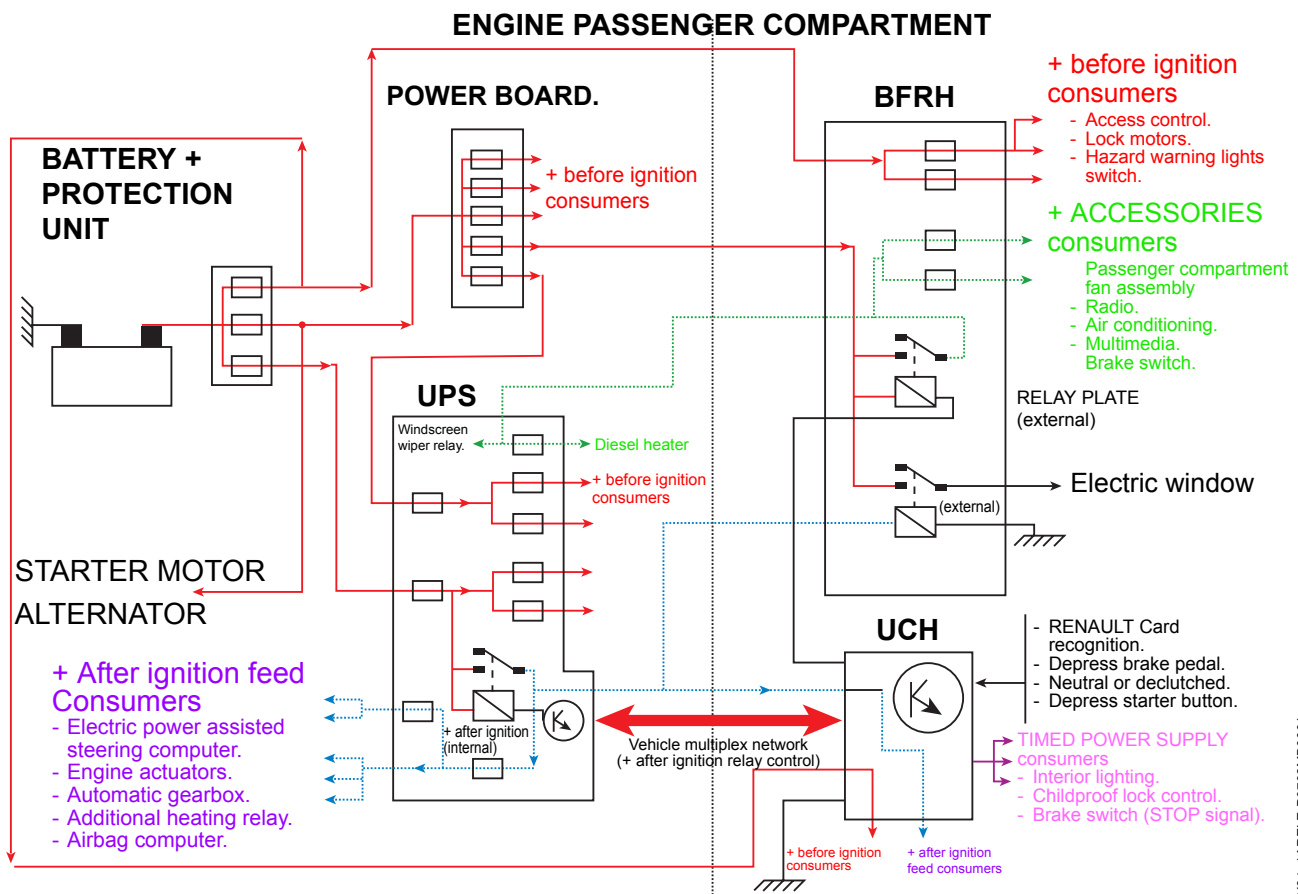


ELECTRICAL LAYOUT

MEGRM2H/17/1

SUPPLY MANAGEMENT



X84p1ARELE-P0702MB0001

The distribution of the electrical feeds uses 5 components:

- the battery + protection unit,
- the power board,
- the Passenger Compartment Fuse and Relay Box (BFRH)
- the Protection and Switching Unit (UPC),
- the UCH.

