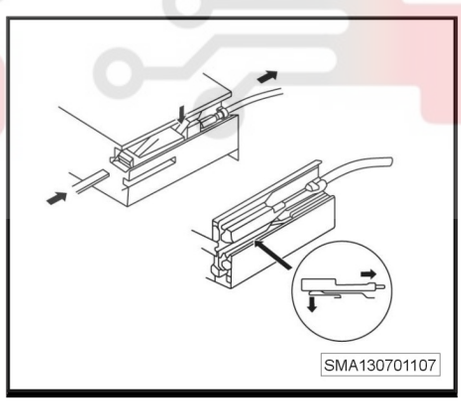
Installing the connector

- You cannot hear a "click" from the connector until it is installed in place.



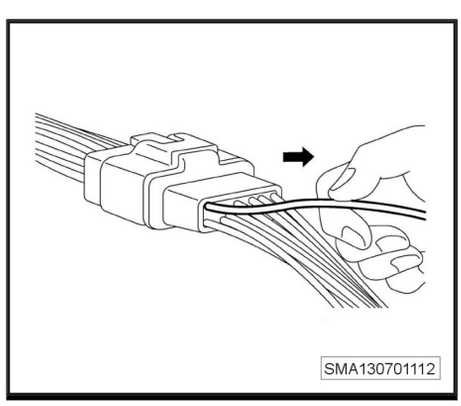
Replacing the connector terminal

- As shown in the figure, insert a suitable tool into the terminal to press down the fixing clips. Then pull out the terminal from behind.
- Push the terminal from the back of the connector to ensure that the fixing clips are installed in the stop position.



Checking the connector terminal

- Pull the individual wiring harness terminal gently to check if it is installed in the stop position.



2 Power Supply System

2.1 General information

2.1.1 Introduction

The power supply system provides security for safe, reliable and efficient running of the vehicle electircal system.

The power supply sytem consists of the following components:

- Battery
- Body fuse/relay box
- Front compartment fuse/relay box
- Ignition switch
- Fuse
- Relay

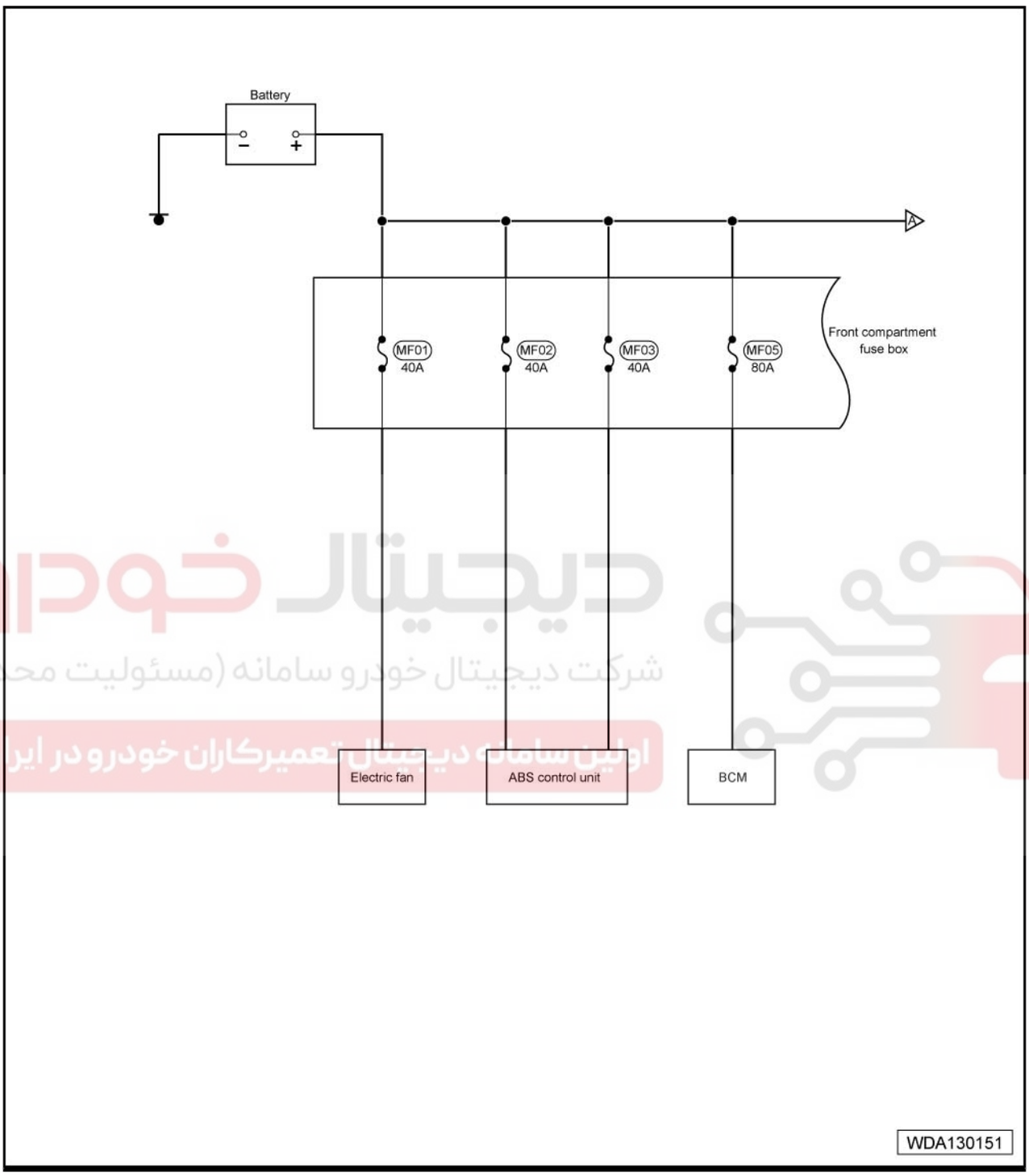
2.2 Power supply

2.2.1 Introduction

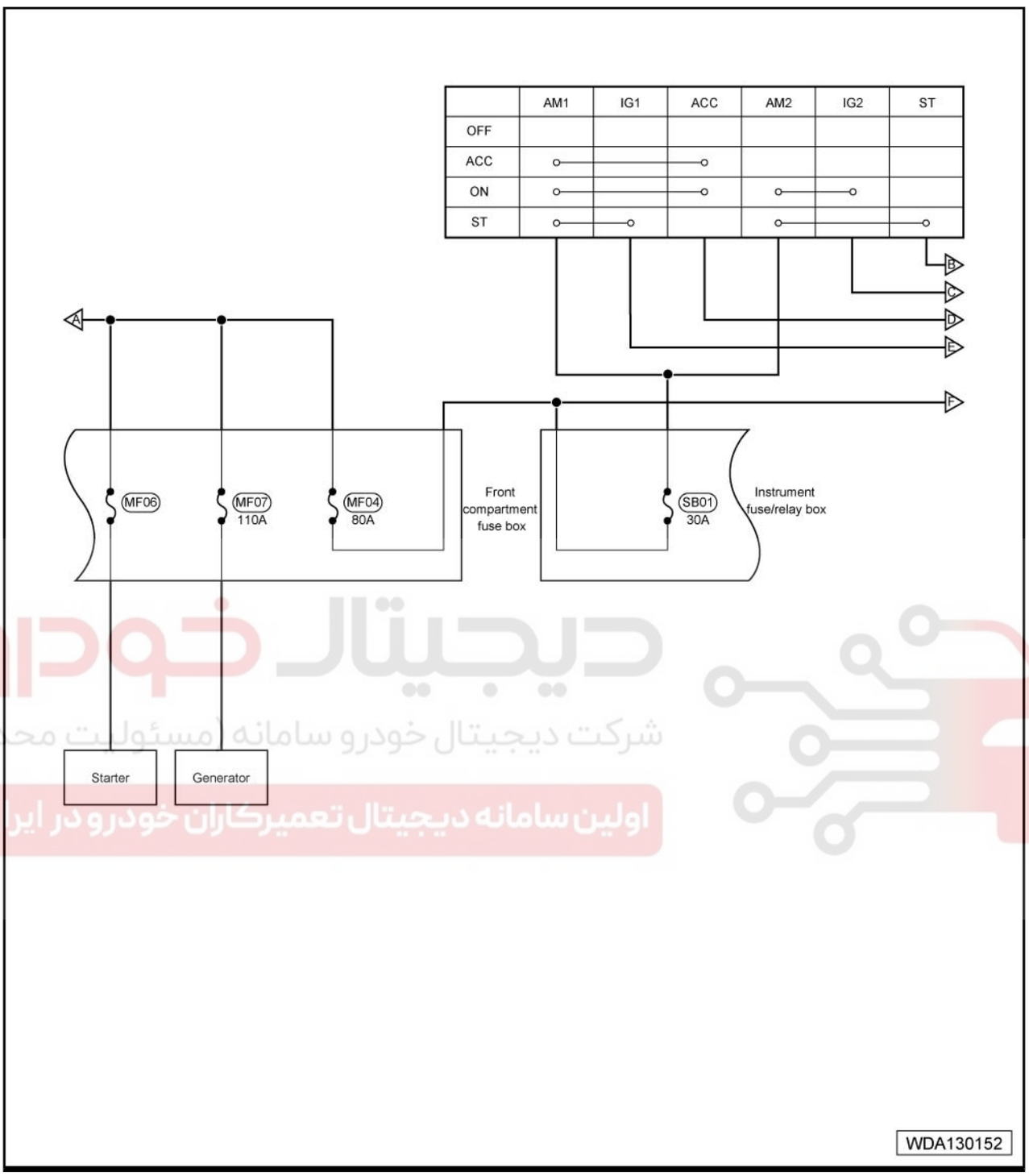
The power distribution circuit diagram includes all of the vechicle electrical components and leads information, which shows the information of the connector, the pin code and the wiring harness connection of an individual component to help determine the common electrical equipment failures.

2.2.2 Circuit diagram

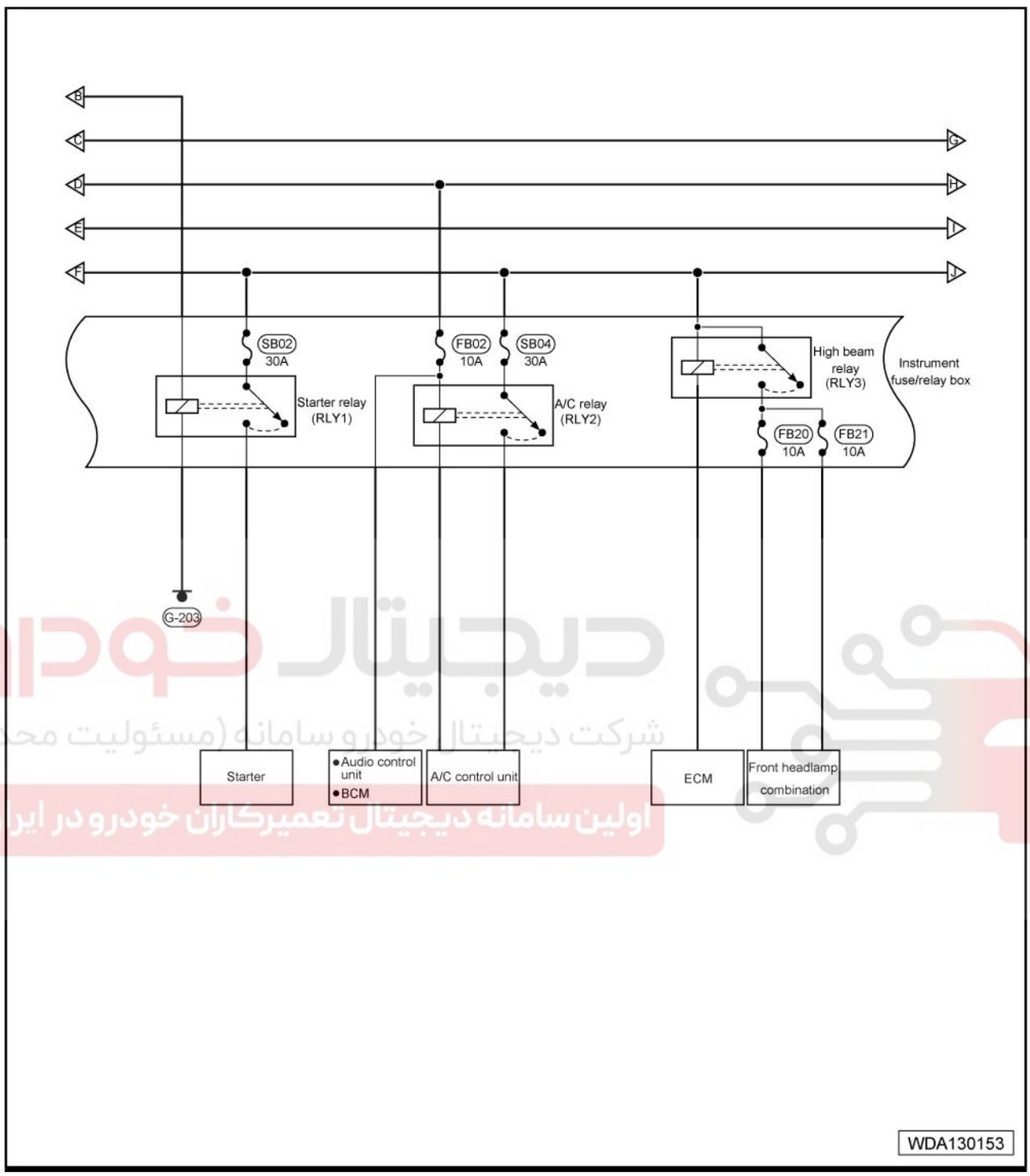
Power supply circuit diagram (Page 1)



