



STARTING AND RECHARING

STARTING AND RECHARGING - DESCRIPTION

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

The battery (12V) is low maintenance type.

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

When the ignition key is turned as far as it will go (AVV), the motor windings are supplied to generate the electromagnetic forces that are used to turn the starter motor pinion. This simultaneously activates the electromagnet that operates the mechanism that causes the pinion to mesh with the flywheel ring gear and thus turn the crankshaft.

The alternator recharges the battery during normal engine rotation.

The alternator shaft (rotor) is turned by the crankshaft via a belt. When supplied by an excitation current, the rotor generates a magnetic field that sets up an alternating current in the fixed winding (stator).

A diode rectifier bridge at the back of the alternator allows the alternating current to be transformed into a direct current that is sent to recharge the battery.

A voltage regulator built into the alternator maintains the power supply at a constant voltage (around 14 V) throughout all load variation and engine speed ranges.

Recharging system efficiency is controlled by the Body Computer, which measures the D+ signal from the alternator with the engine running.

If the voltage measured is insufficient, the associated warning light in the instrument panel comes on and a message appears on the display.

As an option, an upgraded potentiometer (160A) that is designed for connection to oversized cable cross-sections may be fitted.

STARTING AND RECHARGING - FUNCTIONAL DESCRIPTION

The M001 Body Computer receives a direct battery power supply at pins 1 (protected by fuse F38 of B002) and 18 of the junction with the junction unit under the dashboard. It also receives a power supply at pin 9 of the same junction

The M001 Body Computer is also connected to the C022 central dashboard earth via pins 10 and 19 of connector B and via pin 20 of the junction with the B002 junction unit under the dashboard (output from pin 10 of connector B of the B002 junction unit).

On turning the key in the H001 ignition switch to the end position (AVV), the starter motor A020 (connector C) electromagnets winding receive a power supply from pin 3 of connector A.

This direct battery power supply reaches the H001 ignition switch (pin 2 of connector A) via a line protected by fuses F70 of the B099 fuse control unit and F03 of the B001 engine compartment junction unit.

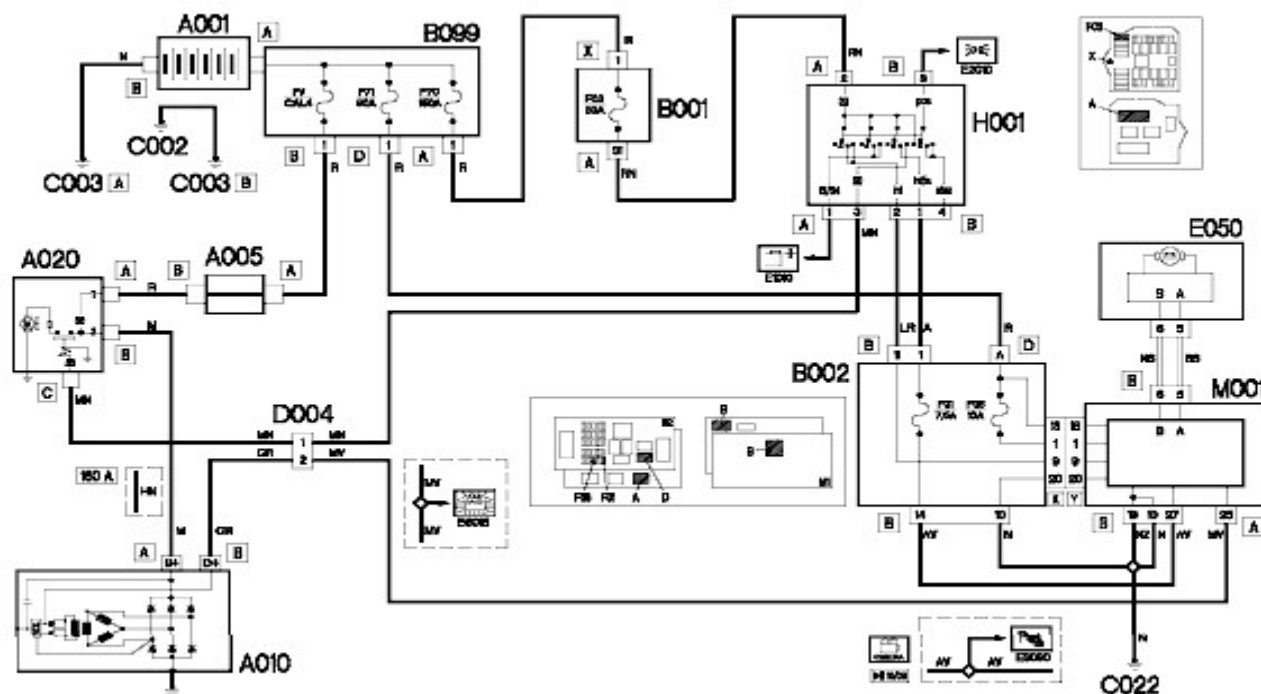
Connector A of the A020 starter motor receives a power supply directly from the battery via a line protected by the specific powerval fuse (CAL4) of the B099 fuse control unit on the battery, passing through the A005 junction terminal block.

The direct current generated by the A010 alternator is sent from connector A (B+) to connector B of the A020 starter motor, which is internally connected to the line connected to the A001 battery.

The connection between connector B (D+) of the A010 alternator and pin 25 of connector A of the M001 Body Computer allows the performance of the alternator itself to be diagnosed (in the event of an insufficient recharging level).

Once a fault has been discovered, the M001 Body Computer, through the CAN network, will light the "insufficient battery charge" warning light on the E050 instrument panel.

