

MEGANE

6 Air conditioning

62A

AIR CONDITIONING

Manual air conditioning and Climate control

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V3

Edition Anglaise

"The repair procedures given by the manufacturer in this document are based on the technical specifications current when it was prepared.

The procedures may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed."

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ABBREVIATIONS	MEANING OF ABBREVIATION
ABS	Anti-lock braking system
ALP	Fault finding chart
APC	After ignition
AVC	Before ignition feed
BVA	Automatic gearbox
BVM	Manual gearbox
BVR	Sequential gearbox
CAN	Controller Area Network
AC	Air conditioning
CD	Compact disc
PAS	Power assisted steering (hydraulic)
DAE	Electric power assisted steering
DVD	Digital versatile disc
DTC	Fault finding code
EGR	Exhaust gas recirculation
ESP	Electronic Stability Program
GMV	Fan assembly
CNG	Compressed natural gas
LPG	Liquefied petroleum gas
HLE	High yield strength
MAG	Metal active gas (for welding steel)
MIG	Metal inert gas (for welding aluminium)
MR	Workshop repair manual
TN	Technical Note
OBD	On board diagnostics
SER	Resistance spot welding
SSPP	Tyre pressure monitoring system
THLE	Very high-tensile strength
TM	Labour time
UCH	UCH
UPC	Protection and switching unit
UCT	Roof control unit
UHLE	Ultra high yield strength
VIN	Vehicle identification number

1. SCOPE OF THIS DOCUMENT

This document presents the fault finding procedure applicable to all computers with the following specifications:

Vehicle: **Mégane II**

Function concerned: **Air conditioning**

2. PREREQUISITES FOR FAULT FINDING

Documentation type:

Fault Finding Procedures (this document and the technical notes for the injection fitted to the vehicle, the Passenger Compartment Central Unit (UCH) and the Protection and Switching Unit):

- Assisted fault finding (integrated into the diagnostic tool), Dialogys.

Wiring Diagrams:

- Visu-Schéma (CD-ROM), paper version.

Diagnostic tools type:

- CLIP

Type of special tooling required:

SPECIAL TOOLING REQUIRED	
Multimeter	
Elé. 1681	Universal bornier

3. RECAP

Faults:

There are faults which are displayed and stored present faults (which occurred in certain circumstances and which still exist) and stored faults (which occurred in certain circumstances and have since disappeared or which are still present but not detected in the present context).

The present or stored status of faults must be considered when using the diagnostic tool after switching on + after ignition (without activating any system components).

Present faults must be dealt with according to the procedure specified in the **Interpretation of faults** section.

For a **stored fault**, note the faults displayed and follow the instructions shown in the **Notes** section.

If the fault is **confirmed** when the instructions in the Notes section are applied, the fault is present. In this case, deal with the fault.

If the fault is **not confirmed**, carry out basic checks. Check:

- The electric lines on which there is a fault;
- The connectors on these lines (corrosion, bent pins, etc.);
- The resistance of the faulty component;
- The condition of the wires (insulation melted or cut, chafing, etc.).

Conformity check

The aim of the conformity check is to check statuses and parameters that do not produce a fault display on the diagnostic tool when they are inconsistent. Therefore, this phase is used to:

- carry out fault finding on faults that do not have a fault display, and which may correspond to a customer complaint.
- check that the system is operating correctly and that there is no risk of a fault recurring after repairs.

This section features the fault finding procedures for statuses and parameters, and the conditions for checking them.

If a status is not behaving normally or a parameter is outside the permitted tolerance values, consult the corresponding fault finding page.

Notes about the conformity check for the climate control system:

The **air conditioning system** conformity check is divided into four parts. The parts relate to the four air conditioning sub-functions, heater, cold loop, user selection and passenger compartment ventilation.

The statuses and parameters related to these sub-functions are listed with their respective computers.

N.B.: the manual air conditioning control panel does not control electrical components and cannot be subjected to fault finding. Therefore, there is no conformity check in the **62C Manual air conditioning** section.