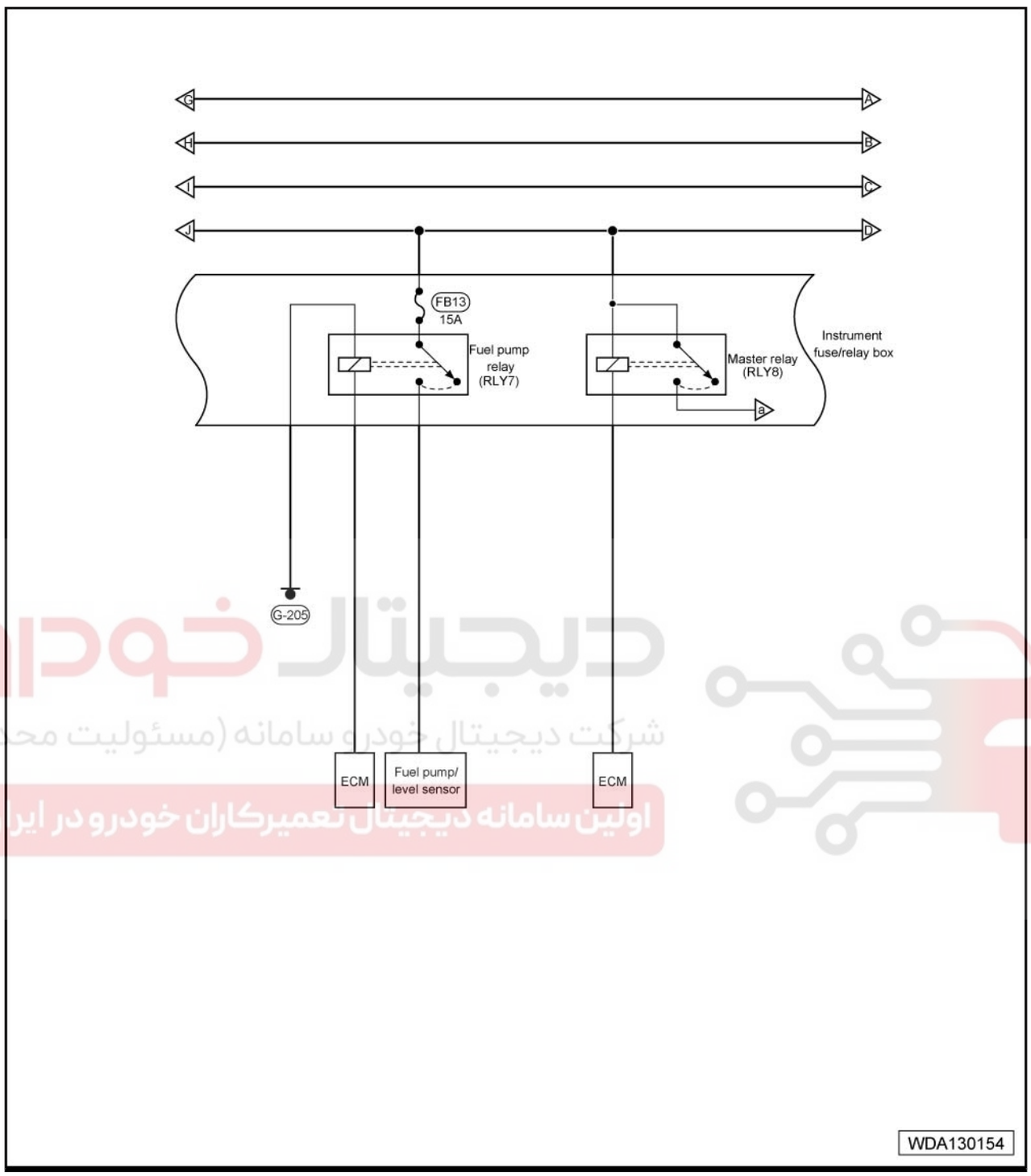
Power supply circuit diagram (Page 2)



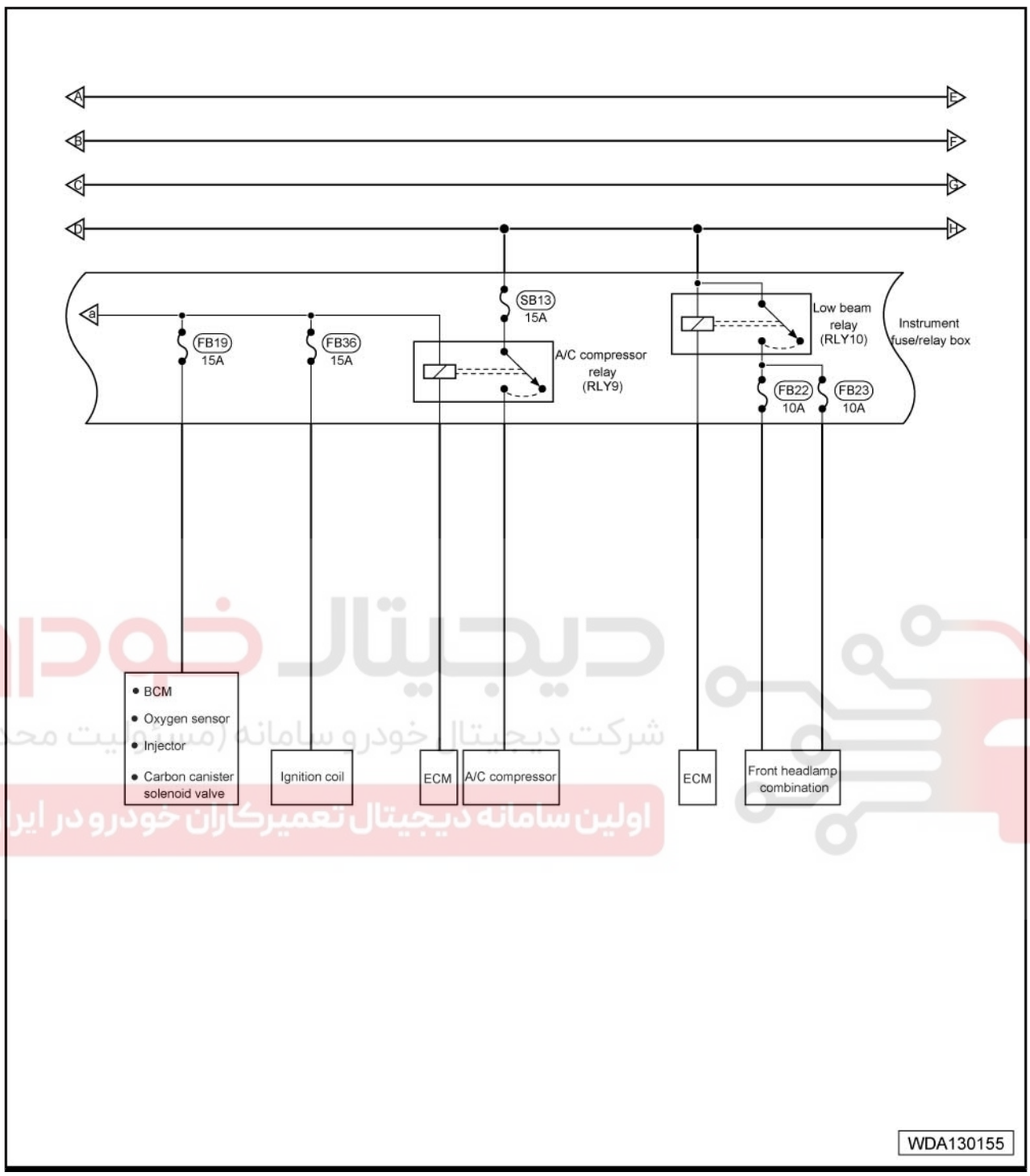
Power supply circuit diagram (Page 3)



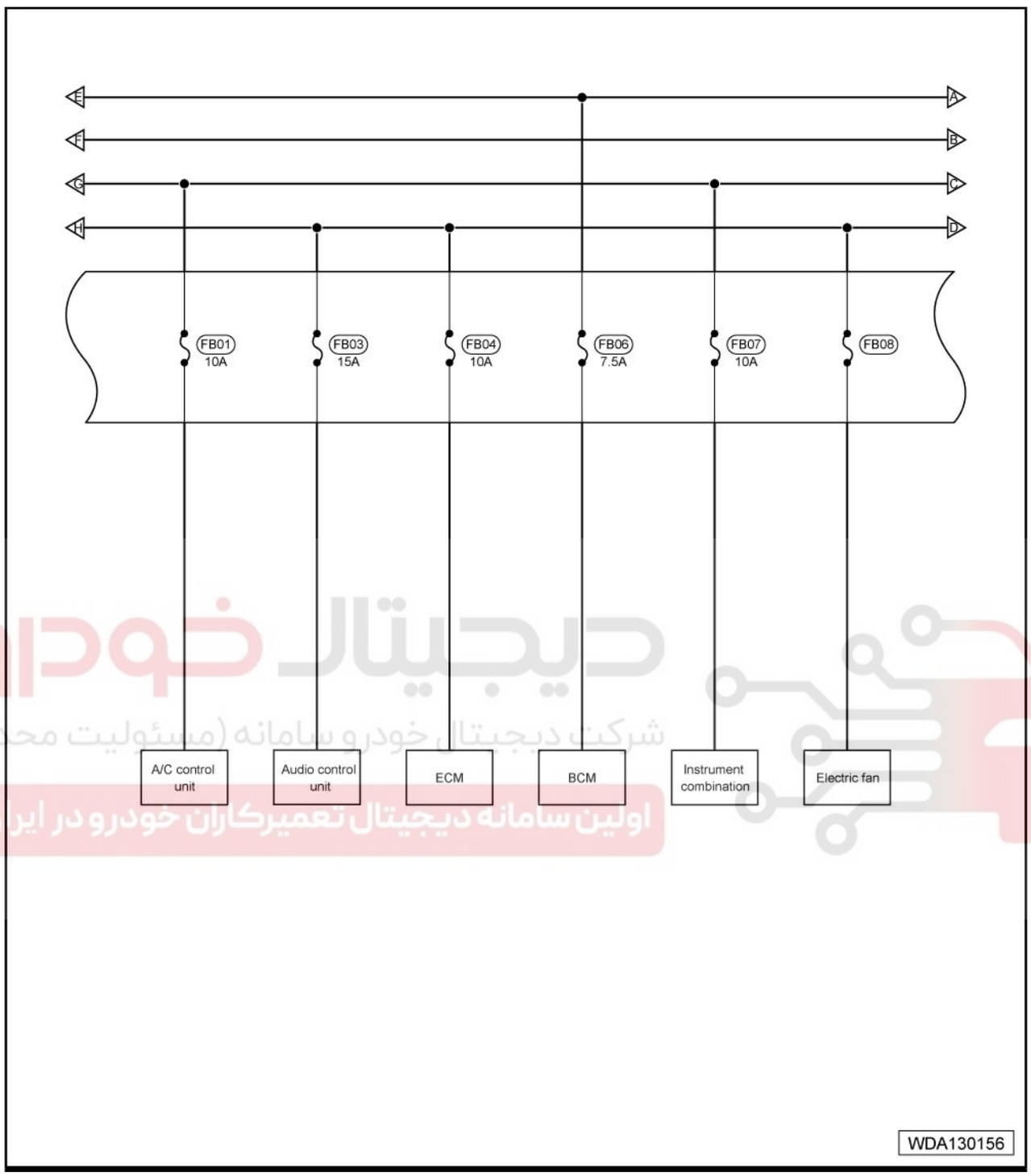
Power supply circuit diagram (Page 4)



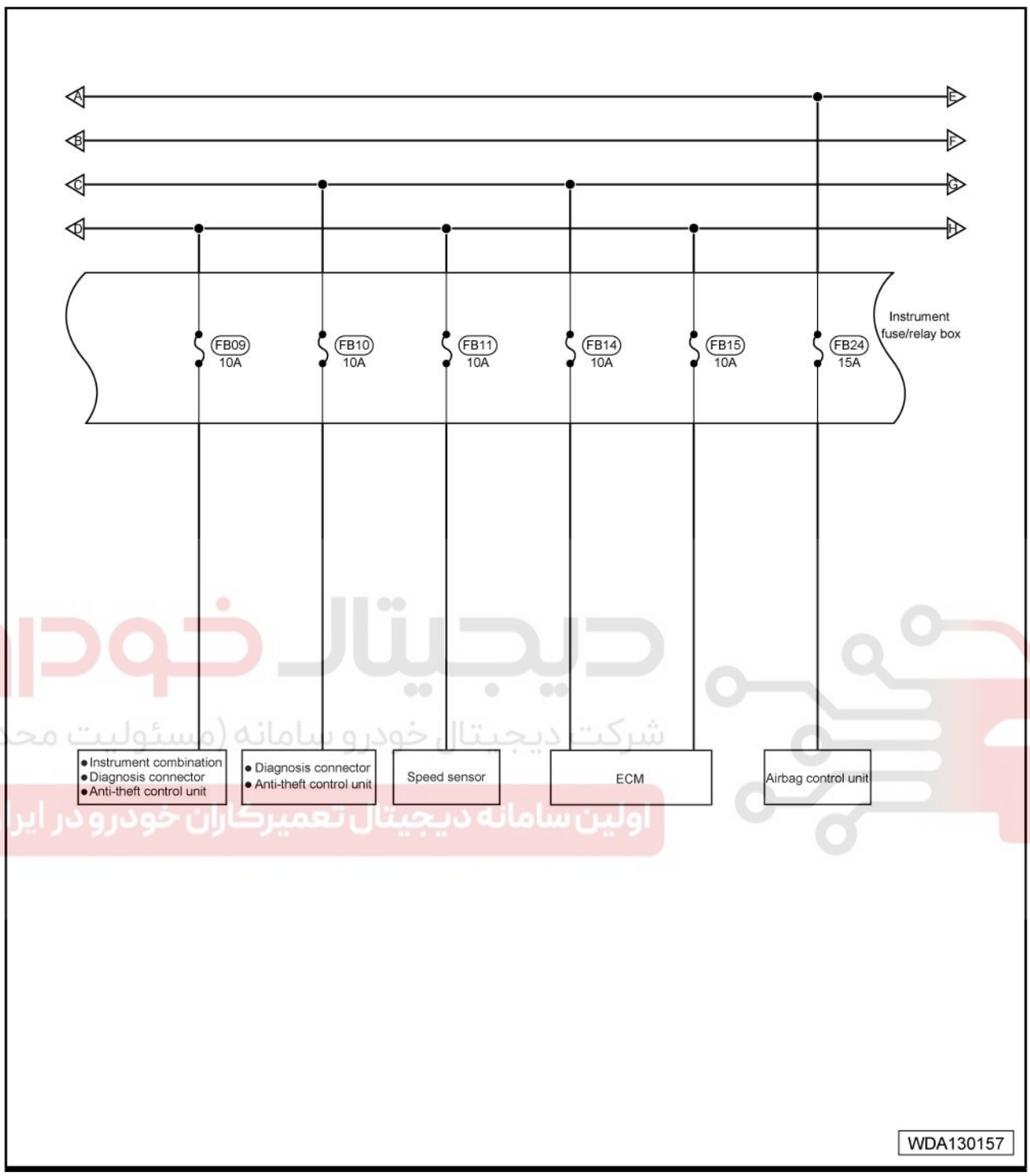
Power supply circuit diagram (Page 5)



