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AVVIAMENTO E RICARICA

191 - Giulietta

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IGNITION AND RECHARGING - DESCRIPTION

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

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

With the alternator still and the ignition key in the MAR-ON position, the warning light in the instrument panel comes on and supplies the voltage regulator built into the alternator via terminal D+.

In these conditions the energising 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 efficiency of the recharging system is controlled by the Body Computer:

- 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 5.5 V, the Body Computer indicates that recharging is insufficient; when the voltage exceeds 5.5 V, 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.

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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 control unit B001.

Pin 11 of connector G 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 MAR-ON position, many 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 2 of connector G.

The ignition-operated signal "INT/A", however, is sent to the Body Computer M001 at pin 9 of connector G.

Rotating the ignition key of the switch H001 to the extreme position (AVV) - pin 50 - the electromagnet winding for the starter A020 is supplied, pin 50.

Pin 30 of A020 - connector A - i.e. the actual motor, receives a power supply with the voltage coming directly from the battery through the junction box B099.

The direct current produced by the alternator A010 (pin B+), connector B, is sent to the battery A001, passing through the motor 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 15 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.

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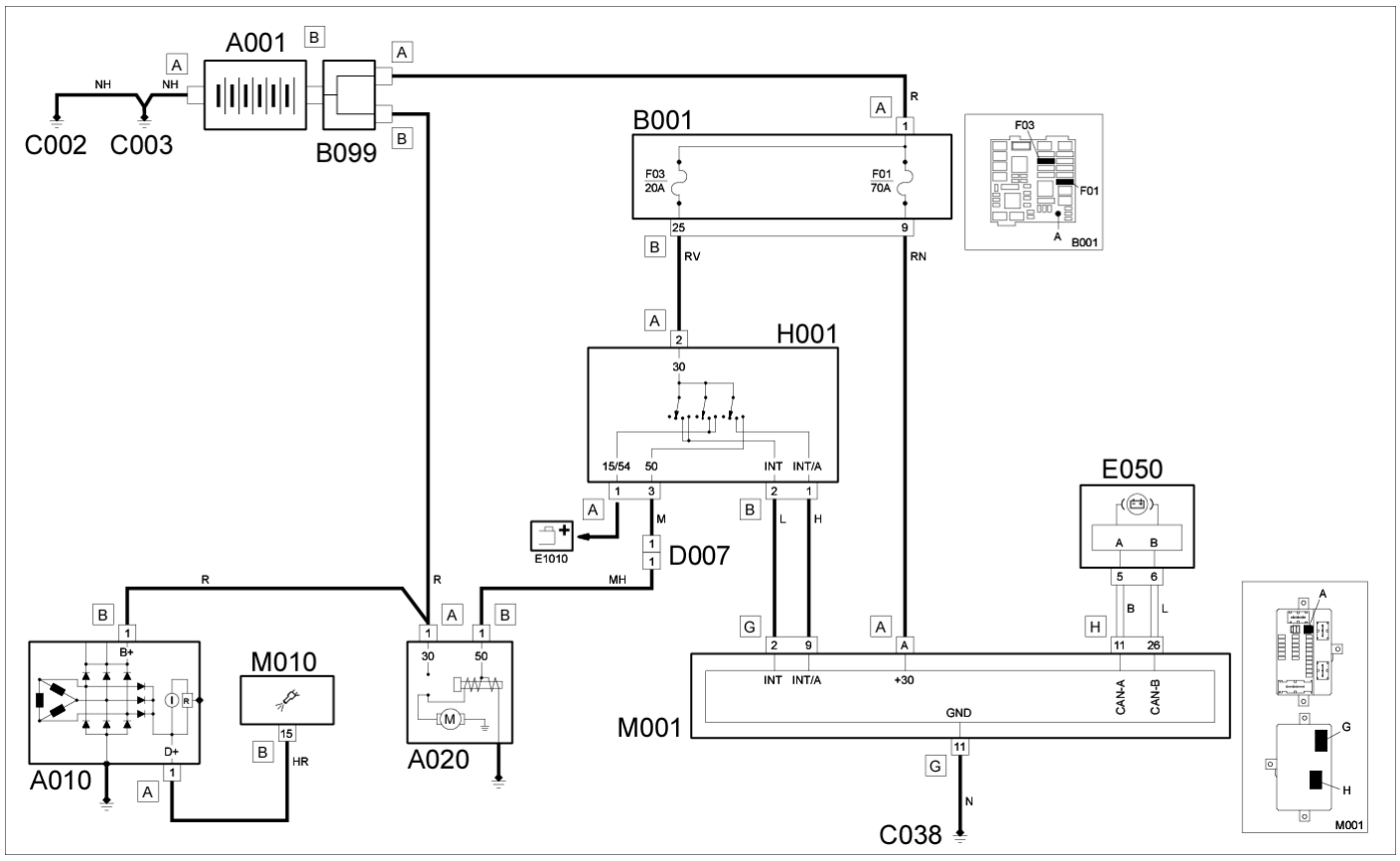
IGNITION AND RECHARGING - WIRING DIAGRAM