Note:

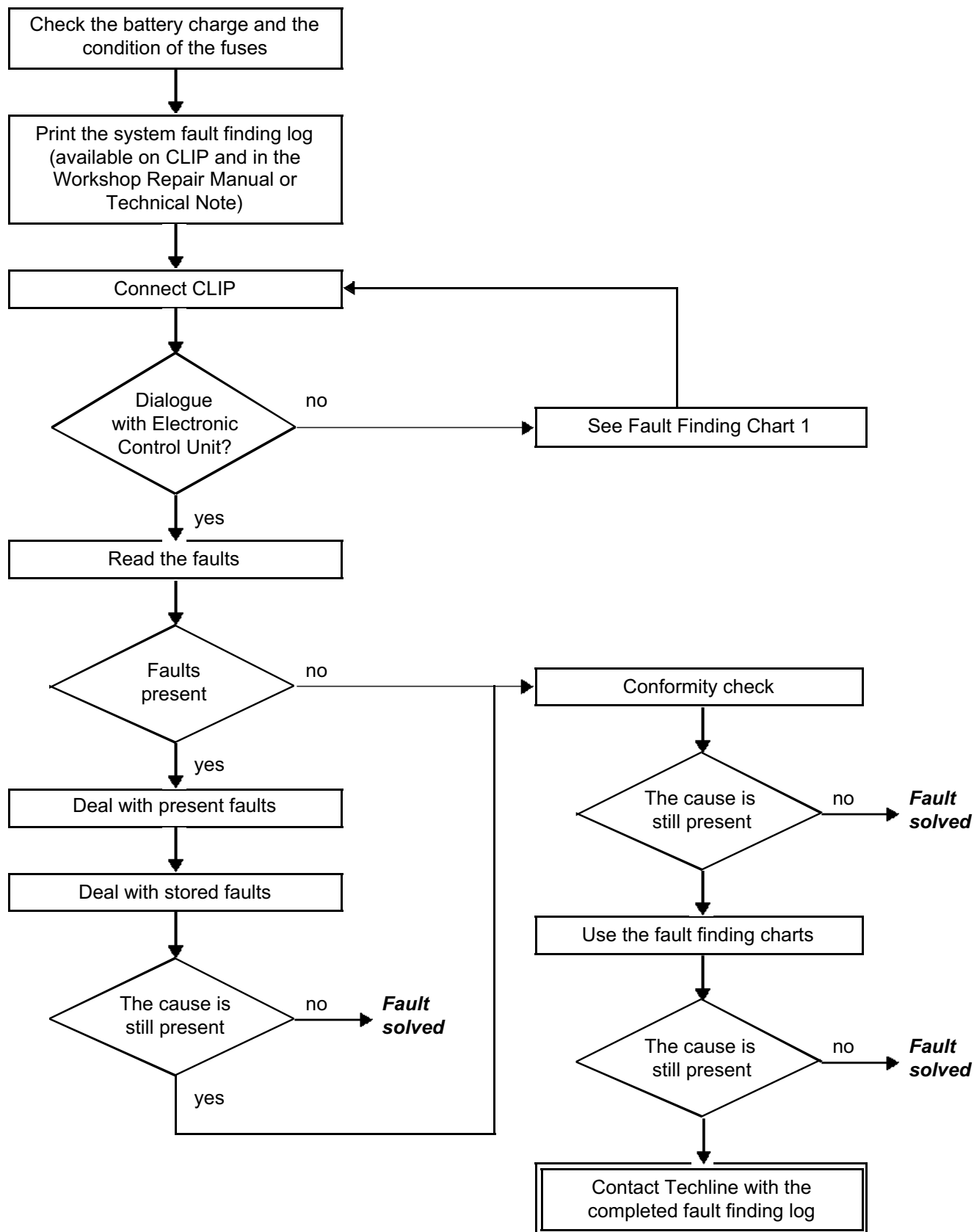
The interpretation of statuses, parameters and commands is also split into several sections. Everything controlled by the air conditioning control panel is explained in the two Air conditioning sections, **62A** and **62B**. On the other hand, signals from other computers are explained in the Fault finding sections for these computers (see the conformity check).

Customer complaints - Fault finding chart

If the diagnostic tool check is correct, but the customer complaint persists, the fault should be dealt with according to the customer complaint.

A summary of the general procedure to follow is provided on the following page in the form of a flowchart.

4. FAULT FINDING PROCEDURE





5. FAULT FINDING LOG

IMPORTANT:

For any reimbursement for a monitored part (computer type) or call to Techline, you will be asked for a correctly completed fault finding log. This makes it possible to keep track of your fault finding.

IMPORTANT!