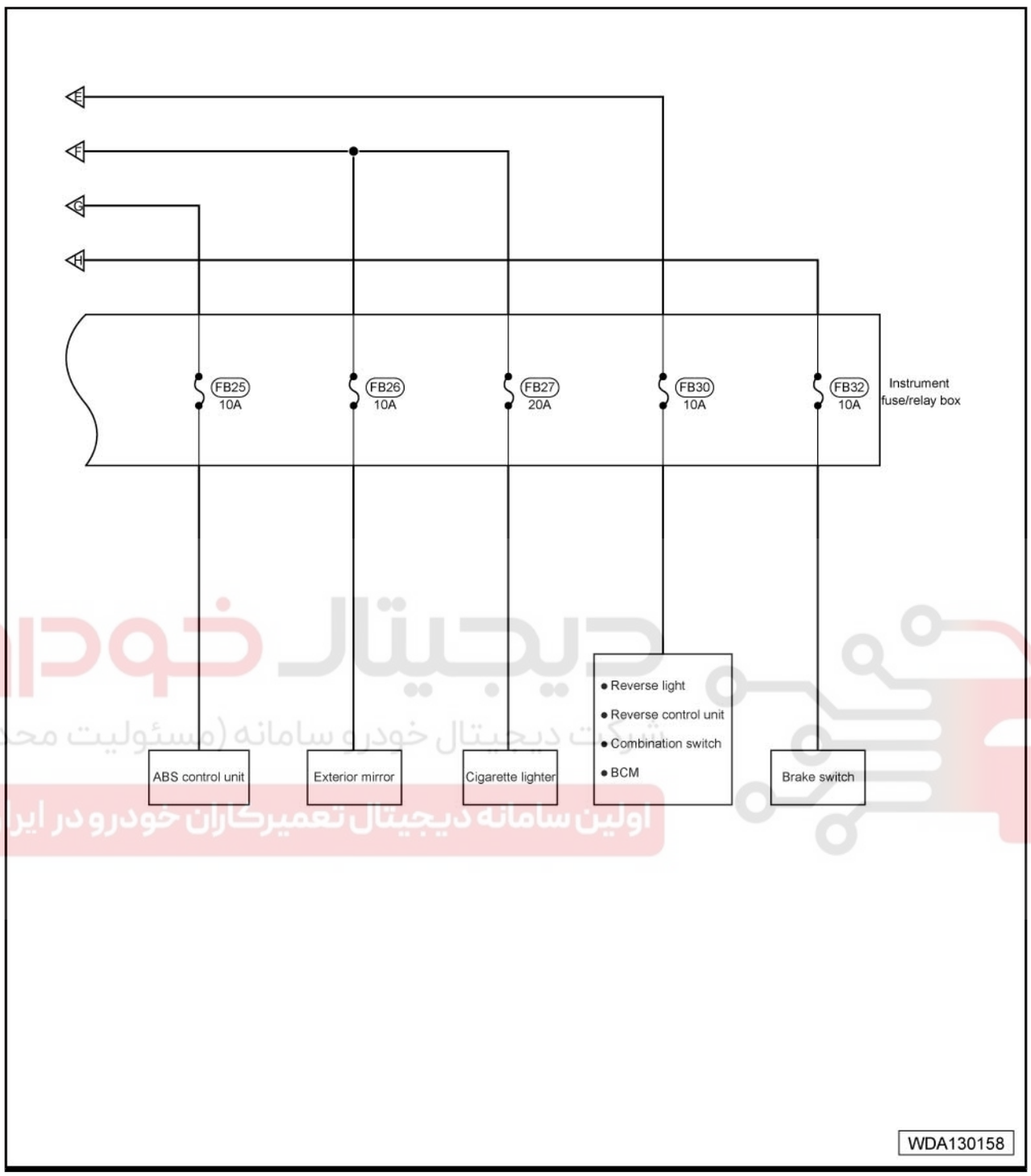
Power supply circuit diagram (Page 6)



Power supply circuit diagram (Page 7)



Power supply circuit diagram (Page 8)



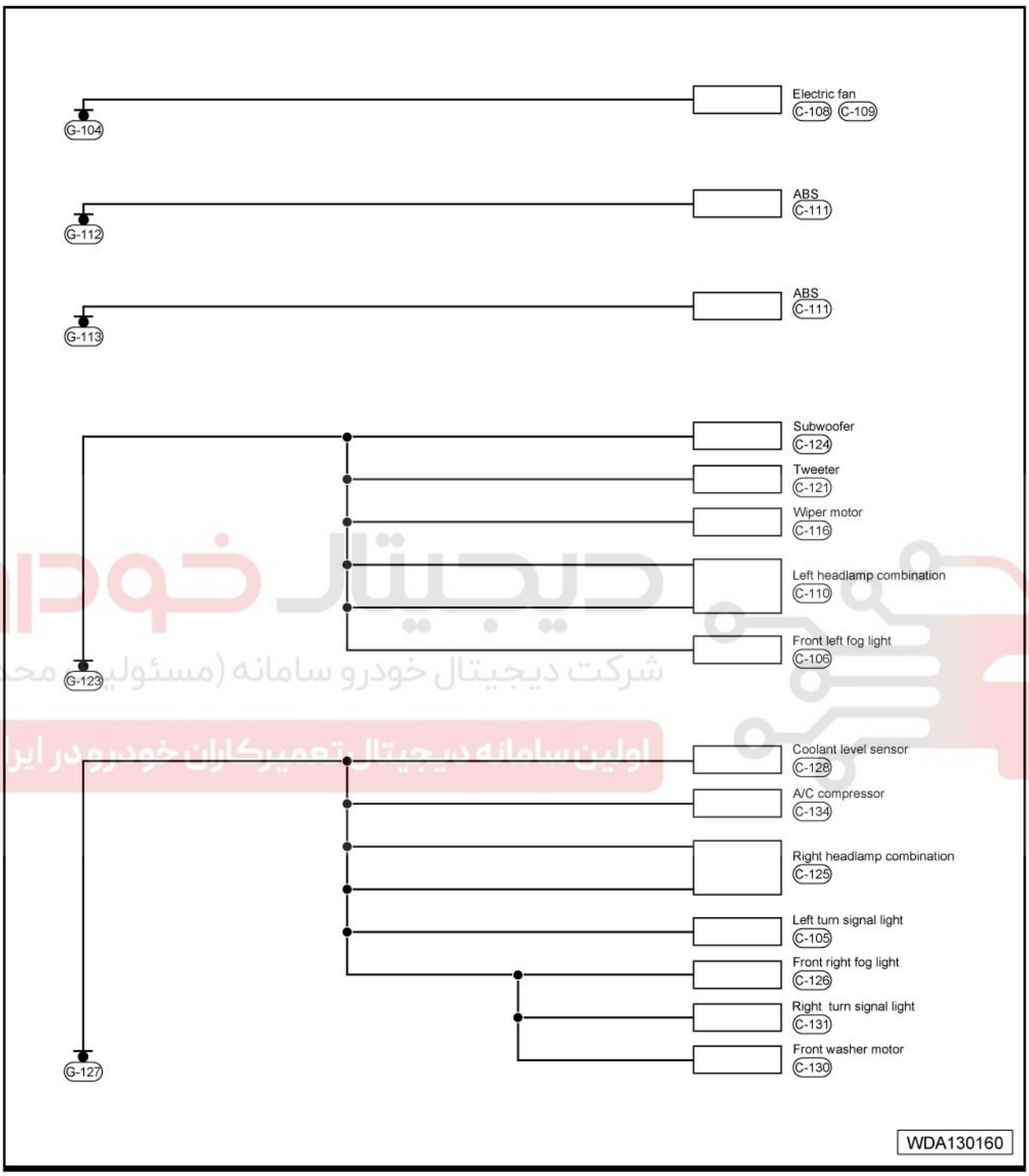
2.3 Ground

2.3.1 Introduction

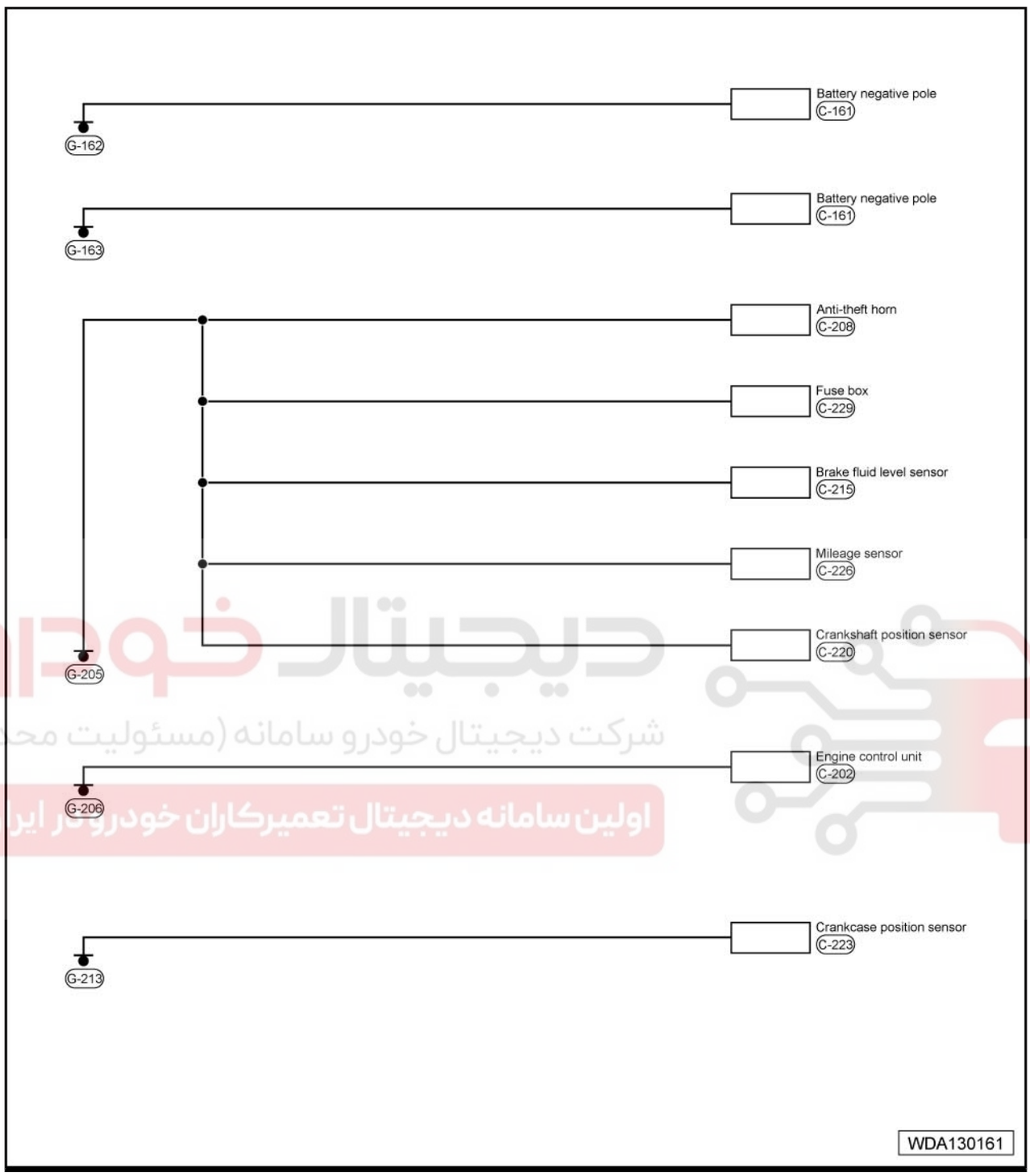
The gound distribution diagram includes the information of all ground points in the circuit diagram to help determine the ground circuit failures of an individual component.

2.3.2 Circuit diagram

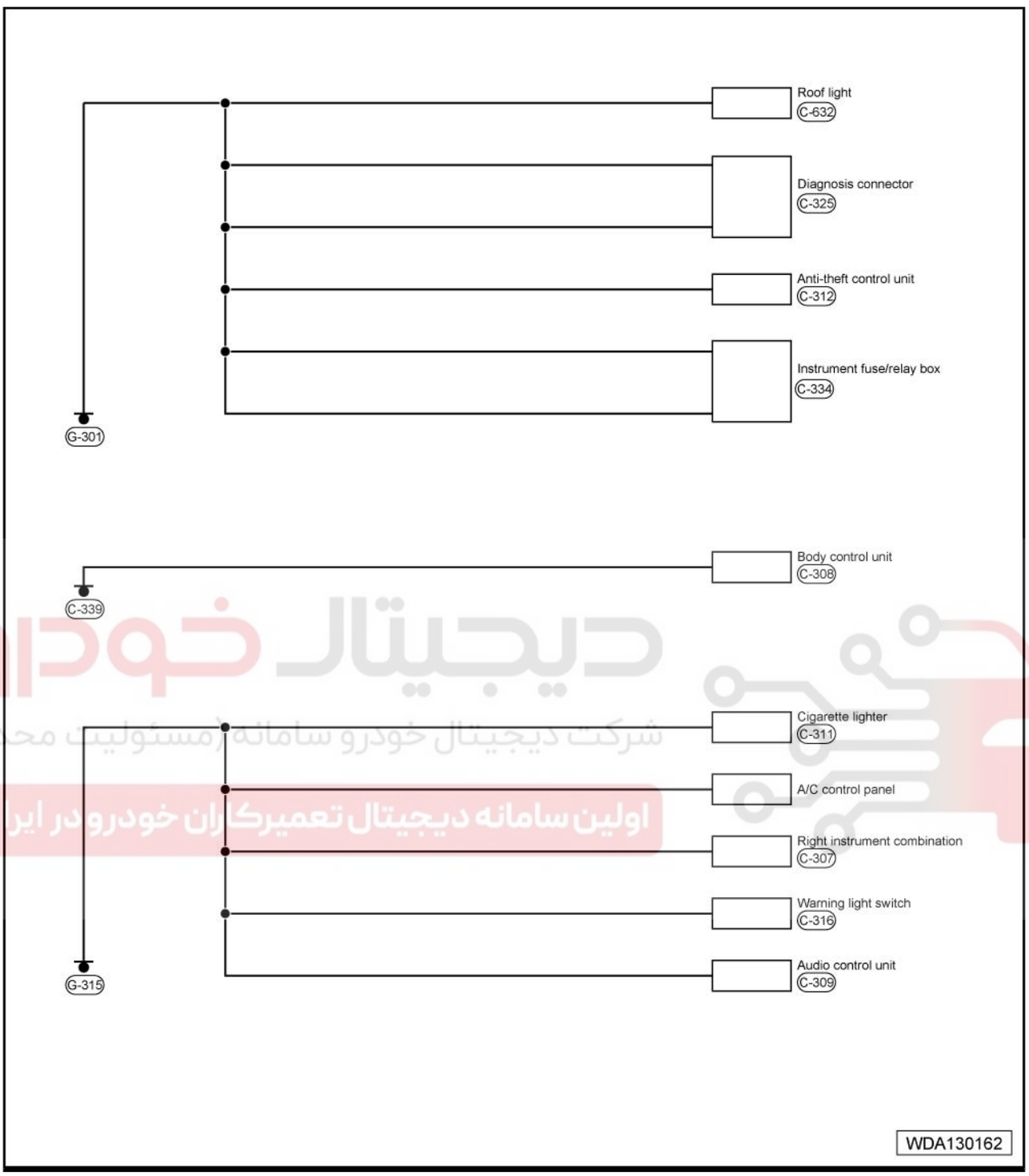
Gound circuit diagram (Page 1)