STARTING AND RECHARGING - WIRING DIAGRAM



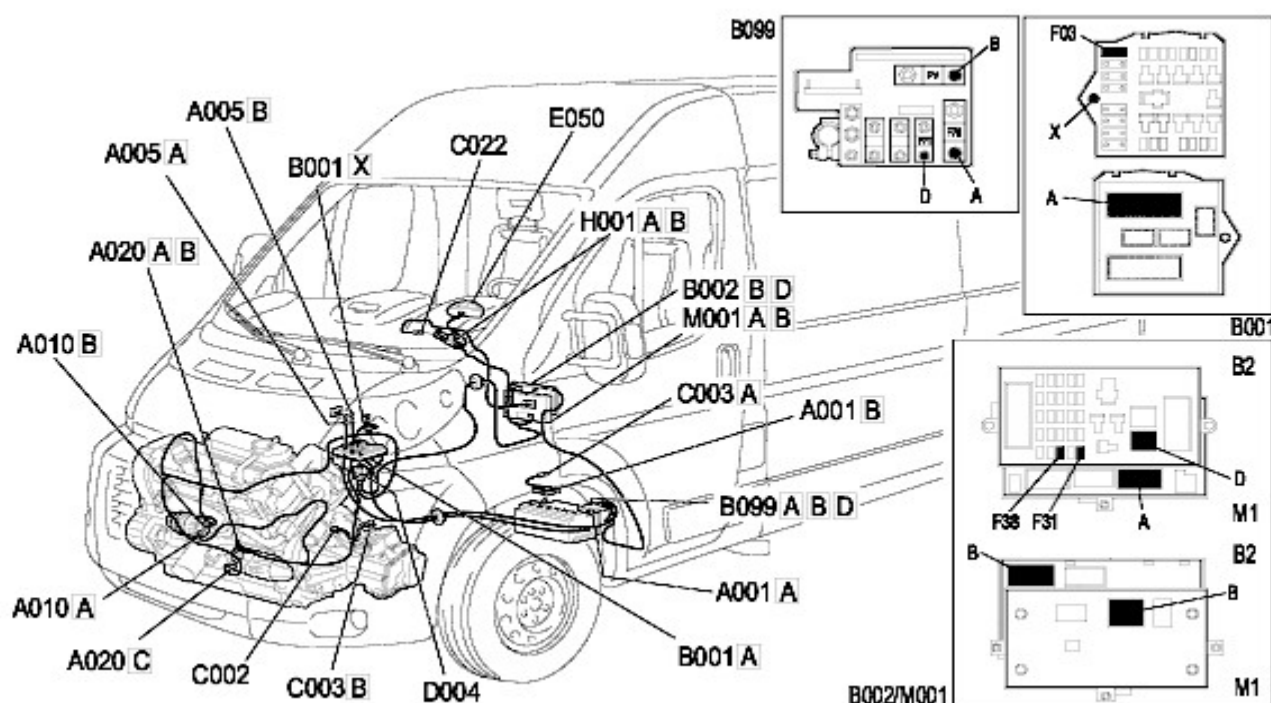
Component code

A001	BATTERY
A005	Contact board
A010	ALTERNATOR
A020	STARTER MOTOR
B001	JUNCTION UNIT
B002	JUNCTION UNIT UNDER DASHBOARD
B099	MAXI FUSE BOX ON BATTERY
C002	BATTERY EARTH ON ENGINE
C003	BATTERY EARTH ON BODYSHELL
C022	Centre dashboard earth
D004	FRONT/ENGINE COUPLING
E050	INSTRUMENT PANEL
H001	IGNITION SWITCH
M001	BODY COMPUTER

With reference to the assembly

Op. 5530B BATTERY AND LEADS
Op. 5530B BATTERY AND LEADS
Op. 5530A ALTERNATOR AND COMPONENTS
Op. 5520B STARTER MOTOR AND COMPONENTS
Op. 5505A MULTI-FUNCTION COMPONENTS
Op. 5505A MULTI-FUNCTION COMPONENTS
Op. 5530B BATTERY AND LEADS
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Op. 5560B ANALOGUE CONTROL PANEL
Op. 5520A IGNITION SWITCH
Op. 5505A MULTI-FUNCTION COMPONENTS

STARTING AND RECHARGING - COMPONENT LOCATION



Component code	Description	With reference to the assembly
A001	BATTERY	Op. 5530B BATTERY AND LEADS
A005	Contact board	Op. 5530B BATTERY AND LEADS
A010	ALTERNATOR	Op. 5530A ALTERNATOR AND COMPONENTS
A020	STARTER MOTOR	Op. 5520B STARTER MOTOR AND COMPONENTS
B001	JUNCTION UNIT	Op. 5505A MULTI-FUNCTION COMPONENTS
B002	JUNCTION UNIT UNDER DASHBOARD	Op. 5505A MULTI-FUNCTION COMPONENTS
B099	MAXI FUSE BOX ON BATTERY	Op. 5530B BATTERY AND LEADS
C002	BATTERY EARTH ON ENGINE	-
C003	BATTERY EARTH ON BODY SHELL	-
C022	Centre dashboard earth	-
D004	FRONT/ENGINE COUPLING	-
E050	INSTRUMENT PANEL	Op. 5560B ANALOGUE CONTROL PANEL
H001	IGNITION SWITCH	Op. 5520A IGNITION SWITCH
M001	BODY COMPUTER	Op. 5505A MULTI-FUNCTION COMPONENTS