Component Code	Name	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.
B099	MAXI FUSE BOX ON BATTERY	Op. 5530B40 SUPPLY BOX ON BATTERY (LINK BATTERY AND FUSE BOX) - R R
C002	BATTERY EARTH ON ENGINE	Op. 5530B22 BATTERY EARTH LEAD - R+R
C003	BATTERY EARTH ON BODYSHELL	Op. 5530B22 BATTERY EARTH LEAD - R+R
C038	EARTH ON CENTRE TUNNEL	-
D007	ALTERNATOR COUPLING	-
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. 1056B82 INJECTION/IGNITION SYSTEM E.C.U. (ONE) - R + R

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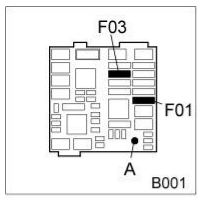
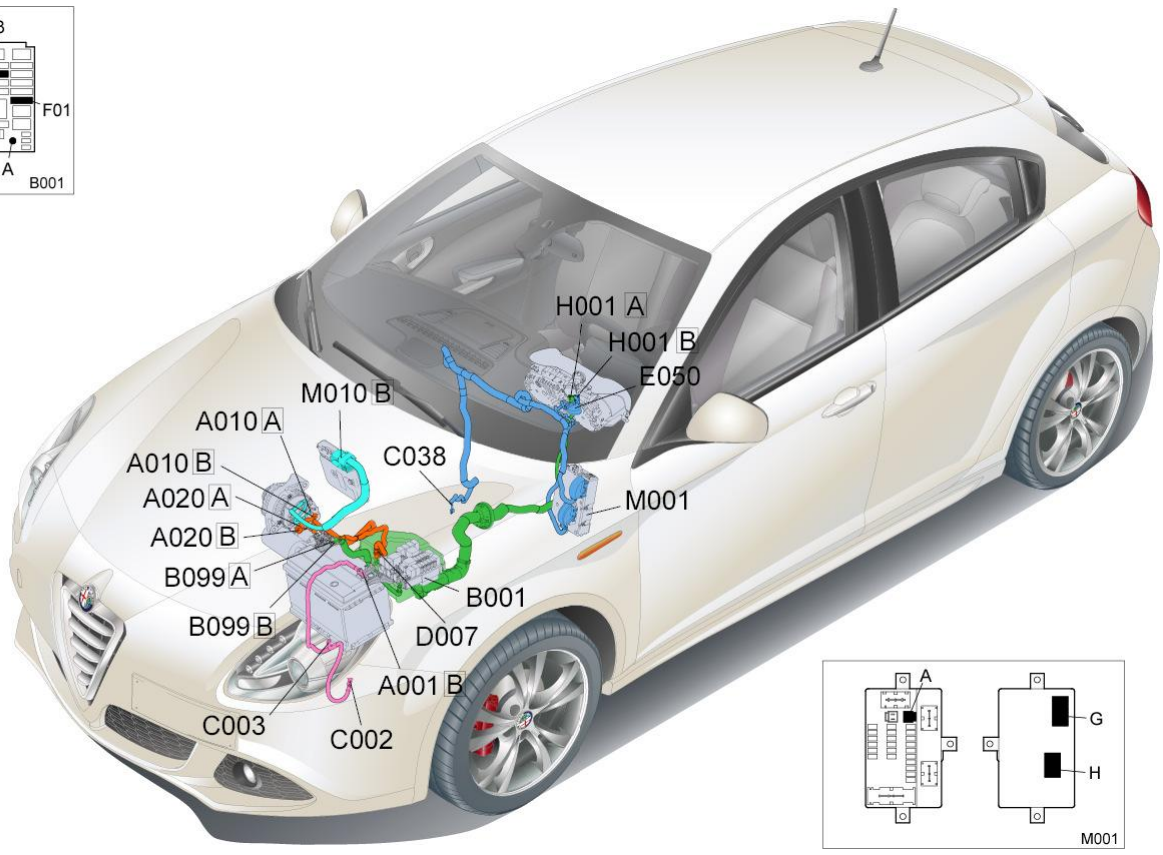
IGNITION AND RECHARGING - COMPONENT LOCATION





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