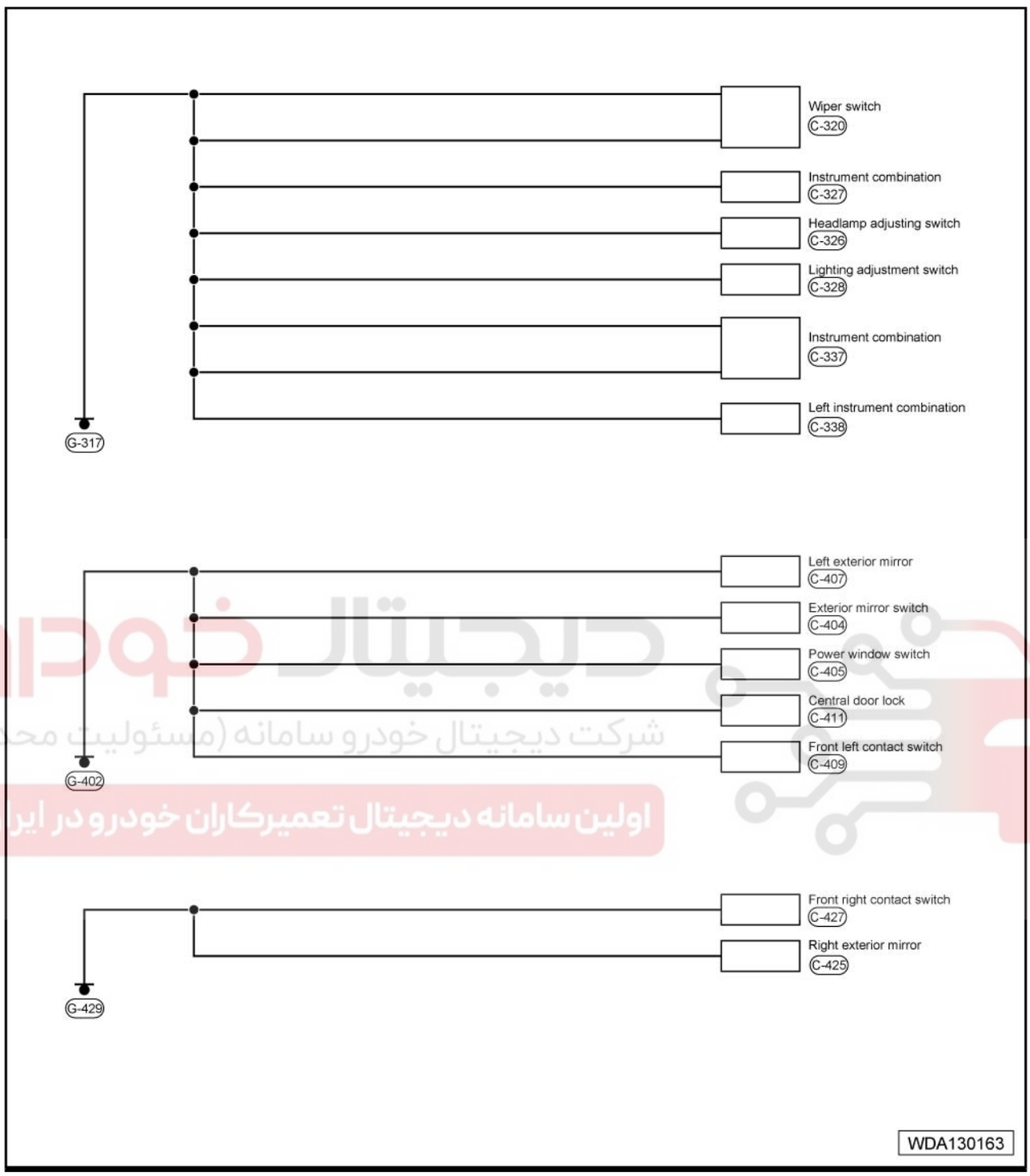
Gound circuit diagram (Page 2)



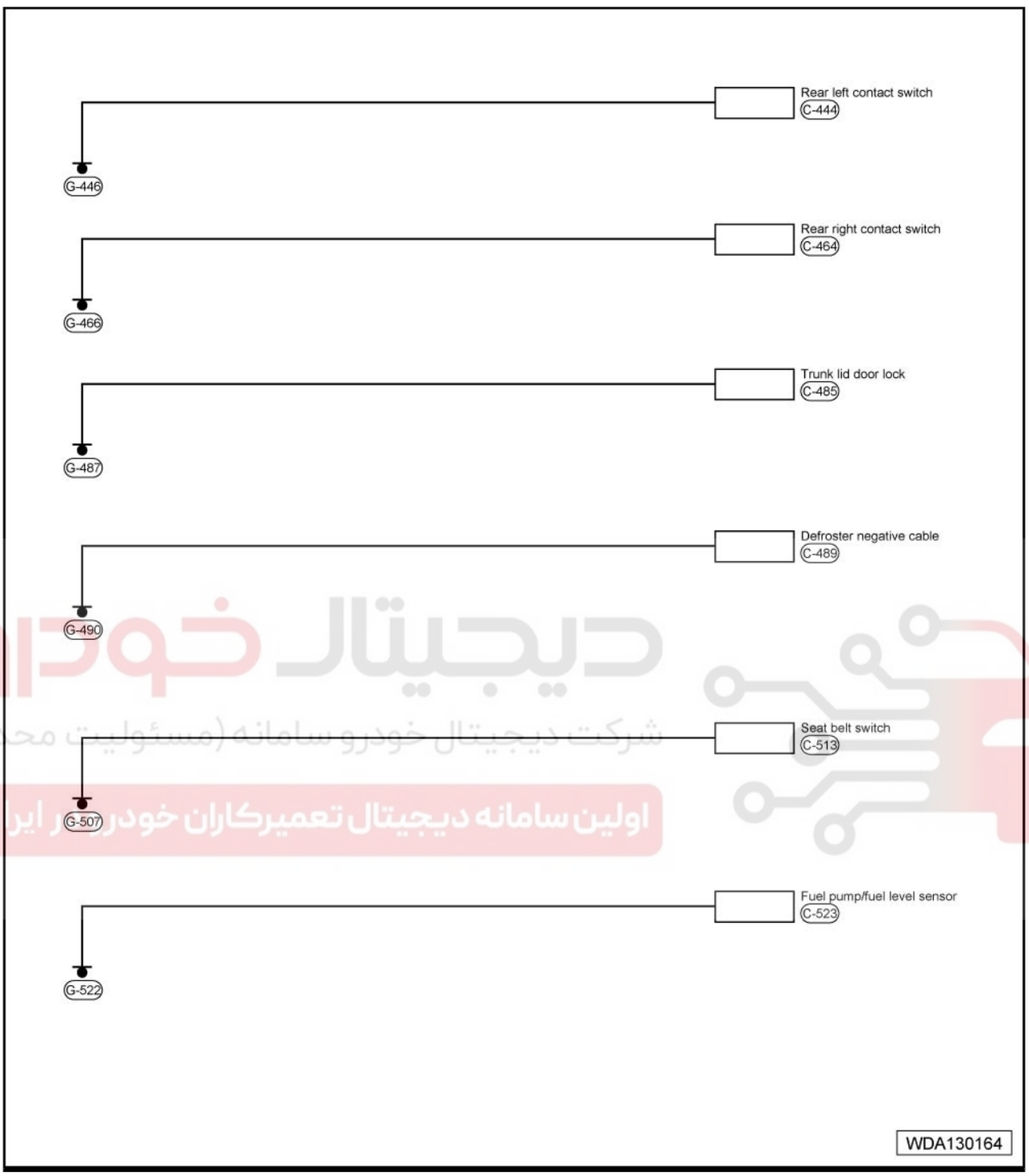
Gound circuit diagram (Page 3)



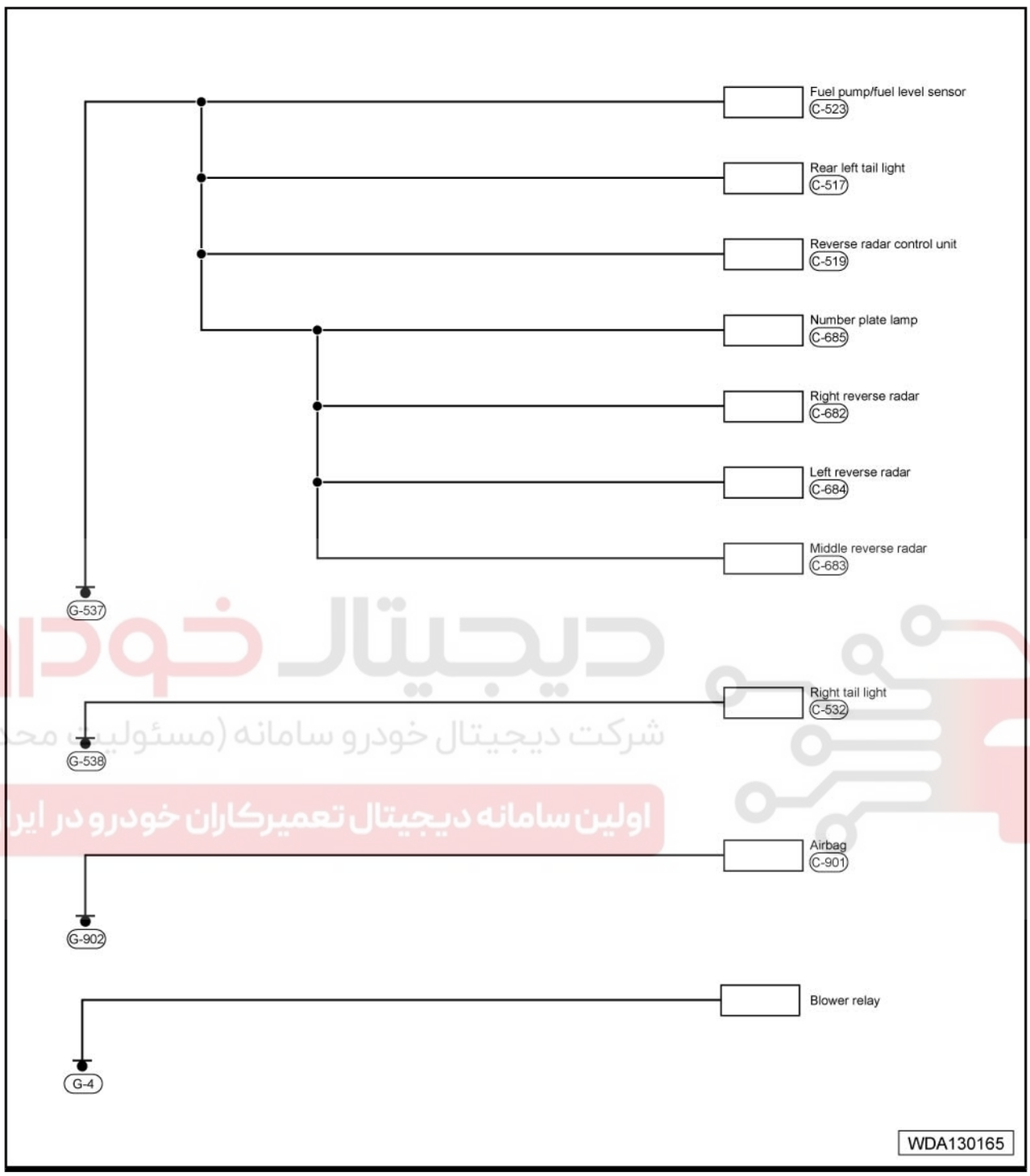
Gound circuit diagram (Page 4)



Gound circuit diagram (Page 5)



Gound circuit diagram (Page 6)



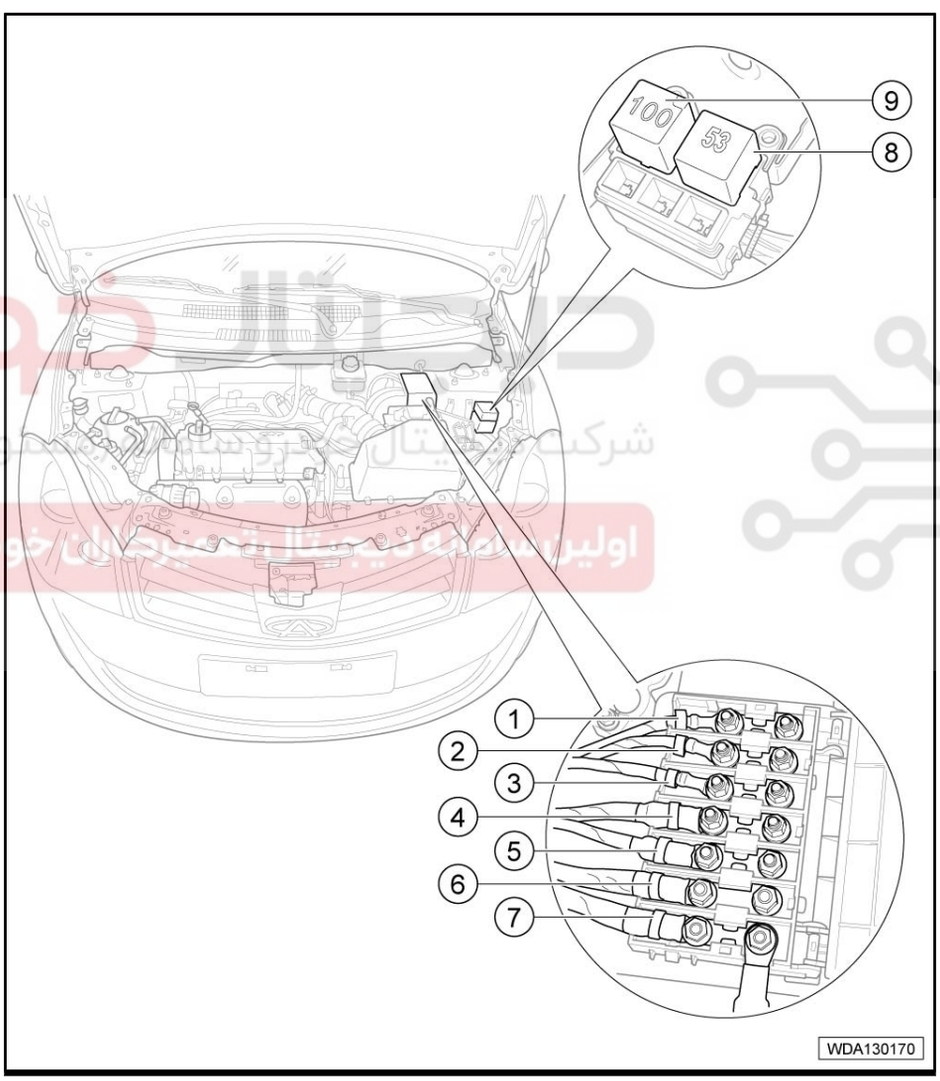
2.4 Fuse and relay

2.4.1 Introduction

Each system should be equipped with fuse and relay to ensure normal operation of the vehicle electrical system. The fuse and relay are integerated in the fuse/relay box which are installed in the following positions in the vehicle:

- Front compartment fuse box: installed on the battery cover.
- Front compartment relay box: installed next to the battery.
- Dashboard fuse/relay box: installed beneath the dashboard on the left.

