



ΕΚΚΙΝΗΣΗ ΚΑΙ ΦΟΡΤΙΣΗ

300 - Qubo

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 energizing 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 in 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 is reached (13.7 - 14.2 V) the battery is charged and the system supplied.

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

- the engine management control unit sends the D+ signal to the Body Computer which 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 is also received from the engine management 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, on the other hand, with the engine running (rpm higher than 700), the voltage drops below a threshold of 4.5 V, the warning light comes on constantly, possibly accompanied by a message in the display.

IGNITION AND RECHARGING - FUNCTIONAL DESCRIPTION

The Body Computer M001 - connector A - receives a direct power supply from the battery through the line protected by maxi fuse F01 of the engine compartment junction unit B001.

Pin 9 of connector E of M001 provides the Body Computer with a reference earth.

The ignition switch H001 is supplied by the engine compartment junction unit B001 via the line protected by fuse F03.

In the ON position, numerous protected ignition-operated circuits and services are supplied (INT and 15/54 lines): the ignition-operated signal 15/54 is sent to the engine compartment junction unit B001, whilst the INT signal is sent to the Body Computer M001, to pin 11 of connector E.

The ignition-operated signal INT/A, however, is sent to Body Computer M001 at pin 1 of connector E.

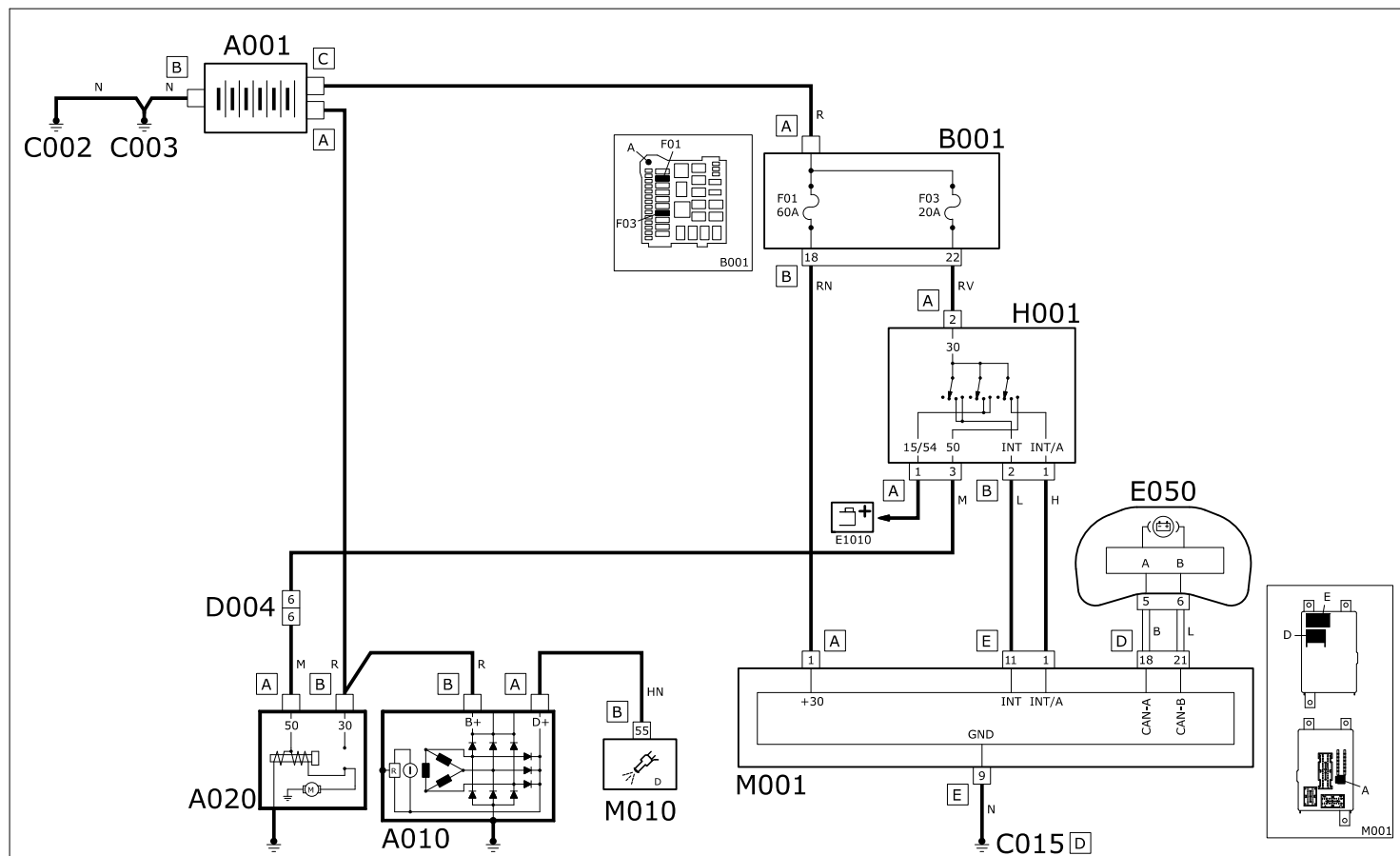
When the ignition key for switch H1 is turned to the extreme position (AVV) pin 50 - the starter motor A020 solenoid winding is supplied - pin 50.