The BEFORE IGNITION supplies come from the battery + protection unit. These supplies are then distributed to the following components:

- the power board,
- the Protection and Switching Unit,
- the Passenger Compartment Relay and Fuse Box,
- the UCH.

A TIMED (20 minutes) supply is supplied directly by the UCH (via a transistorised power stage).

When the vehicle is unlocked or the driver's door is open, the UCH provides power to the following functions:

- the interior lighting,
- the brake switch,
- the childproof lock control.

The accessories power supplies come from the Passenger Compartment Fuse and Relay Box (BFRH). The UCH operates the relay when the starter button is pressed with the RENAULT Card in the starting area.

This allows power supply to:

- the passenger compartment fan,
- the radio and its display,
- the air conditioning,
- the ABS computer,
- the brake switch,
- the Multimedia system.

The BFRH sends an accessories feed to the Protection and Switching Unit (UPC) for the wiper and diesel heater supply.

Pressing the starter button again cuts the accessories supply. The vehicle then has the TIMED supply.

The AFTER IGNITION supplies come from the UPC and the UCH.

When the following starting conditions are satisfied:

- RENAULT Card in the starting area,
- brake pedal depressed,
- vehicle in neutral,
- starter button pressed,

or

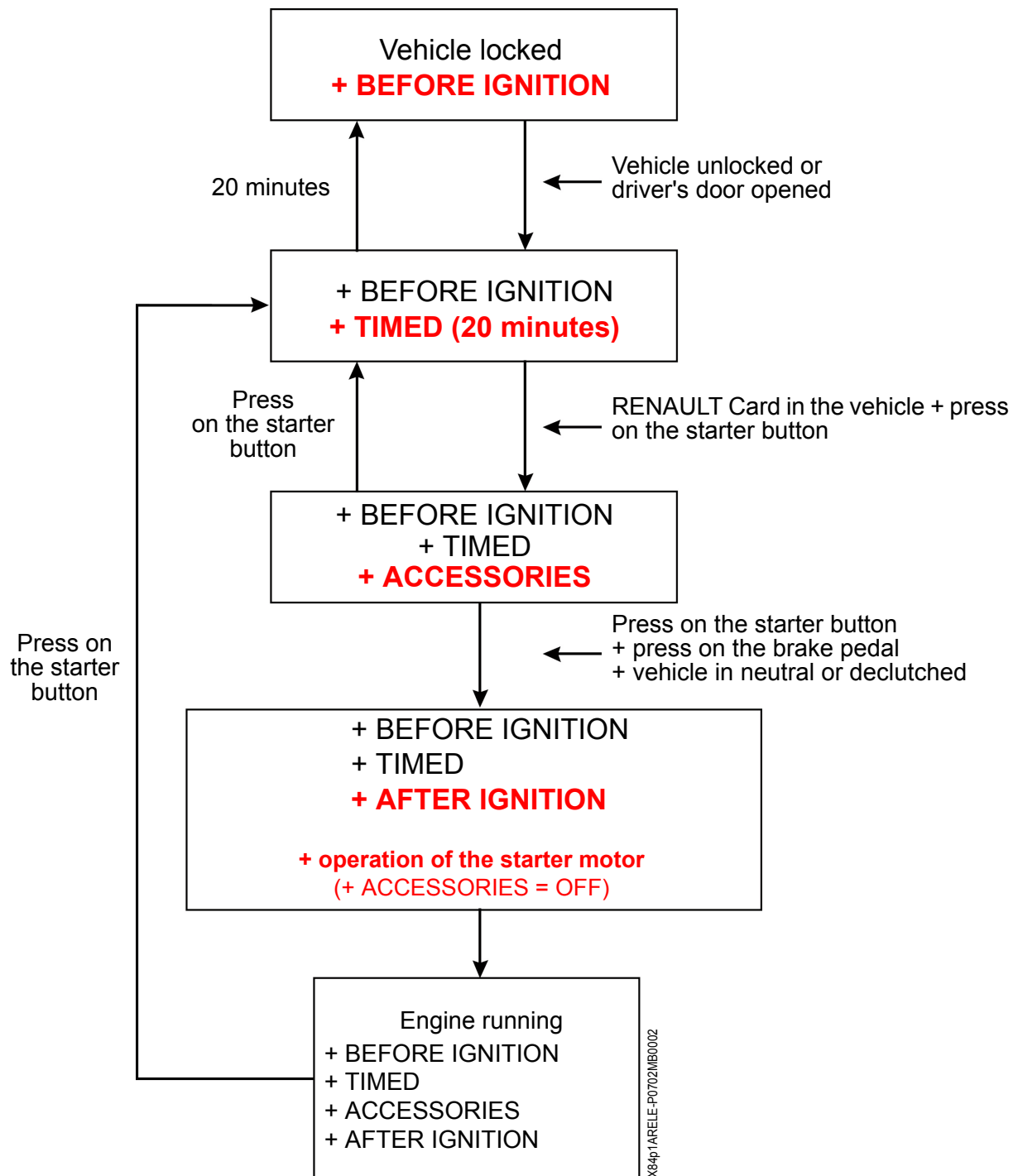
- clutch pedal depressed,
- starter button pressed,