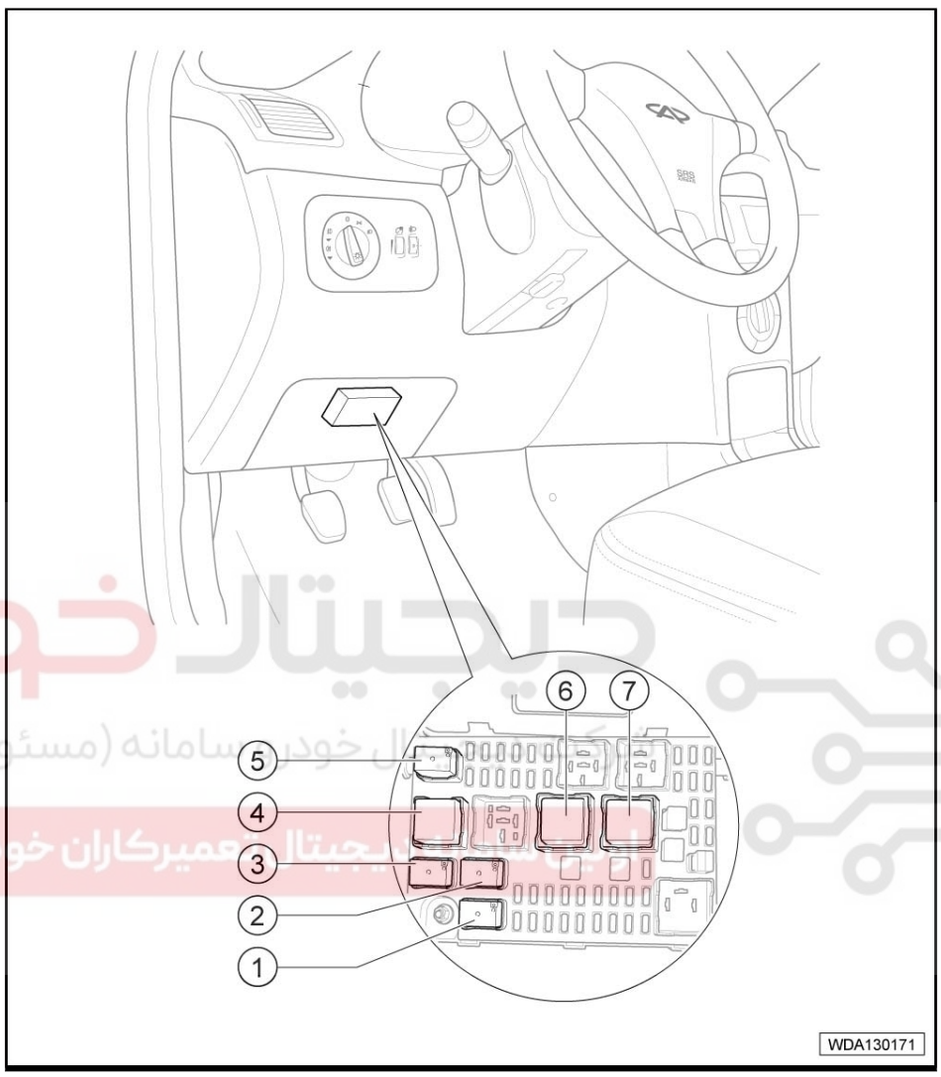
2.4.2 Front compartment fuse/relay box



No.	Connection piece	No.	Connection piece
1	Fan power supply	6	Starter
2	ABS controller 1	7	Generator
3	ABS controller 2	8	Fan low speed relay
4	Instrument fuse/relay box	9	Fan high speed relay

No.	Connection piece	No.	Connection piece
5	BCM (Body Control Module)		

2.4.3 Instrument fuse/relay box



No.	Connection piece	No.	Connection piece
1	Oil pump relay	5	High beam relay
2	A/C relay	6	Starter relay
3	Low beam relay	7	Blower relay
4	Electric injection control module relay		

3 Wiring Harness Layout

3.1 General information

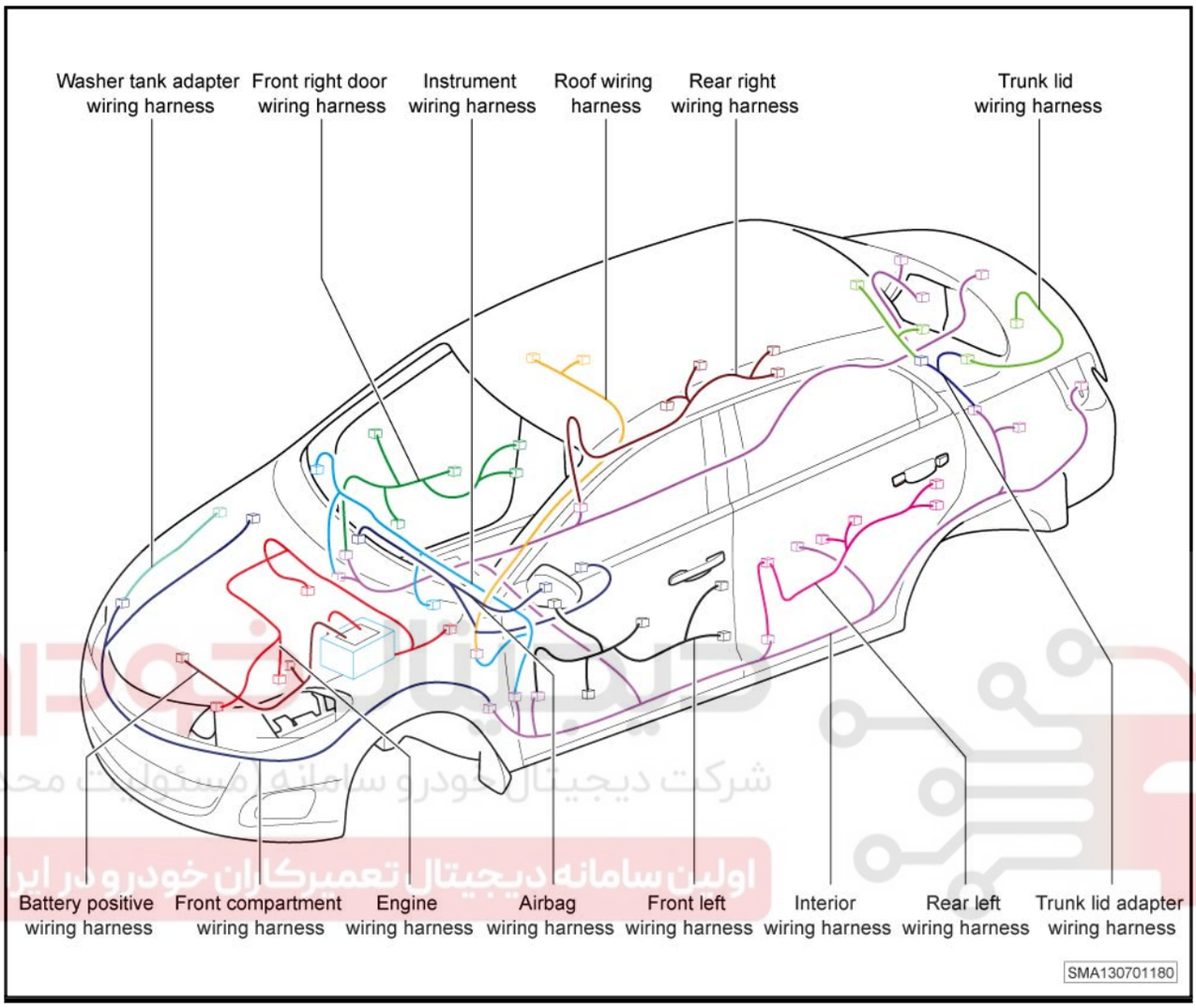
3.1.1 Introduction

The wiring harness layout introduces the location information of the wiring harness and electrical compoments in the vehichle to users in the form of figures. The whole vehicle wiring harness is divided into the following individual harnesses.

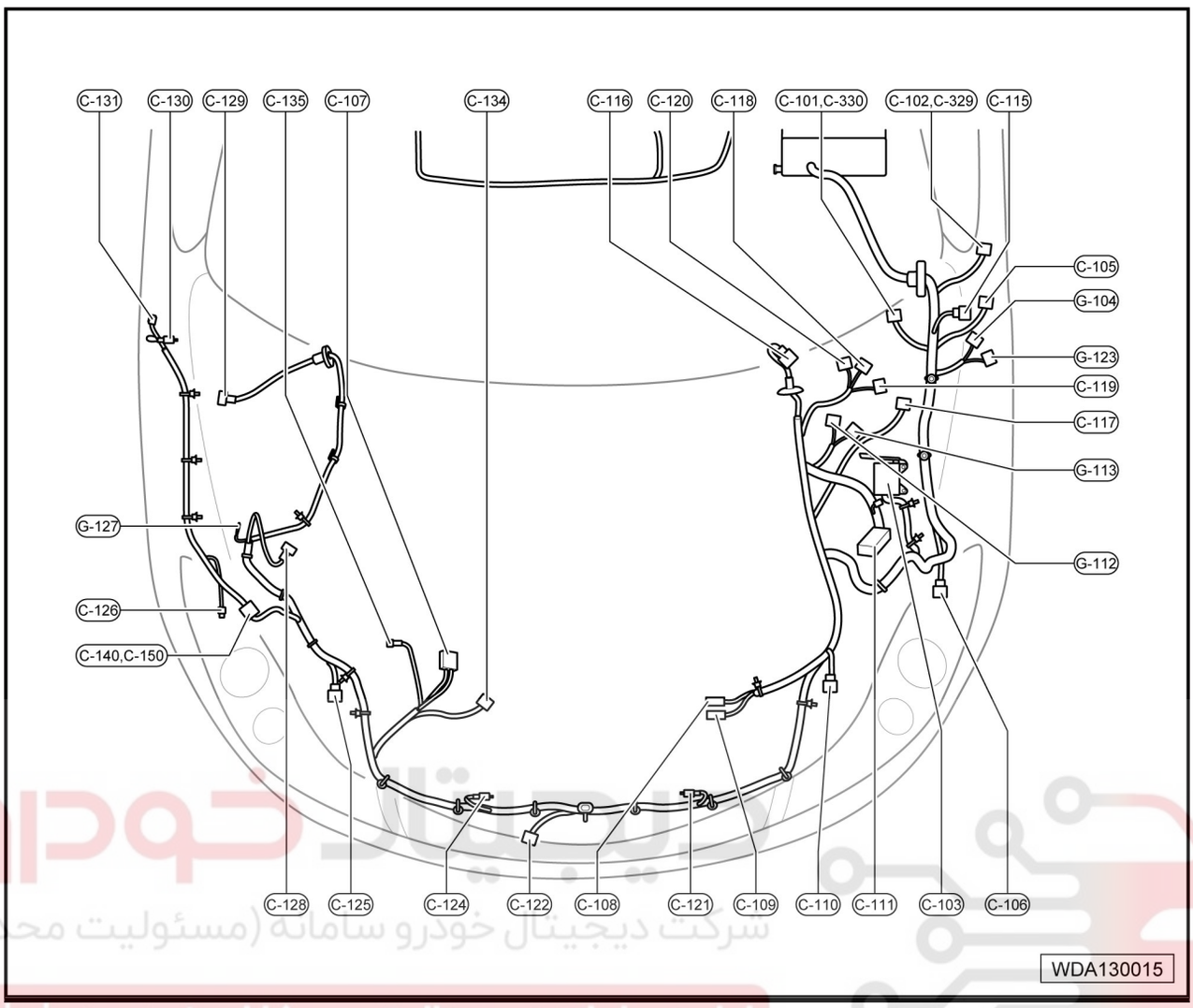
- Front compartment wiring harness
- Engine wiring harness
- Dashboard wiring harness
- Interior floor wiring harness
- Roof wiring harness
- Door wiring harness
- Trunk lid wiring harness
- Airbag wiring harness

3.2 Wiring harness layout and connector information

3.2.1 Overall vehicle wiring harness layout



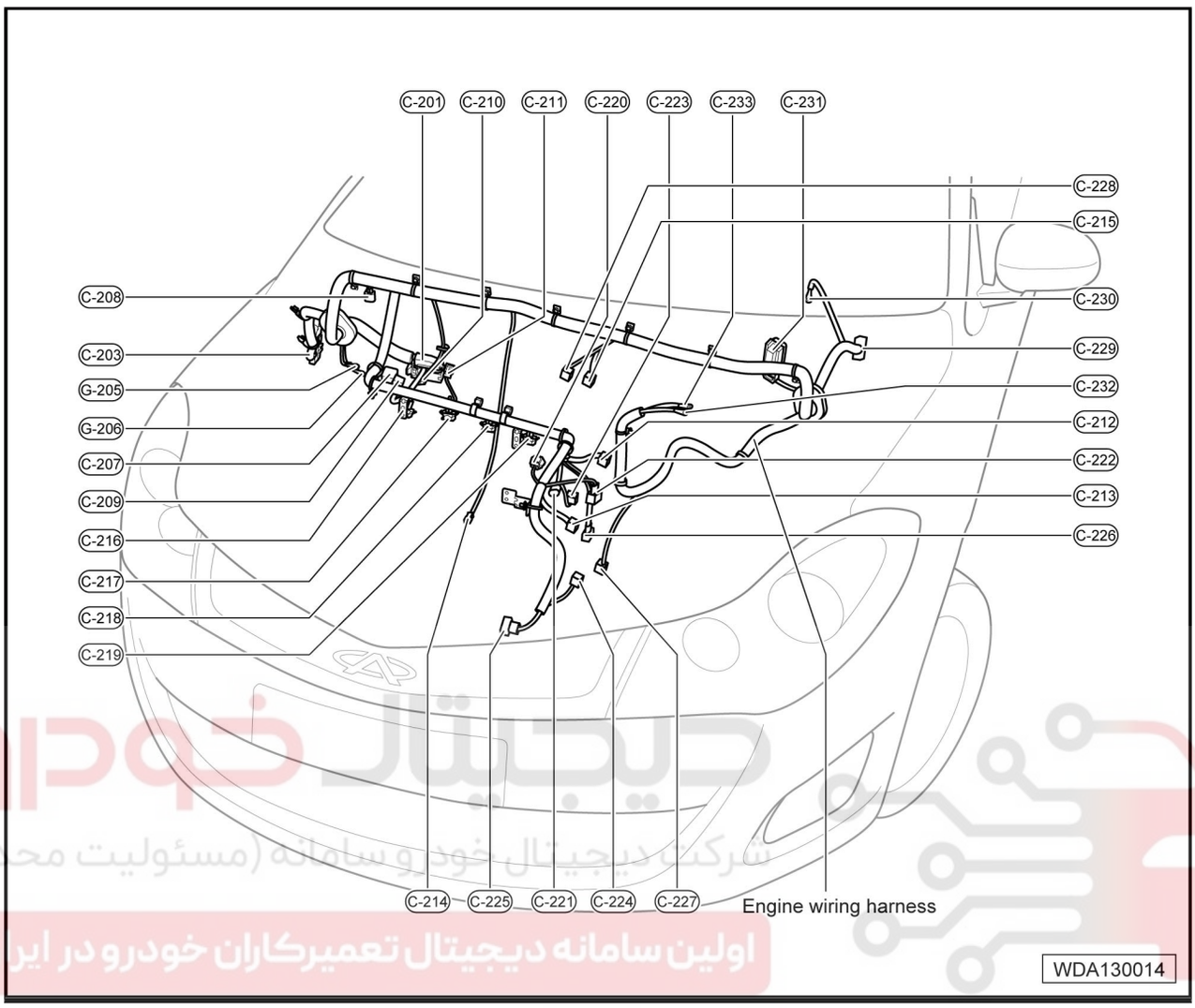
3.2.2 Front compartment wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-101	W/16-pin	Interior wiring harness connector
C-102	B/18-pin	Interior wiring harness connector
C-103	W/16-pin	Fuse box D connector
C-105	B/2-pin	Left turning signal light
C-106	W/2-pin	Front left fog lamp
C-107	B/1-pin	Power steering
C-108	B/3-pin	Fan motor connector A
C-109	B/3-pin	Fan motor connector B
C-110	B/10-pin	Left headlamp combination
C-111	B/38-pin	ABS controller connector
C-115	B/8-pin	Fan relay box
C-116	W/5-pin	Wiper motor connector
C-117	B/2-pin	Front left ABS wheel speed sensor
C-118	B/1-pin	Fan power
C-119	B/1-pin	ABS power supply A
C-120	B/1-pin	ABS power supply B
C-121	B/2-pin	Tweeter

Connector code	Connector color/pin No.	Connector name
C-122	W/2-pin	Exterior temperature sensor
C-124	B/2-pin	Subwoofer
C-125	B/10-pin	Right headlamp combination
C-126	W/2-pin	Front right fog lamp
C-128	B/2-pin	Coolant level sensor
C-129	B/2-pin	Front right ABS wheel speed sensor
C-130	W/2-pin	Front washer pump motor
C-131	B/2-pin	Right turning signal light
C-134	B/2-pin	A/C clutch connector
C-135	B/1-pin	Generator signal
C-140, C-150	B/6-pin	Front compartment wiring harness and washer tank wiring harness connector
C-182	B/1-pin	Starter
C-183	B/1-pin	Generator
G-104		Ground
G-112		Ground
G-113		Ground
G-123		Ground
G-127		Ground