**IT IS THEREFORE COMPULSORY TO COMPLETE A FAULT FINDING LOG
EVERY TIME A FAULT FINDING PROCEDURE IS PERFORMED.**

All faults requiring replacement of a computer must have a thorough fault finding procedure performed on them, using the appropriate tools. The **fault finding log**, which must be filled in during fault finding, makes dialogue with the manufacturer more constructive by providing:

- faster and more relevant Techline assistance;
- better analysis of the approval request and more likelihood that the replacement of parts will be accepted;
- clearer statement of your observations for the warranty reimbursement form.

6. SAFETY ADVICE

All work on components requires the observation of safety rules to prevent damage or injury:

- Make sure the battery is properly charged to avoid damaging the computers with a low load.
- Do not smoke.
- Use the appropriate tools.

FAULT FINDING LOG

System: Air conditioning

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● Computer identification and system parts replaced

Part 1 part no.	
Part 2 part no.	
Part 3 part no.	
Part 4 part no.	
Part 5 part no.	

To be read with the diagnostic tool (Identification screen):

Computer part no.	
Supplier no.	
Program no.	
Software version	
Calibration no.	
VDIAG	

● Faults found with the diagnostic tool

Fault no.	Present	Stored	Fault name	Specification

● Conditions under which fault occurs

Status or parameter no.	Parameter name	Value	Unit
	External temperature		
	Internal temperature		
	Refrigerant pressure		

● System-specific information

Description:

● Additional information

What factors led you to replace the computer?

What other parts were replaced?

Other defective functions?

Your comments:



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FD 04
Fault finding log

Air conditioning system layout

The air conditioning system uses four computers. The four computers are connected by the multiplex system, except in the case of manual air conditioning, where the connection between the air conditioning control panel and the passenger compartment central unit (UCH) is by normal wiring.

The air conditioning control panel interprets the driver's wishes and transmits them to the other computers; it also manages the passenger compartment ventilation, air distribution, air mixing and air recirculation.

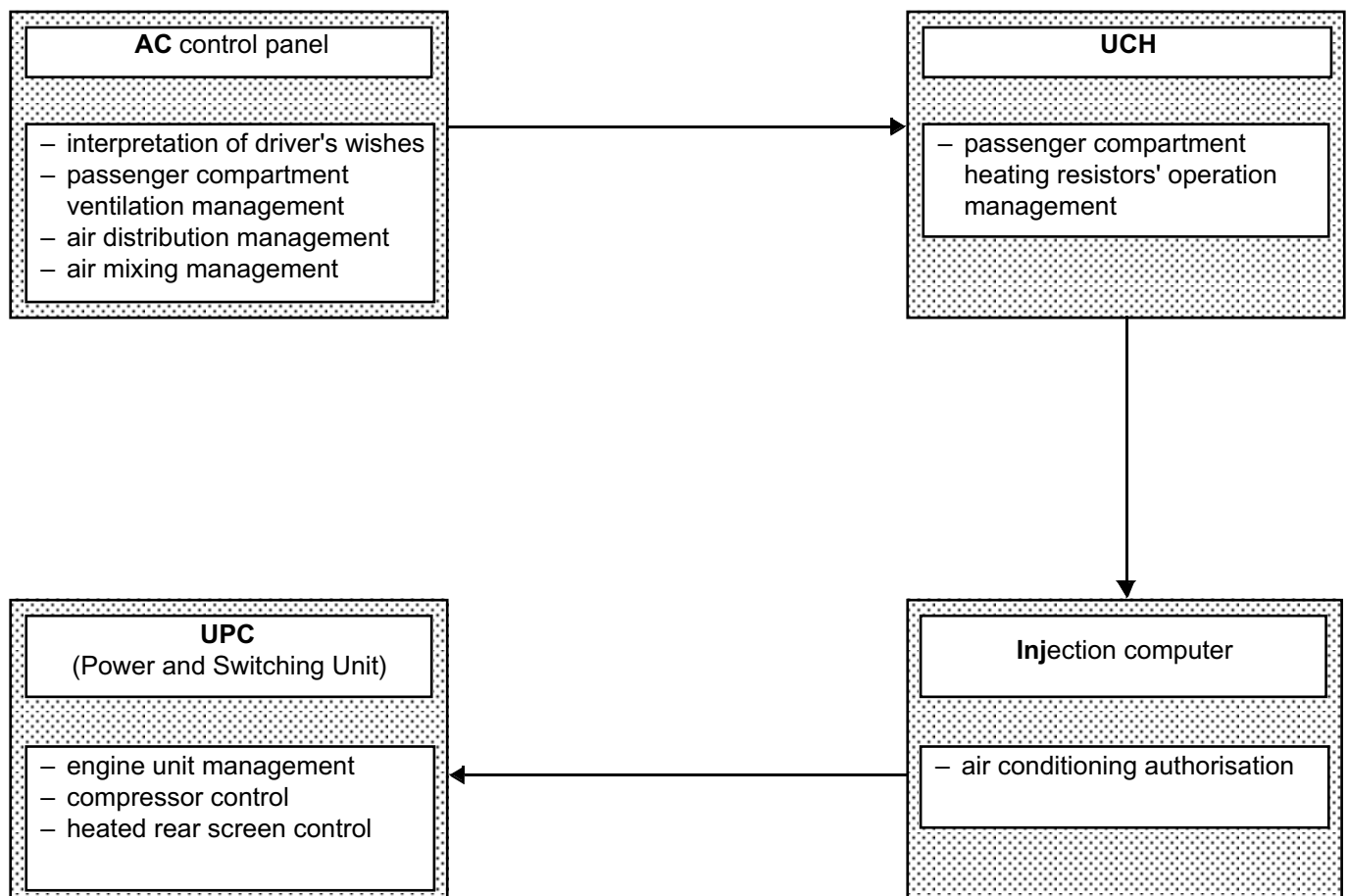
The Passenger Compartment Control Unit (UCH) transmits the request to engage the air conditioning compressor to the injection and controls the operation of the passenger compartment heating resistors (RCH).