Pin 30 of A020 - connector B - i.e. the actual starter, is supplied by the voltage coming directly from the battery A1.

The direct current produced by the alternator A010 (pin B+) - connector B - is sent to the battery A1, through the starter A020.

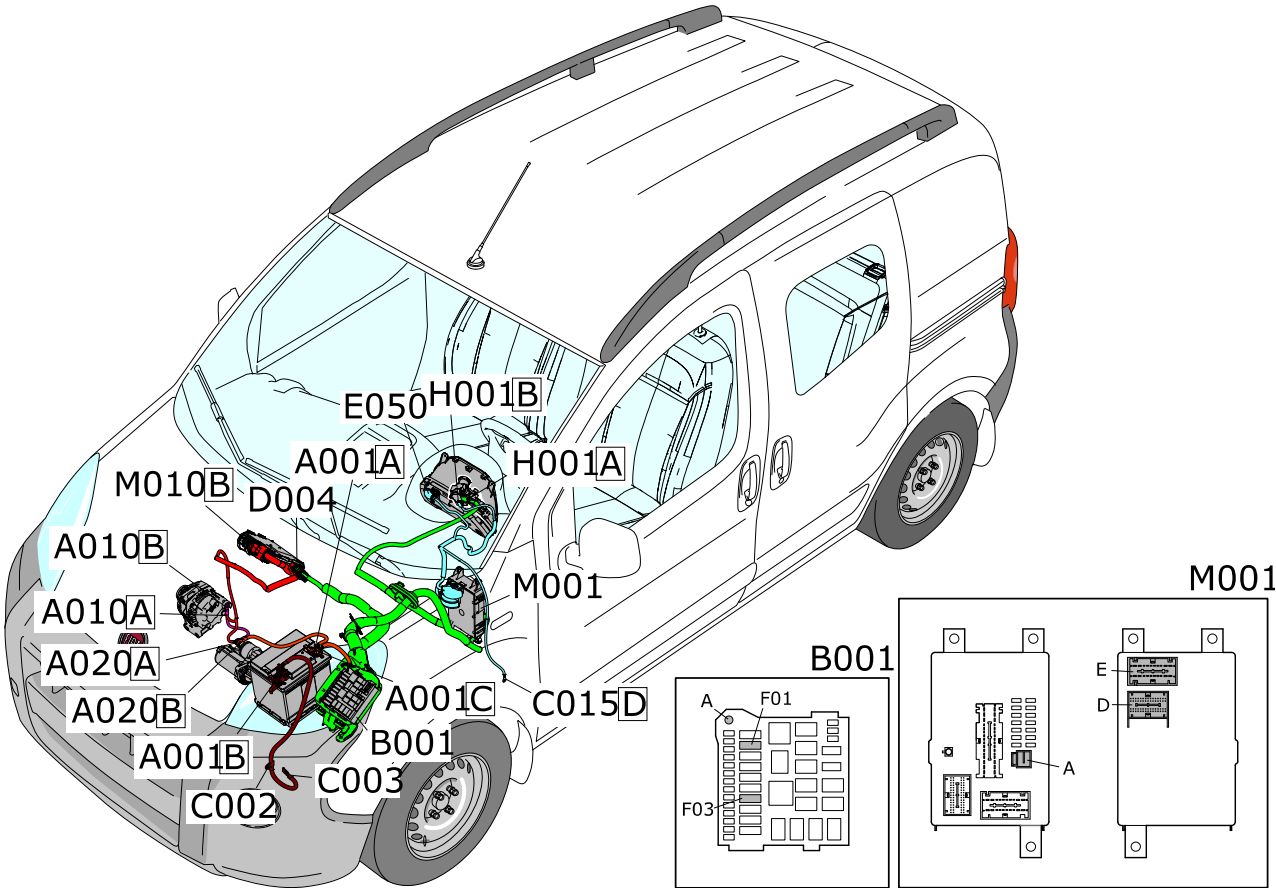
When the alternator does not turn and does not therefore recharge the battery, an earth signal is sent from pin D+ connector A of A010 to engine control unit M010 - pin 55 of connector B: this is connected via the CAN line to Body Computer M001 and to instrument panel E050 and manages, as described above, activation of the generator warning light on the instrument panel.

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. 5505A28 CONTAINER FOR ADDITIONAL JUNCTION UNIT IN ENGINE COMPARTMENT - R.R.
C002	BATTERY EARTH ON ENGINE	Op. 5530B22 BATTERY EARTH LEAD - R+R
C003	BATTERY EARTH ON BODY SHELL	Op. 5530B22 BATTERY EARTH LEAD - R+R
C015	DASHBOARD EARTH, DRIVER'S SIDE	-
D004	FRONT/ENGINE COUPLING (ENGINE)	-
E050	INSTRUMENT PANEL	Op. 5560B10 CONTROL PANEL - R+R
H001	IGNITION SWITCH	Op. 5520A18 IGNITION SWITCH CONTACT CARRIER LOCK BARREL - R.R.
M001	BODY COMPUTER	Op. 5505A35 MAIN BODY COMPUTER/JUNCTION UNIT - R.R.
M010	ENGINE MANAGEMENT CONTROL UNIT	Op. 1060G80 DIESEL ELECTRONIC INJECTION CONTROL UNIT - R.R.

IGNITION AND RECHARGING - COMPONENT LOCATION



Component Code	Description	Reference to the operation
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