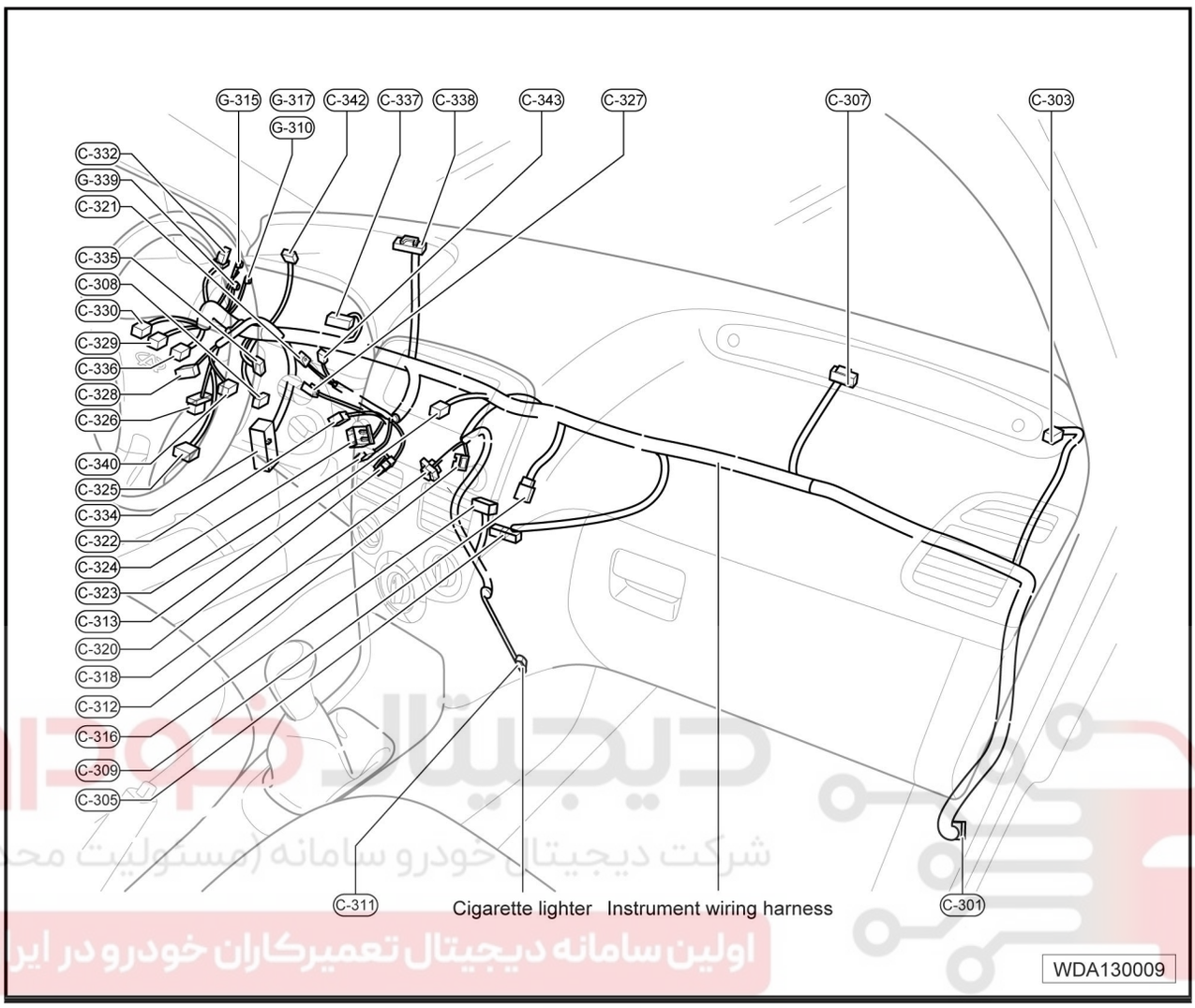
3.2.3 Engine wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-201	W/72-pin	ECM controller
C-202	B/73-pin	ECM controller
C-203	W/22-pin	Instrument wiring harness connector
C-207	B/4-pin	A/C pressure switch
C-208	B/2-pin	Anti-theft horn connector
C-209	B/2-pin	Carbon canister solenoid valve
C-210	B/3-pin	Knock sensor
C-211	B/4-pin	Intake temperature/pressure sensor
C-212	B/3-pin	Throttle position sensor
C-214	B/1-pin	Oil pressure
C-215	B/2-pin	Brake fluid level sensor
C-216	B/2-pin	Injection nozzle 1
C-217	B/2-pin	Injection nozzle 2
C-218	B/2-pin	Injection nozzle 3
C-219	B/2-pin	Injection nozzle 4

Connector code	Connector color/pin No.	Connector name
C-220	B/3-pin	Camshaft position sensor
C-221	B/2-pin	Water temperature sensor
C-222	B/4-pin	Ignition coil
C-223	B/3-pin	Engine speed sensor
C-224	B/2-pin	Reverse light switch
C-225	B/4-pin	Front oxygen sensor
C-226	B/3-pin	Mileage sensor
C-227	B/1-pin	Starter control cable
C-228	B/4-pin	Rear oxygen sensor
C-229	W/18-pin	Electrical box connector C-
C-230	B/1-pin	Fuse box power terminal
C-231	B/1-pin	Body controller power supply
C-232	B/1-pin	Fuse box 5
C-233	B/1-pin	Fuse box 4
C-234	B/4-pin	Stepper motor
G-205		Ground

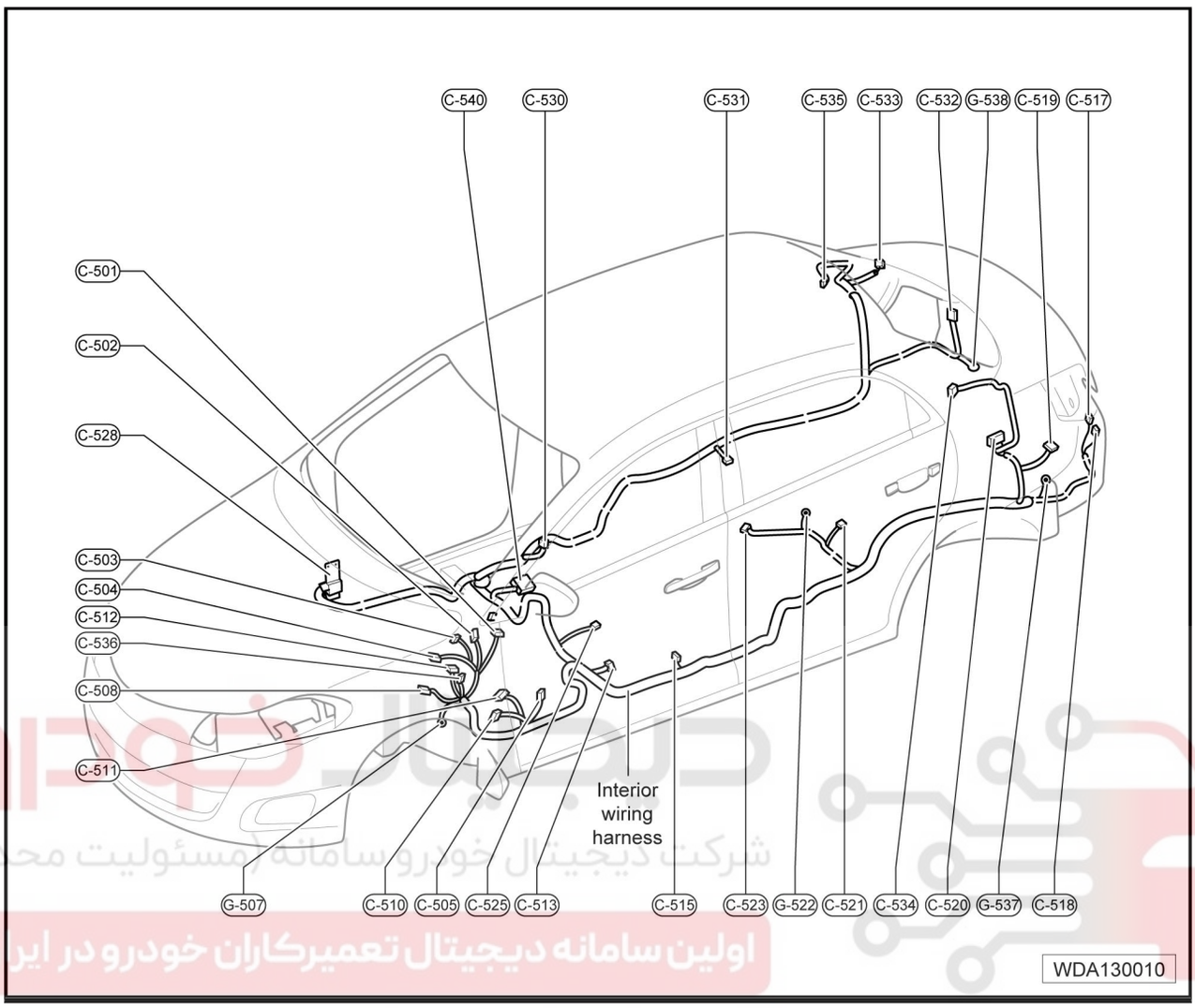
3.2.4 Dashboard wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-301	W/22-pin	Engine wiring harness connector
C-303	B/2-pin	Front right speaker connector
C-305	W/15-pin	A/C control panel connector
C-307	B/16-pin	Right instrument cluster
C-308	W/4-pin	Anti-theft indicator
C-309	B/6-pin	Radio connector
C-311	B/2-pin	Cigarette lighter connector
C-312	W/8-pin	Anti-theft module connector
C-313	B/6-pin	Accelerator pedal position sensor connector
C-316	B/6-pin	Warning light switch connector
C-318	B/4-pin	Brake switch connector
C-320	W/8-pin	Wiper switch connector
C-321	W/1-pin	Horn switch connector
C-322	W/4-pin	Key switch connector

Connector code	Connector color/pin No.	Connector name
C-323	W/2-pin	Ignition lock lighting connector
C-324	W/6-pin	Ignition switch connector
C-325	W/16-pin	Diagnostic module connector
C-326	W/6-pin	Headlamp adjusting switch connector
C-327	B/4-pin	Combination switch connector
C-328	B/10-pin	Headlamp combination switch connector
C-329	W/22-pin	Interior wiring harness connector
C-330	L/16-pin	Interior wiring harness connector
C-332	W/10-pin	Roof wiring harness connector
C-334	B/40-pin	Fuse box E connector
C-335	W/32-pin	Body controller connector
C-336	B/18-pin	Interior wiring harness connector
C-337	L/32-pin	Instrument cluster connector
C-338	B/16-pin	Left instrument cluster
C-340	W/3-pin	Lighting adjustment switch
C-342	W/4-pin	Connector
C-343	W/1-pin	Horn switch connector
G-310		Ground
G-315		Ground
G-317		Ground
G-339		Ground

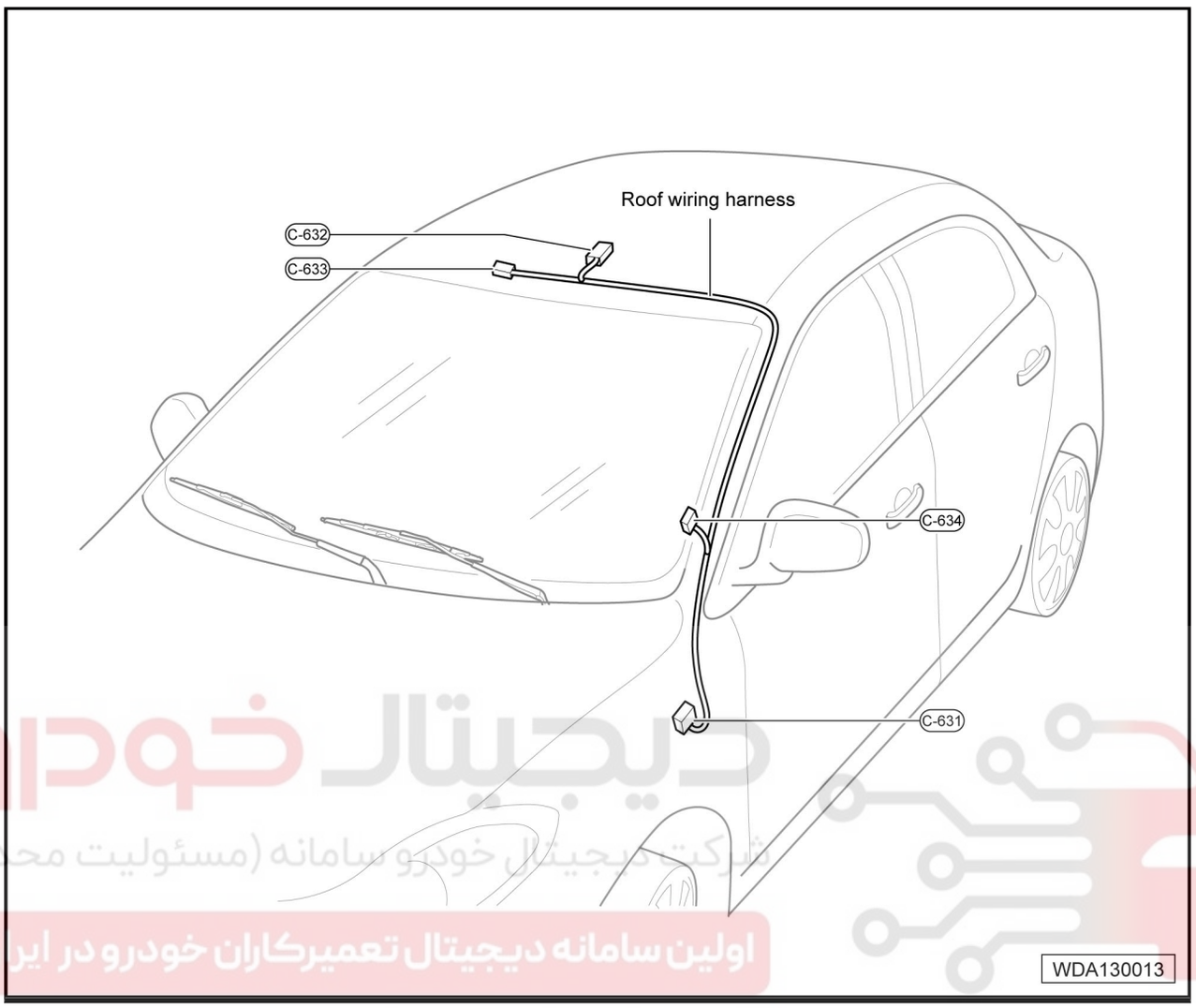
3.2.5 Interior wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-501	L/32-pin	Body controller connector
C-502	W/12-pin	Body controller connector
C-503	W/20-pin	Body controller connector
C-504	W/20-pin	Fuse box F connector
C-505	W/26-pin	Front left door wiring harness connector
C-508	W/22-pin	Instrument wiring harness connector
C-510	B/18-pin	Front compartment wiring harness connector
C-511	W/16-pin	Front compartment wiring harness connector
C-512	L/16-pin	Instrument wiring harness connector
C-513	B/4-pin	Fuel pump/fuel level sensor
C-515	W/10-pin	Rear left door wiring harness connector
C-517	B/6-pin	Left tail light connector