the UCH operates the AFTER IGNITION relay integrated into the UPC (via the vehicle multiplex network). The UPC supplies certain components:

- the electric power assisted steering computer,
- the engine actuators,
- the automatic transmission computer,
- the additional heating relay,
- the airbag computer, etc...

At the same time, the UPC operates the starter motor.

Chronology of the supplies



NOTES

- When the starter is operated, the accessories supply is interrupted.
- In normal operation, it is not possible to obtain the AFTER IGNITION supplies without operation of the starter motor.

When the engine is stopped (press on the starter button), the vehicle is once more supplied by the + TIMED supply.

IMPORTANT

To perform a fault finding procedure, the technician can obtain the after ignition supply without starting the vehicle.

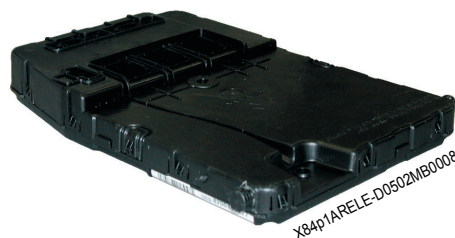
To do this, he must:

- insert the card into the reader,
- depress the starter button for more than 5 seconds.

The UCH

The UCH fault finding procedure has the following sub-menus:

- user selection (air conditioning),
- heating (air conditioning),
- cold loop (air conditioning),
- lighting power (lighting),
- wiper power (wipers),
- starting (keyless vehicle),
- protection (keyless vehicle),
- access (keyless vehicle),
- tyres (tyre pressure monitor).



When replacing the UCH, it is necessary to perform certain configurations. These depend on the vehicle equipment.

To assist the technician, the diagnostic tool offers various configuration scenarios:

- UCH programming scenario,
- RENAULT Card assignment scenario,
- valve code display scenario,
- valve programming scenario.