The injection receives the refrigerant fluid pressure signal from the pressure sensor. The injection computer authorises or inhibits the request to engage the compressor depending on how the vehicle is operating and transmits the signal to the Protection and Switching Unit (UPC).

The role of the UPC is to manage the power section of the air conditioning system. It controls the engagement of the compressor, the engine cooling fan assemblies and the heated rear screen.

GLOSSARY:

RCH = Passenger compartment heating resistor



General operation

The air conditioning system is composed of four sub-functions: heating, cold loop, passenger compartment ventilation and user selection. Fault finding on the air conditioning is performed in two different ways using the diagnostic tool.

The first procedure is by **computer fault finding** which makes it possible to communicate with just one computer (select the computer concerned). The second procedure consists of performing **fault finding on each function** which allows communication with all four computers of the **AIR CONDITIONING** function.

Description of the sub-functions

Heater sub-function: this sub-function includes everything relating to the production of warm air in the vehicle and management of the heated rear screen.

The main computers involved are the air conditioning computer (air mixing and blown air setting) and the UCH (control and management of the passenger compartment heating resistors). The Protection and Switching Unit controls the heated rear screen (and heated door mirror). The injection computer is only included in this sub-function to supply the signals required for its management.

Cold loop sub-function: this sub-function includes everything involved in the vehicle's production of cold air. The computers concerned are the air conditioning computer for air mixing, the injection computer to authorise compressor engagement and the UPC to control the compressor and the engine fan assemblies. With climate control systems, the UCH merely transmits the request to engage the compressor from the air conditioning computer to the injection computer.

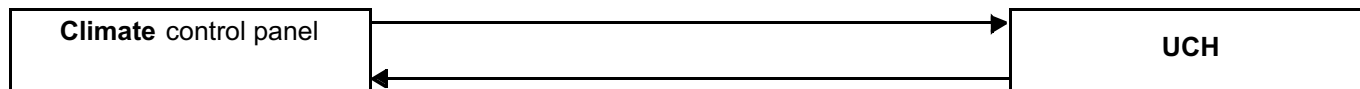
With manual air conditioning, the UCH authorises or inhibits sending the request to engage the compressor from the air conditioning computer to the injection computer depending on the status of the passenger compartment blower (with manual air conditioning, the UCH receives and manages the passenger compartment blower speed signal: compressor engagement is inhibited if the blower is not running).

User selection sub-function: this sub-function includes everything used to transmit the user's requests (pressing buttons). The computers concerned are the air conditioning computer for climate control systems and the UCH. The two other computers are not used for manual air conditioning.

Passenger compartment ventilation sub-function (climate control systems only): this sub-function includes everything involved in ventilation, air mixing, air recirculation and air distribution. Therefore, only the air conditioning computer is involved.