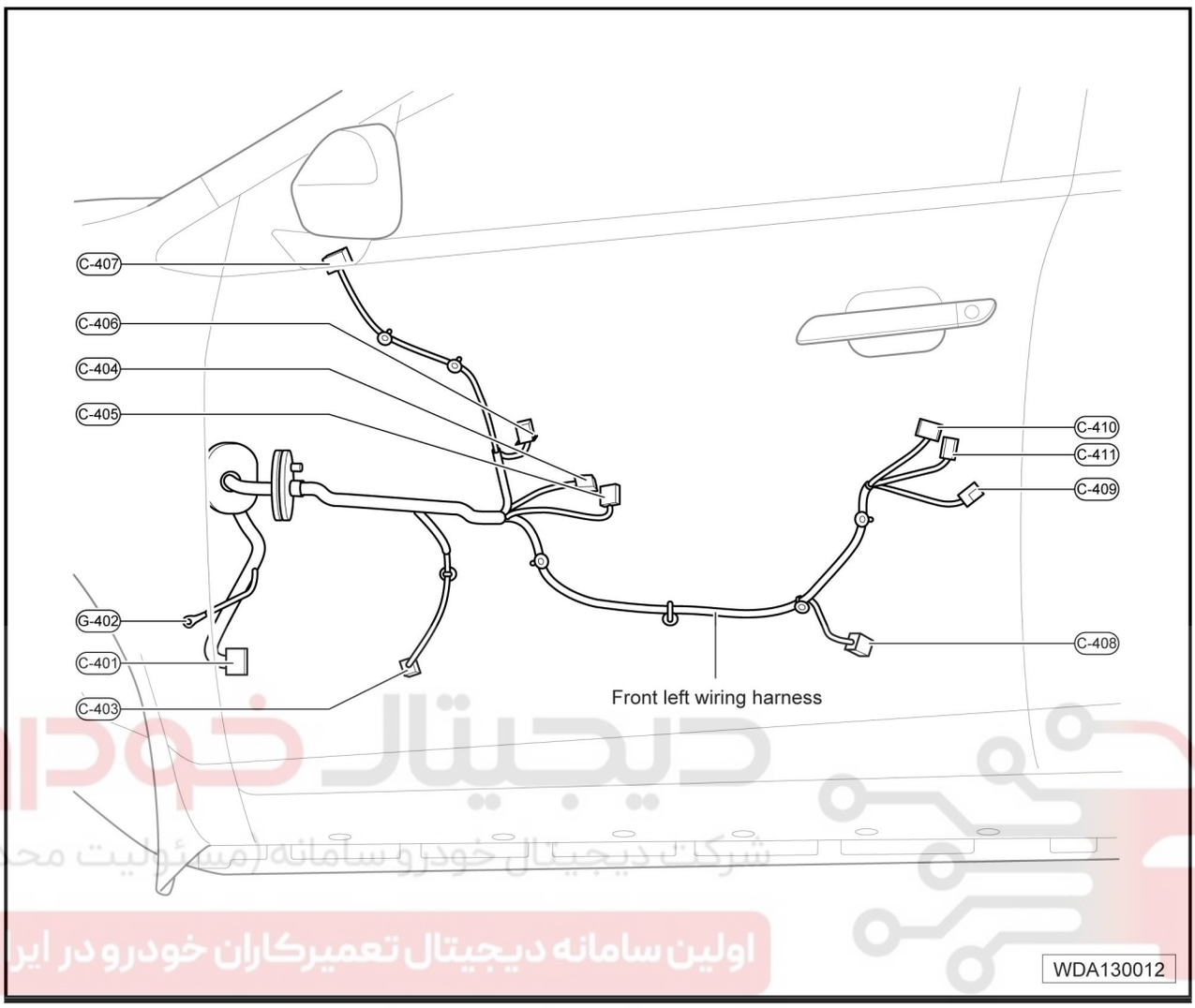
Connector code	Connector color/pin No.	Connector name
C-518	B/8-pin	Rear bumper wiring harness connector
C-519	W/16-pin	Radar module
C-520	B/6-pin	Trunk lid wiring harness connector
C-521	B/2-pin	Rear left ABS wheel speed sensor
C-523	B/4-pin	Fuel pump/fuel level sensor connector
C-525	B/1-pin	Parking brake switch
C-528	W/18-pin	Front passenger door wiring harness connector
C-530	W/10-pin	Rear right door wiring harness connector
C-531	W/2-pin	Rear right ABS wheel speed sensor
C-532	B/6-pin	Right tail light
C-533	B/2-pin	Luggage compartment light
C-535	B/2-pin	Rear right speaker connector
C-536	B/18-pin	Instrument wiring harness connector
C-539	B/2-pin	Rear left speaker connector
C-540	B/2-pin	Seat belt switch
G-507		Ground
G-522		Ground
G-537		Ground
G-538		Ground

3.2.6 Roof wiring harness layout



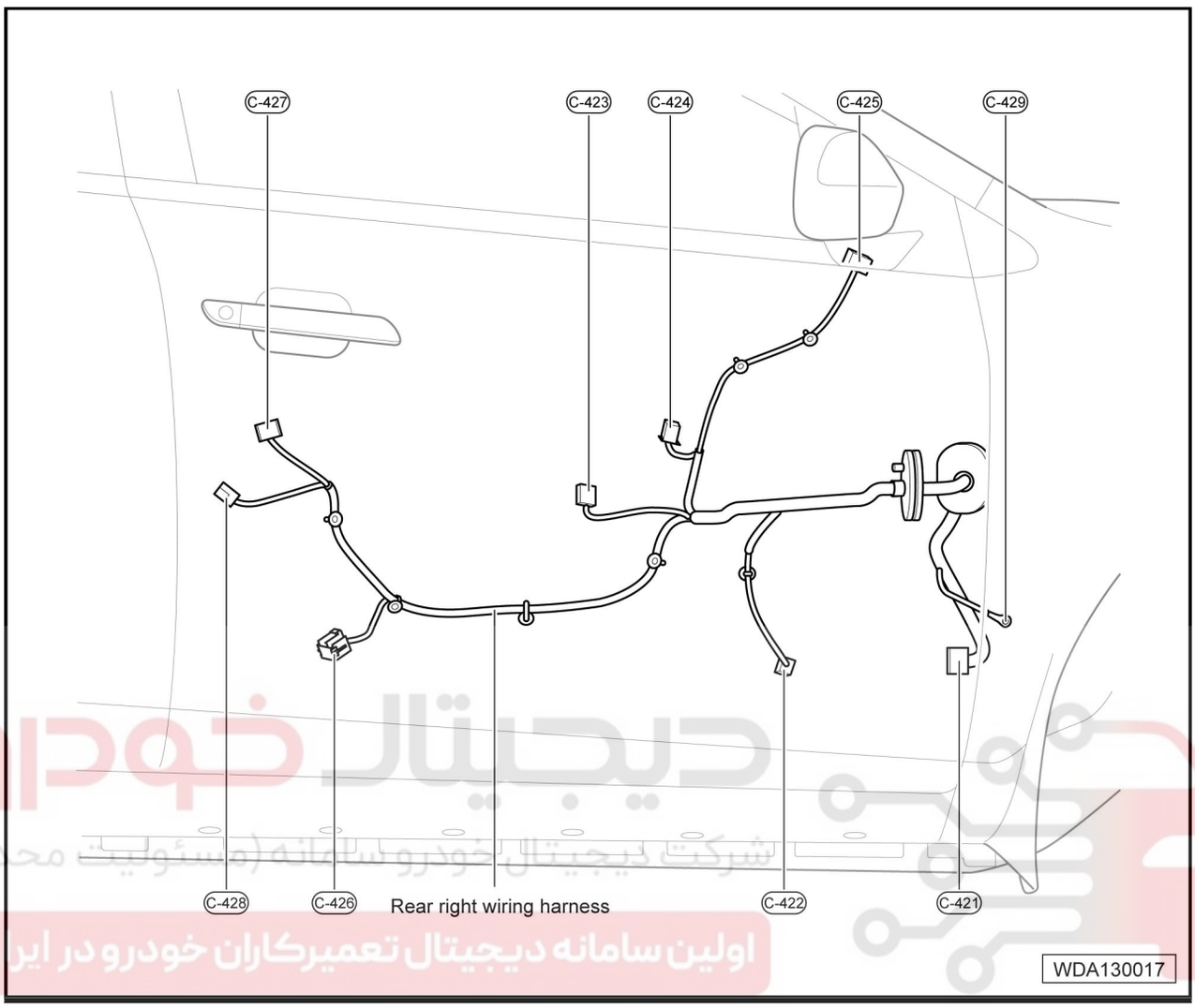
Connector code	Connector color/pin No.	Connector name
C-631	W/10-pin	Instrument wiring harness connector
C-632	W/6-pin	Roof light
C-633	W/1-pin	Antenna amplifier
C-634	B/2-pin	Front left speaker

3.2.7 Front left door wiring harness layout



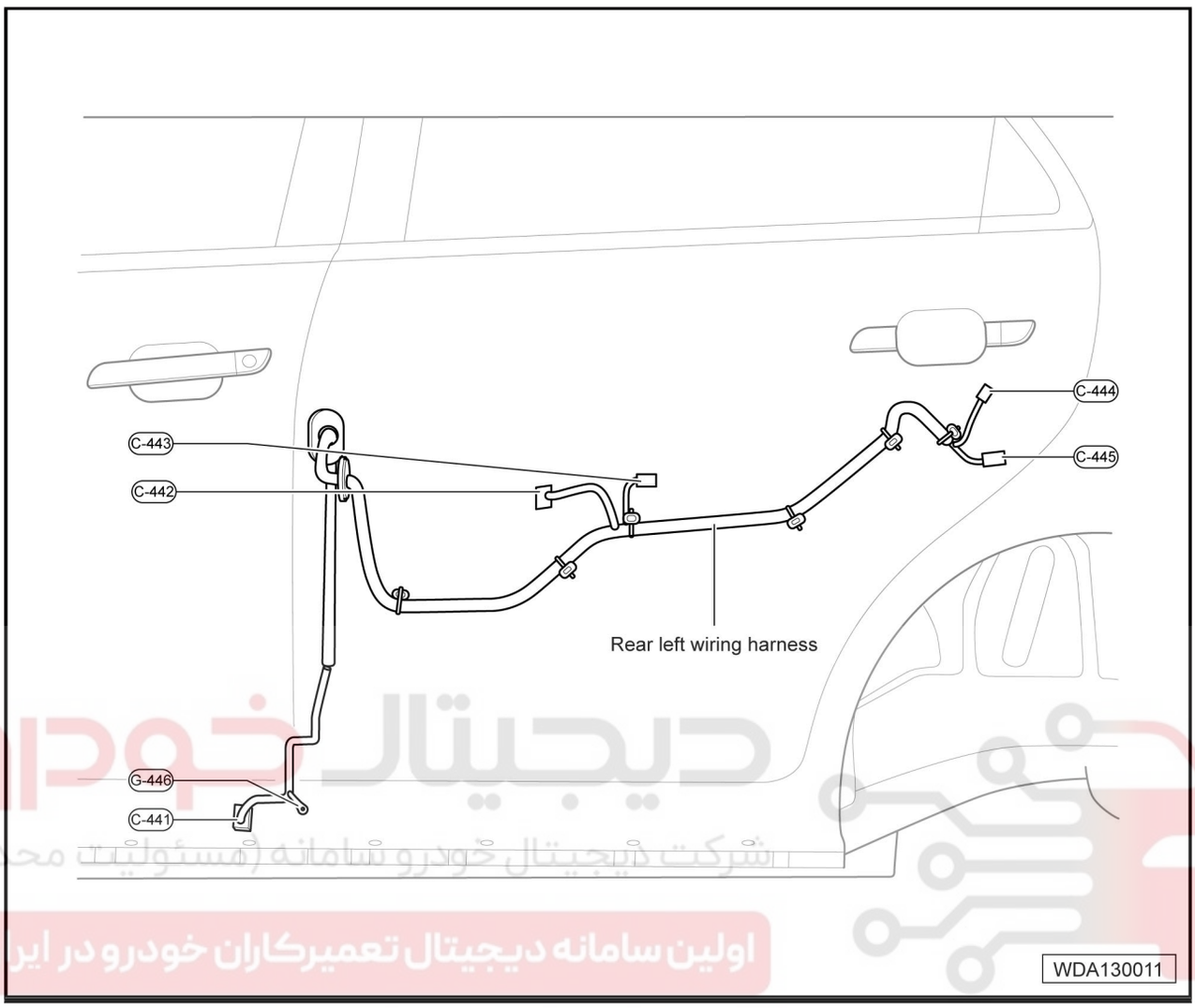
Connector code	Connector color/pin No.	Connector name
C-401	W/26-Pin	Interior wiring harness connector
C-403	B/2-Pin	Front left speaker
C-404	B/10-Pin	Rearview mirror switch
C-405	BR/16-Pin	Power window switch
C-406	B/2-Pin	Left power window motor
C-407	B/6-Pin	Left rearview mirror
C-408	B/2-Pin	Courtesy light on the driver's side
C-409	B/2-Pin	Front left door contact switch connector
C-410	B/3-Pin	Door-lock motor on the driver's side
C-411	B/3-Pin	Central door lock
G-402		Ground

3.2.8 Front right door wiring harness layout



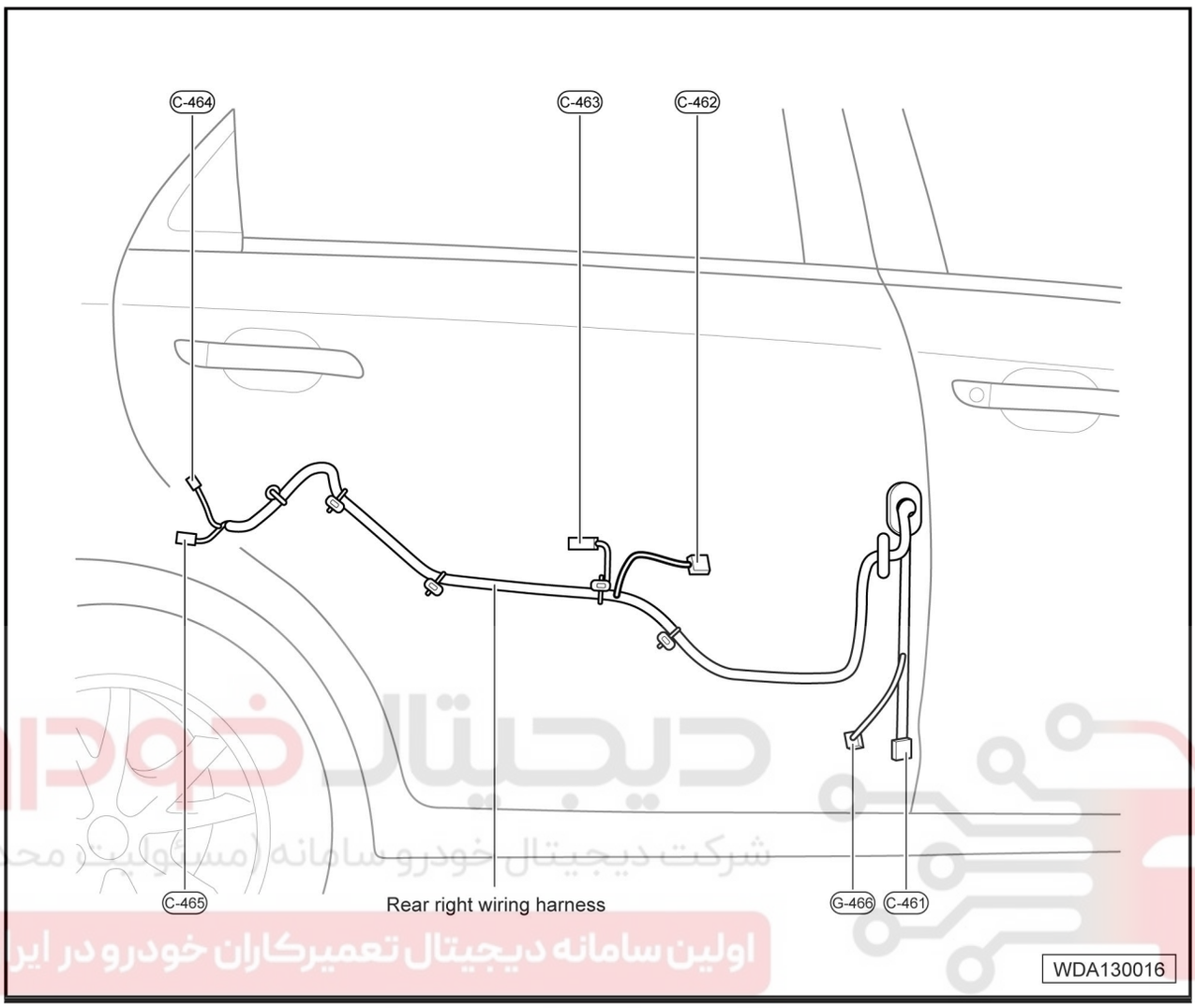
Connector code	Connector color/pin No.	Connector name
C-421	W/18-Pin	Interior wiring harness connector
C-422	B/2-Pin	Front right speaker
C-423	BR/10-Pin	Power window switch connector
C-424	B/2-Pin	Right power window motor
C-425	B/6-Pin	Right rearview mirror
C-426	B/2-Pin	Courtesy light on the front passenger's side
C-427	B/2-Pin	Contact switch on the front passenger's side
C-428	B/3-Pin	Door-lock motor on the front passenger's side
G-429		Ground