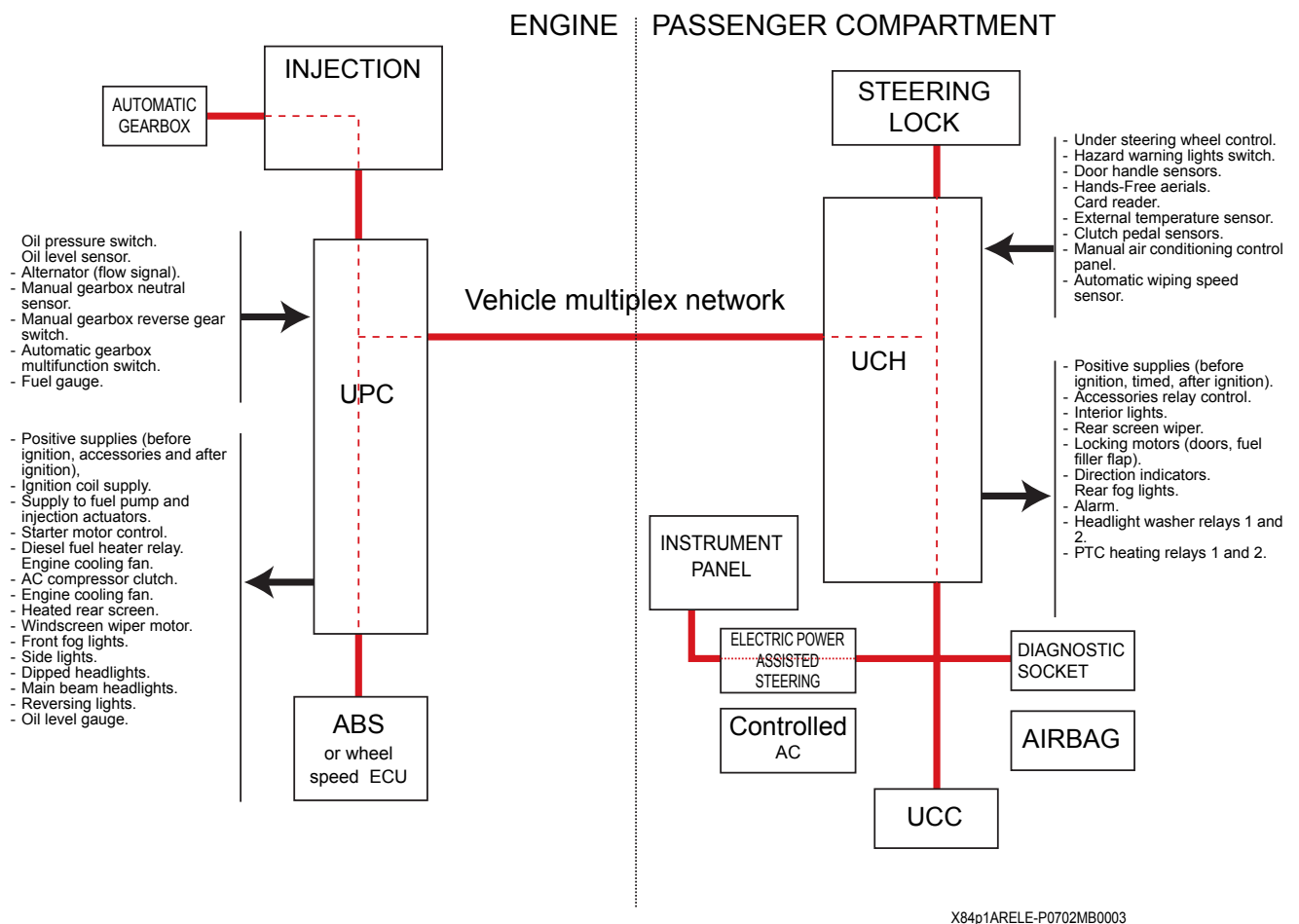
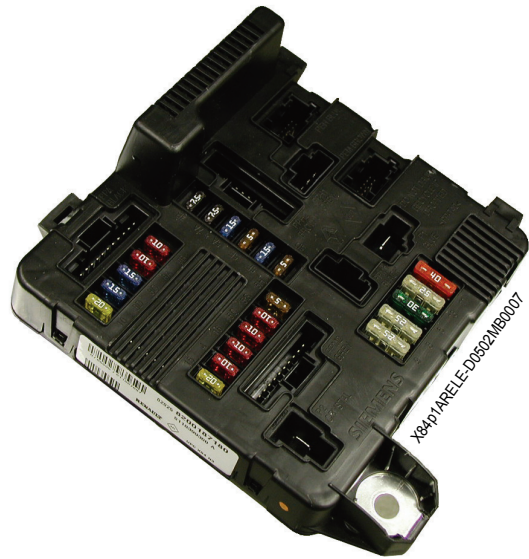
NOTE

The connector identification is marked directly on the UCH (PP1, PP2, PP3, PE1, PE2 and PE3).

THE PROTECTION AND SWITCHING UNIT (UPC)

The Protection and Switching Unit is connected to the vehicle multiplex network. Besides managing certain feeds, certain sensors are connected to it (oil pressure switch, oil level sensor, etc.).

It also controls certain actuators (fuel pump, starter motor, etc.).



Depending on the function, an actuator is controlled as follows:

- directly by the UPC,

example: the oil level sensor sends a message by cable to the UPC, which in turn sends the information to the instrument panel without passing via the vehicle multiplex network;

- via the vehicle multiplex network.

example: the injection computer orders control of the fuel pump (via the vehicle multiplex network). The UPC then directly controls the fuel pump.