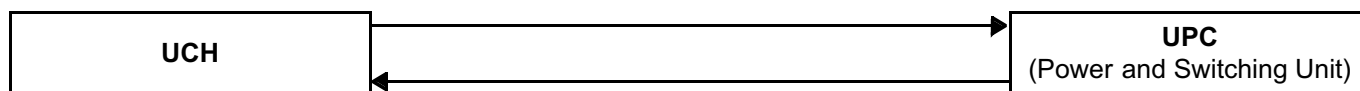
Exchanges between the four air conditioning system computers

- air conditioning request 1
(compressor engagement)
- switch on passenger compartment heating
resistors (RCH) request
- switch on heated rear screen request
(+ electric door mirrors)
- passenger compartment ventilation signal



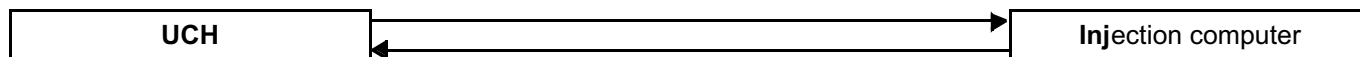
- passenger compartment heating resistors (RCH)
operation management
- external temperature signal
- engine coolant temperature signal

- switch on heated rear screen request
(+ electric door mirrors)



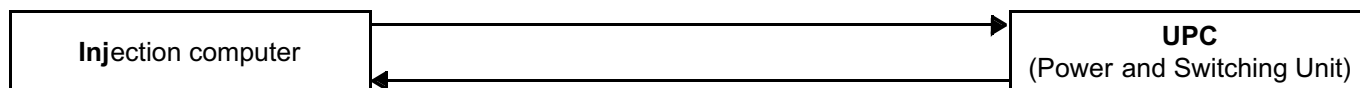
- alternator charge signal
- number of passenger compartment heating
resistors authorised by alternator

- air conditioning request 2
(compressor engagement)
- fast idle request for passenger compartment
heating resistors (RCH)



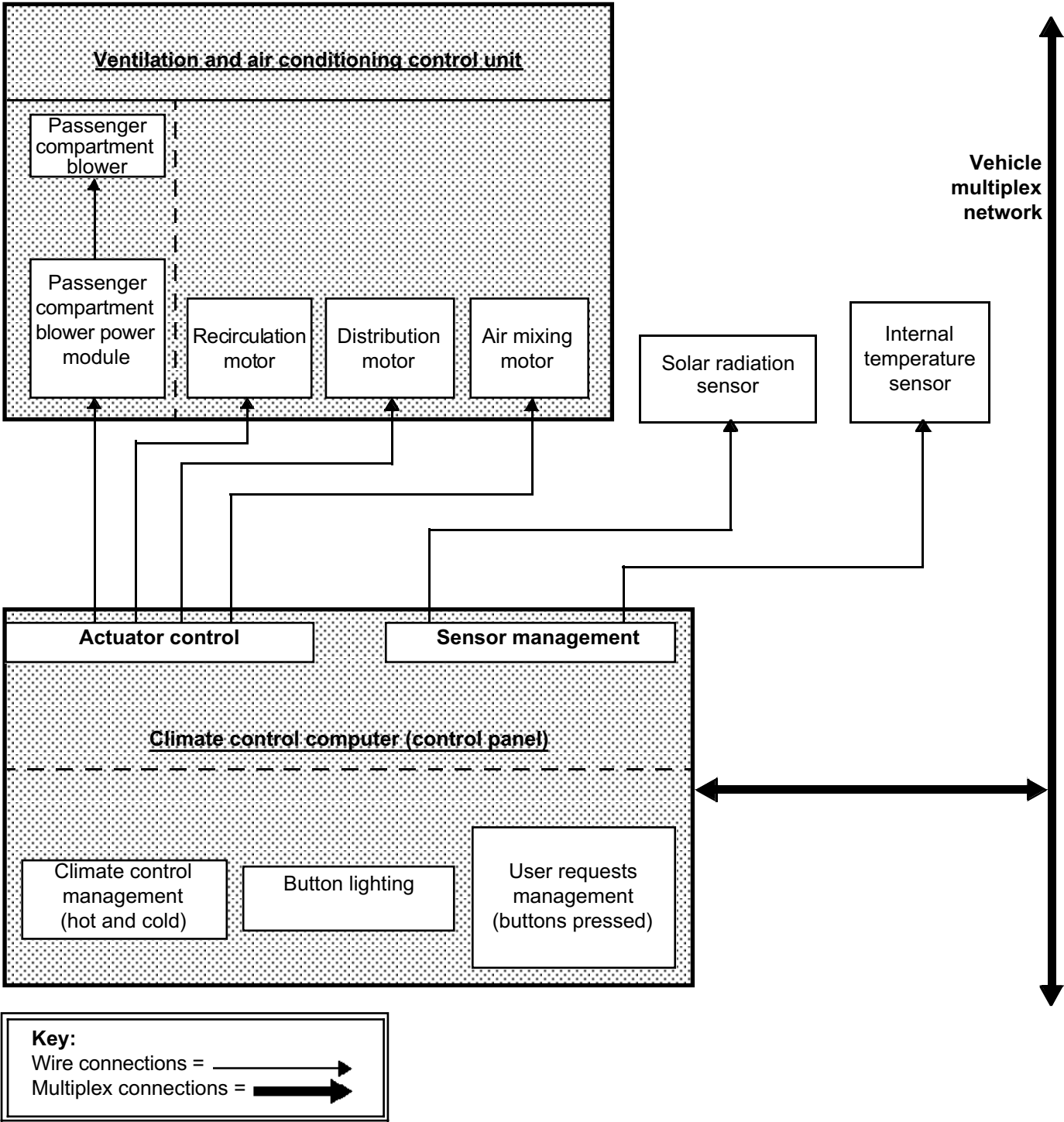
- compressor engagement authorisation
- engine coolant temperature signal
- refrigerant fluid pressure signal
- number of passenger compartment heating
resistors authorised by injection

