



## STARTING AND RECHARING

## IGNITION AND RECHARGING - DESCRIPTION

The ignition and recharging circuit comprises the battery, starter motor and alternator.

The starter motor consists of a d.c. motor supplied by the battery and an excitation electromagnet.

With the alternator still with the ignition key in the ON position, the warning light in the instrument panel comes on and sends a power supply to the voltage regulator built into the alternator via terminal D+.

In these conditions the energizing circuit (rotor) is enabled to earth by the regulator electronics.

With the alternator rotating through the effect of the variation of the rpm and the magnetic field, a three-phase alternating voltage is produced in the electrical circuit (stator) which rectified by the diode bridge can exit terminal B+.

When the upper fixed calibration level (13.7 - 14.2 V) is reached it charges the battery and supplies the system.

The engine control unit and Body Computer monitor the efficiency of the recharging system:

- the engine control unit sends signal D+ to the Body Computer that monitors the efficiency of the alternator recharging system by recording two parameters: the voltage signal from alternator terminal D+ and the engine rpm signal that also receives signals from the engine control unit via the CAN.

- at key-on while the voltage is less than approx 5.5V, the Body Computer indicates that recharging is insufficient; when the voltage exceeds 5.5V, the warning light goes off. If - with the engine running (rpm higher than 700) - the voltage drops below a threshold of 4.5 V, the warning light comes on in fixed manner, accompanied by a message on the display.

## IGNITION AND RECHARGING - FUNCTIONAL DESCRIPTION

When the ignition key for switch H1 is turned to the extreme position (AVV) pin 50 - the starter motor A20 solenoid winding is supplied - pin 50.

This power supply comes from the battery via the line for fuse F3 of the engine compartment junction unit B1.

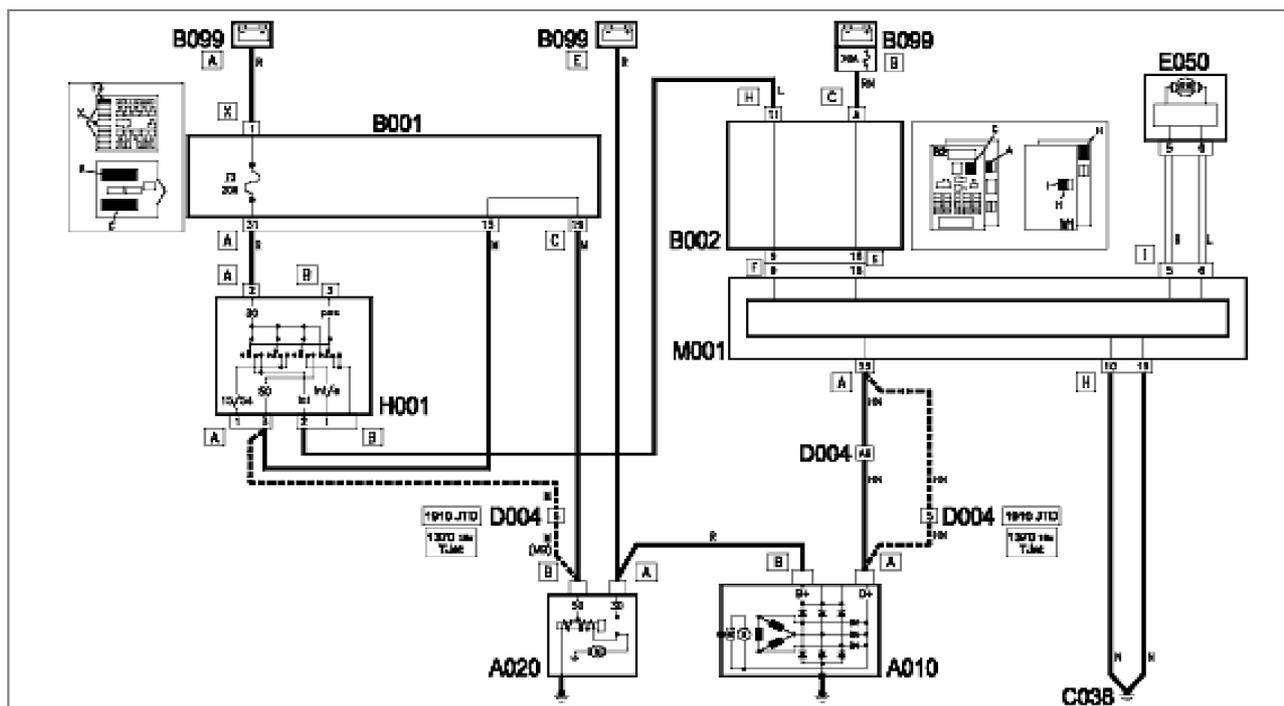
Pin 30 of A20, the actual starter motor, receives a power supply from the voltage coming directly from the battery A1.

The continuous current produced by the alternator A10 (pin B+) is sent to the battery A1, passing through the motor A20.