The UPC incorporates the following relays:

- side lights,
- dipped headlights
- main beam headlights,
- front fog lights,
- windscreen wiper (X2),
- injection (X2),
- cooling fan (X2),
- air conditioning compressor,
- starter motor,
- after ignition,
- de-icing.

When replacing a UPC, it is necessary to perform the following configuration with the diagnostic tool:

- alternator type.

The UPC diagnostic procedure has the following sub-menus:

- starting,
- heating,
- sensors,
- wiper power.

NOTE

Identification of the connectors is marked directly on the UPC (P1, PPA, PEH, PEM, PPM1, PPM2, PPH1, PPH2).

THE CHARGING CIRCUIT

RENAULT Mégane II alternators transmit two signals:

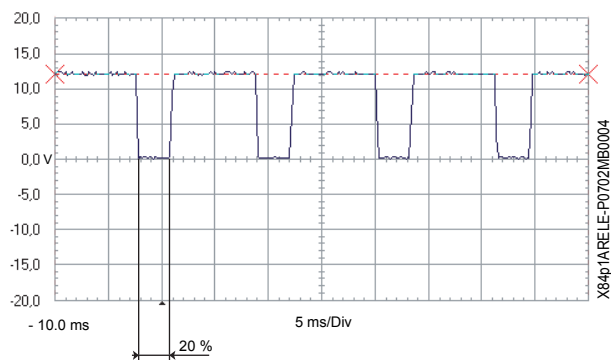
- the available power signal,
- the charge warning light command.

The alternator sends the UPC the available power signal. The UPC sends this information (via the vehicle multiplex network):

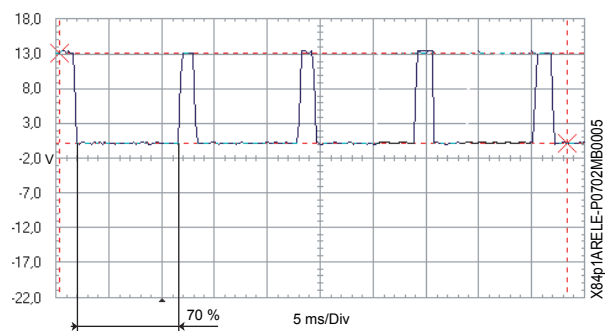
- to the UCH for management of the CTPs,
- to the injection computer for management of the idle speed.

This connection is called the DF terminal (Digital Field).

Alternator capacity = 20 %



Alternator capacity = 70 %



The alternator sends a modulated pulsed current (OCR) to the UPC. The alternator sets the earth terminal to a potential of 12 volts APC supplied by the UPC. The earth time is proportional to the available power of the alternator. The frequency of the signal is 90 Hz for a VALEO alternator and 150 Hz for a BOSCH alternator.

The diagnostic tool (for the UPC fault finding) allows the available power of the alternator (%) to be ascertained at a given time.

When replacing a UPC, it is necessary to configure the alternator type. Depending on the engine, the maximum power of each alternator is different.

For possible illumination of the charge warning light on the instrument panel, the alternator sets the earth terminal to a potential of 12 volts APC supplied by the UPC. The latter then orders the instrument panel to switch on the charge warning light (via the vehicle multiplex network).

GLOSSARY

AC	Air conditioning
BFRH	Passenger Compartment Relay and Fuse Box
CAN	Control Area Network (multiplex communication protocol)
DAEV	Electric variable power assisted steering
DF Terminal	Digital Field ("available power" signal from an alternator)
EOBD	European On Board Diagnosis
ESP	Electronic Stability Program
ISO Diagnostic	Fault finding via the K and L lines
PTC	Positive Temperature Coefficient (electric heating resistor)
RCO	Opening Cyclic Ratio signal (mass sequential time)
SSPP	Tyre Pressure Monitor
UCH	UCH
UPC	Protection and Switching Unit
USB	Universal Serial Bus (standard computer connection)
VSC	Keyless vehicle
VVT	Variable Valve Timing (variable distribution)