- compressor engagement request
- switch on engine cooling fan assembly request

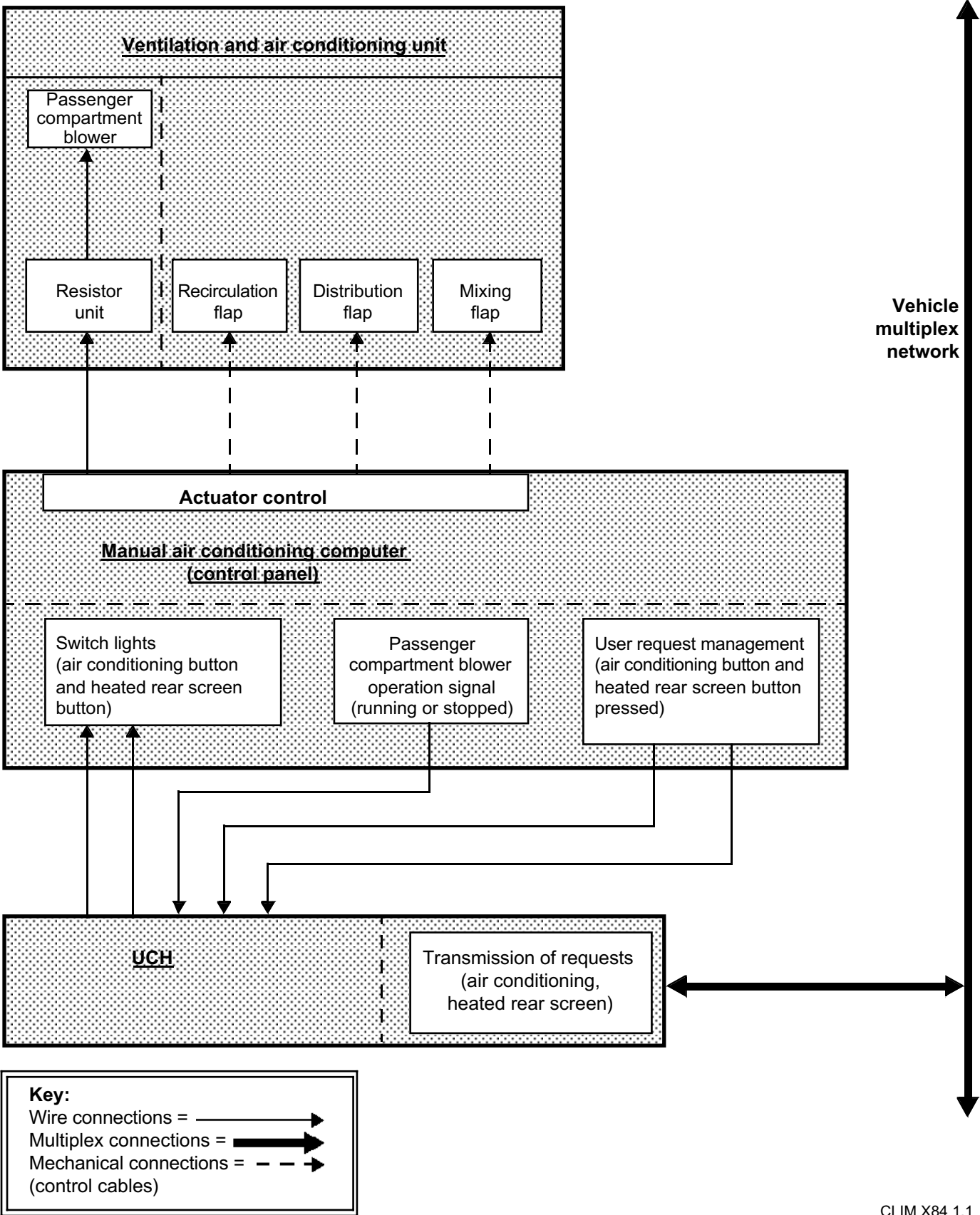


- alternator charge signal