3.2.9 Rear left door wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-441	W/10-Pin	Interior wiring harness connector
C-442	BR/10-Pin	Rear left power window switch
C-443	B/2-Pin	Left power window motor
C-444	B/2-Pin	Rear left contact switch
C-445	B/3-Pin	Rear left door-lock motor
G-446		Ground

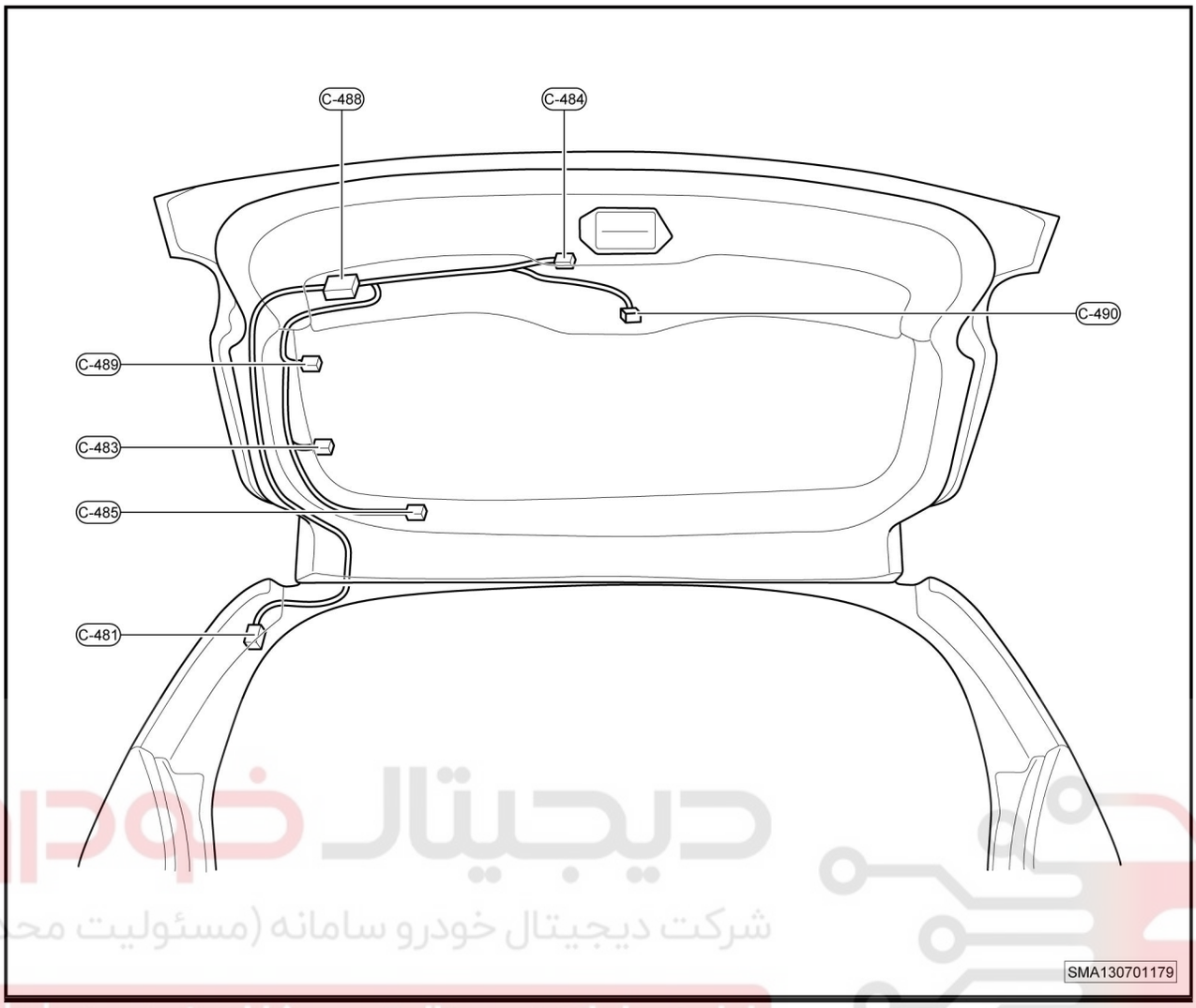
3.2.10 Rear right door wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-461	W/10-Pin	Interior wiring harness connector
C-462	BR/10-Pin	Rear right power window switch
C-463	B/2-Pin	Right power window motor
C-464	B/2-Pin	Rear right contact switch
C-465	B/3-Pin	Rear right door-lock motor
G-466		Ground

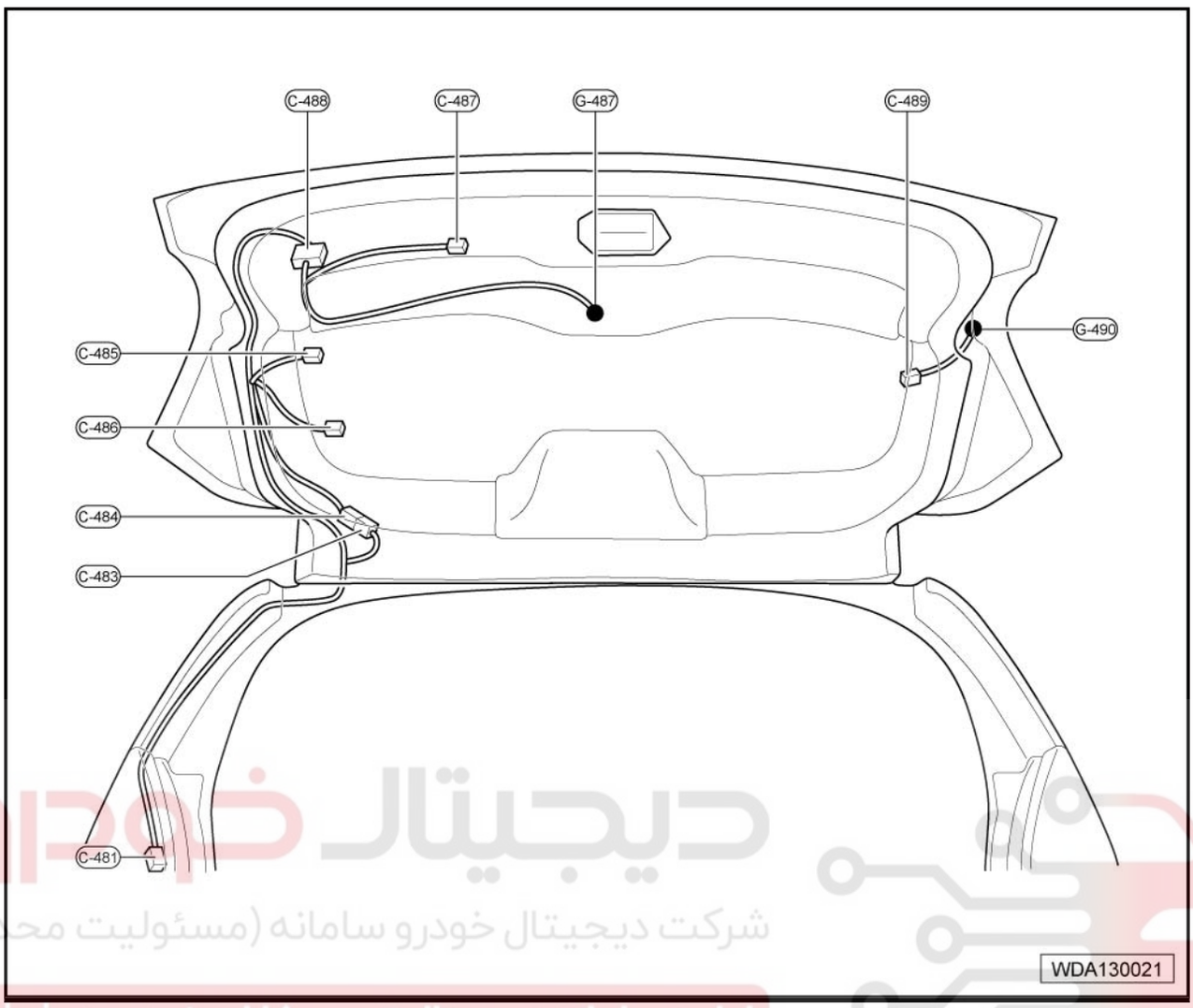
3.2.11 Trunk lid wiring harness layout

Two-box model



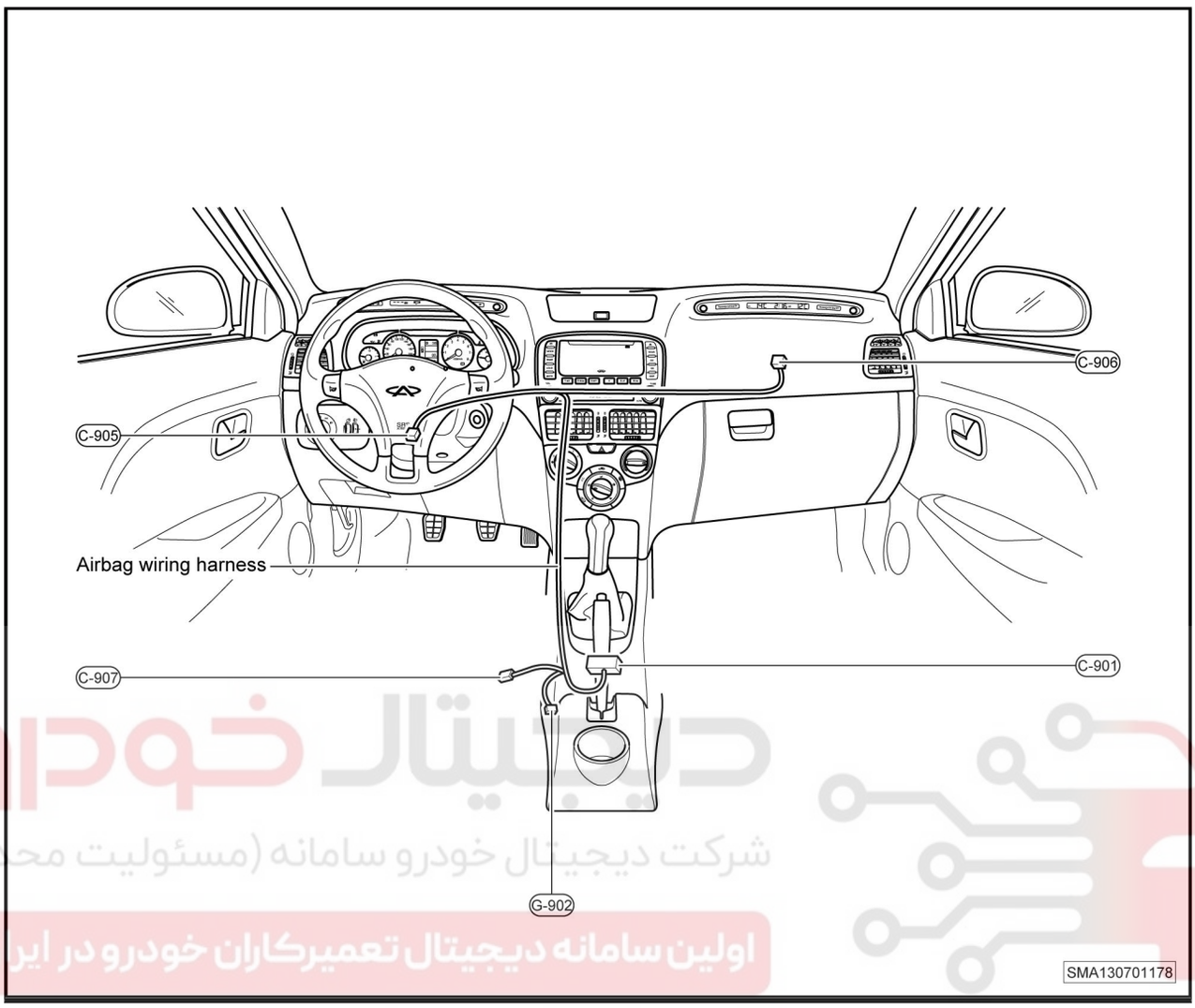
Connector code	Connector color/pin No.	Connector name
C481	W/6-Pin	Interior wiring harness connector
C483	B/2-Pin	Defroster positive pole (+)
C484	B/2-Pin	Adapter
C485	B/3-Pin	Trunk lid door-lock connector
C486	B/1-Pin	High-level brake lamp
C488	B/4-Pin	Adapter
C489	B/1-Pin	Defroster negative pole (-)

Three-box model



Connector code	Connector color/pin No.	Connector name
C-481	W/6-Pin	Interior wiring harness connector
C-483	W/2-Pin	Adapter
C-484	W/2-Pin	Adapter
C-485	B/1-Pin	Defroster positive pole (+)
C-486	B/1-Pin	High-level brake lamp
C-487	W/3-Pin	Trunk lid door lock
C-488	W/4-Pin	Adapter
C-489	B/1-Pin	Defroster negative pole (-)
G-487		Ground
G-490		Ground

3.2.12 Airbag wiring harness layout



Connector code	Connector color/pin No.	Connector name
C-901	Y/50-pin	Airbag control module
C-905	Y/2-pin	Driver airbag
C-906	Y/2-pin	Front passenger airbag
C-907	Y/6-pin	Interior floor wiring harness
G-902		Ground