When the alternator is not turning and therefore not recharging the battery, an earth signal is sent from pin D+ to the Body Computer M1 - pin 25 of connector A: the latter is connected via the CAN line to the instrument panel E50 and manages the switching on of the recharging warning light in the instrument panel and the display of any messages as described above.

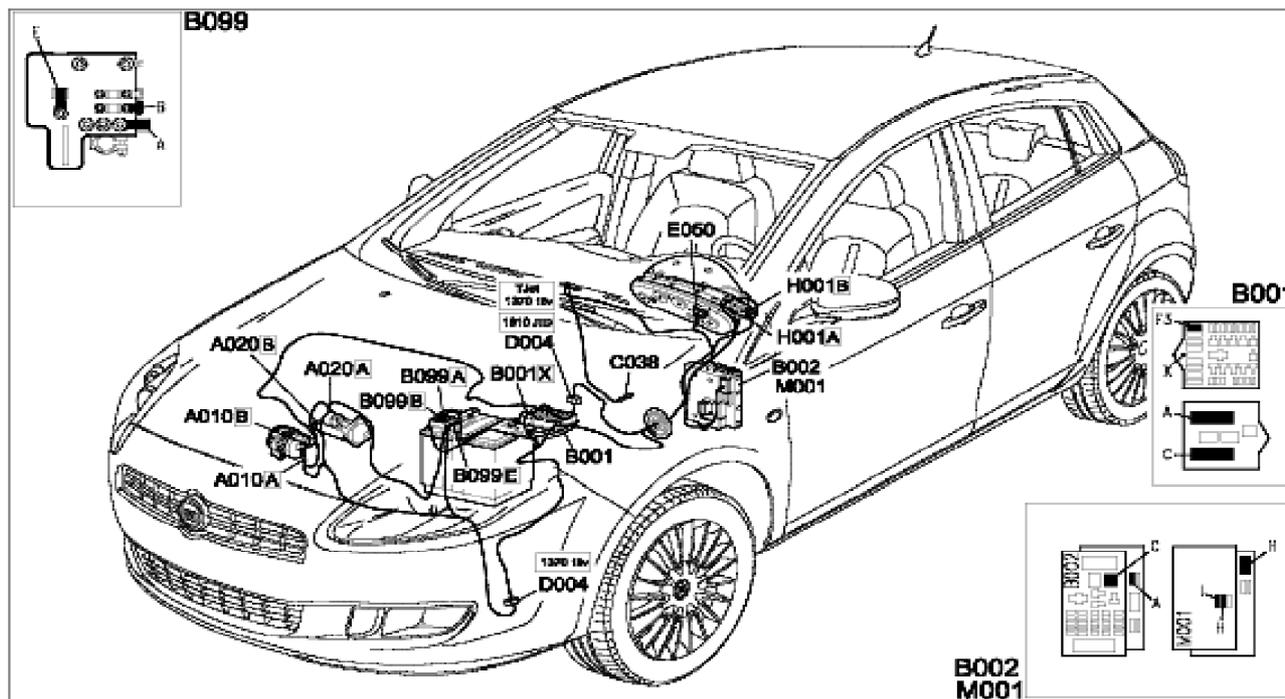
The Body Computer M1 is supplied directly from the battery via line protected by maxifuse B99 at pin 18 of connector F that interfaces with the junction unit under the dashboard B2 .

### IGNITION AND RECHARGING - WIRING DIAGRAM



Component code	Description	Reference to the operation
A001	BATTERY	Op. 5530B10 BATTERY - R+R
A010	ALTERNATOR	Op. 5530A10 ALTERNATOR - R+R
A020	STARTER MOTOR	Op. 5520B10 STARTER MOTOR - R+R
B001	JUNCTION UNIT	Op. 5505A13 ADDITIONAL JUNCTION UNIT IN ENGINE COMPARTMENT - R.R.
B002	JUNCTION UNIT UNDER DASHBOARD	Op. 5505A35 MAIN BODY COMPUTER/JUNCTION UNIT - R.R.
B099	MAXI FUSE BOX ON BATTERY	-
C038	EARTH ON CENTRE TUNNEL	-
D004	FRONT/ENGINE COUPLING	-
E050	INSTRUMENT PANEL	Op. 5560B10 CONTROL PANEL - R+R
H001	IGNITION SWITCH	Op. 5520A10 IGNITION SWITCH ASSEMBLY - R+R
M001	BODY COMPUTER	Op. 5505A35 MAIN BODY COMPUTER/JUNCTION UNIT - R.R.

## IGNITION AND RECHARGING - COMPONENT LOCATION



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A001	BATTERY	Op. 5530B10 BATTERY - R+R
A010	ALTERNATOR	Op. 5530A10 ALTERNATOR - R+R
A020	STARTER MOTOR	Op. 5520B10 STARTER MOTOR - R+R
B001	JUNCTION UNIT	Op. 5505A13 ADDITIONAL JUNCTION UNIT IN ENGINE COMPARTMENT - R.R.
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