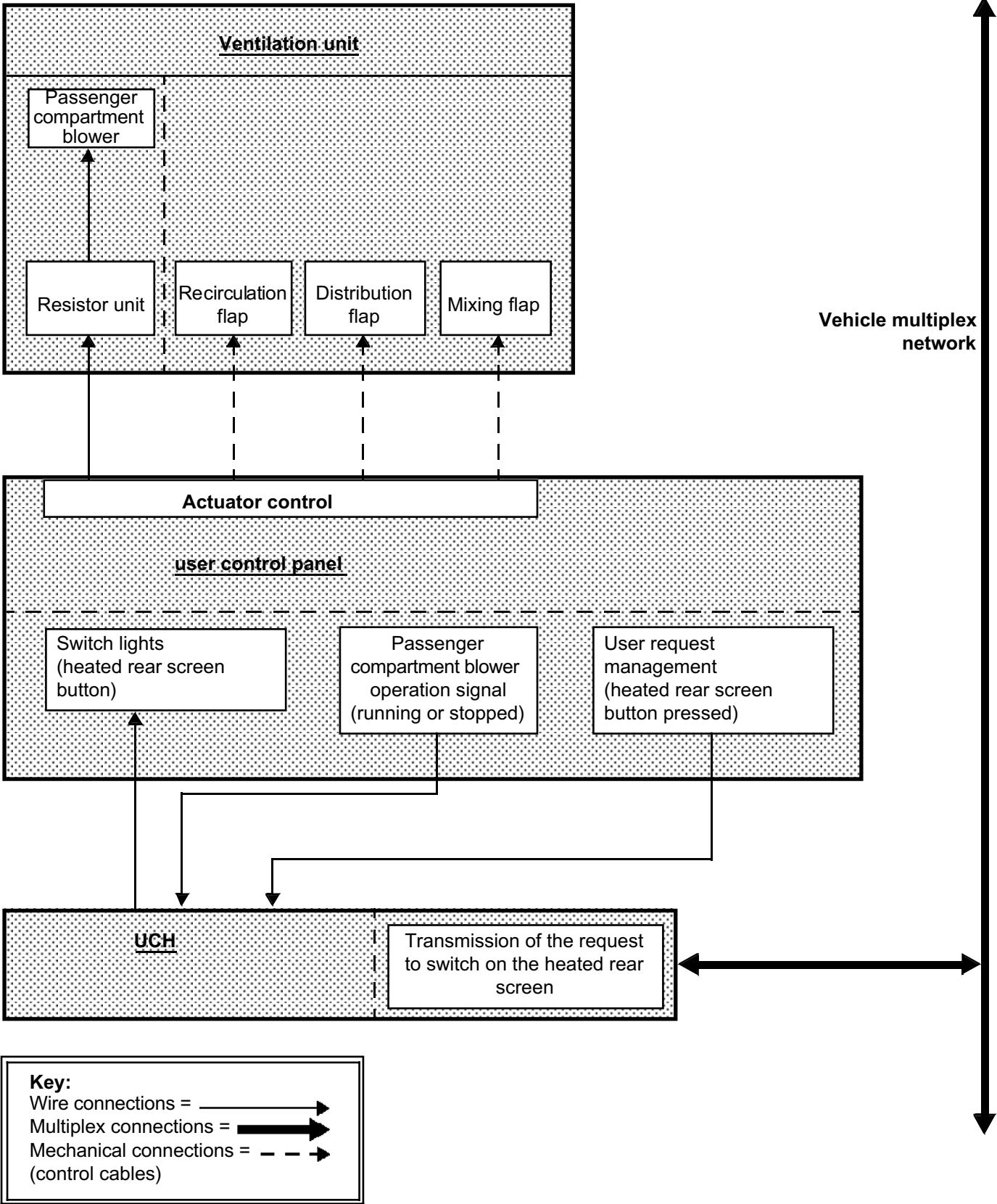
Summary diagram of components controlled or managed by the climate control computer



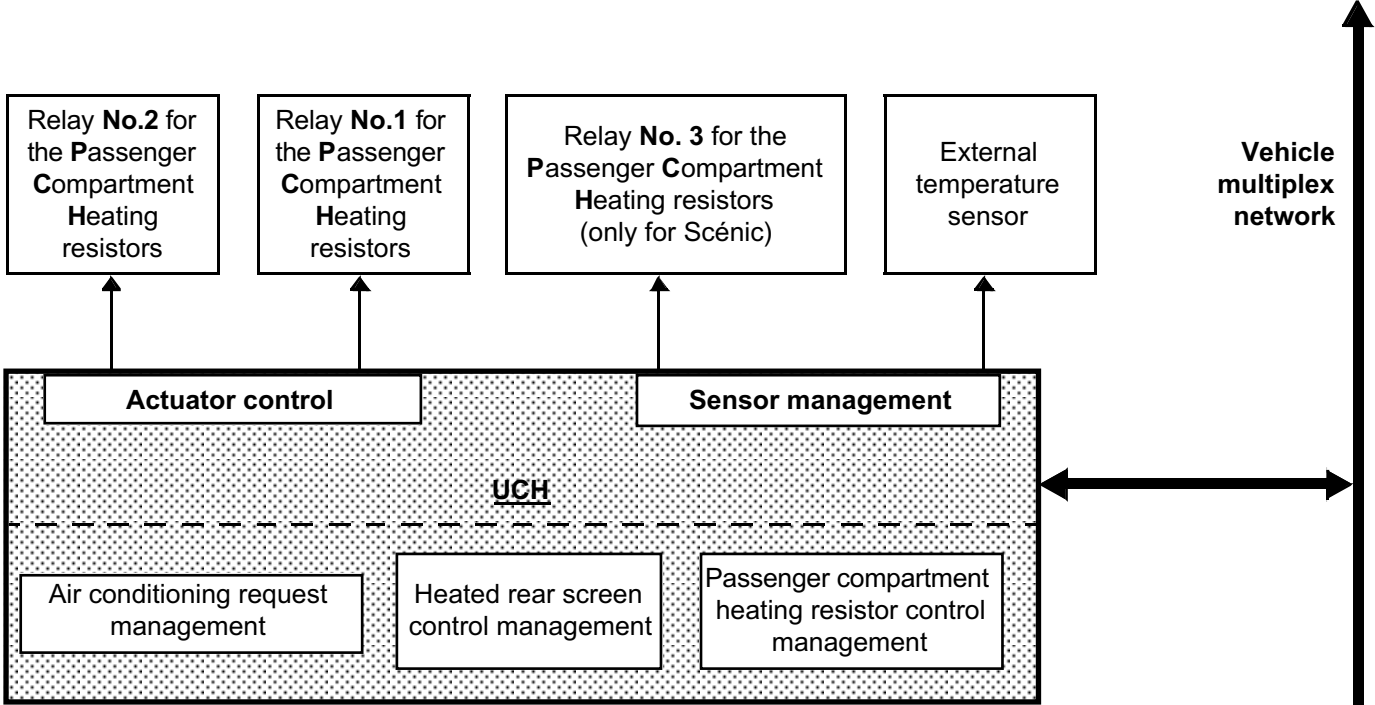
Summary diagram of components controlled or managed by the manual air conditioning computer



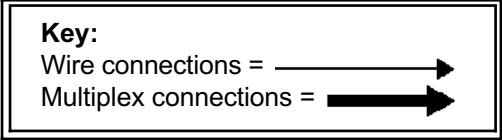
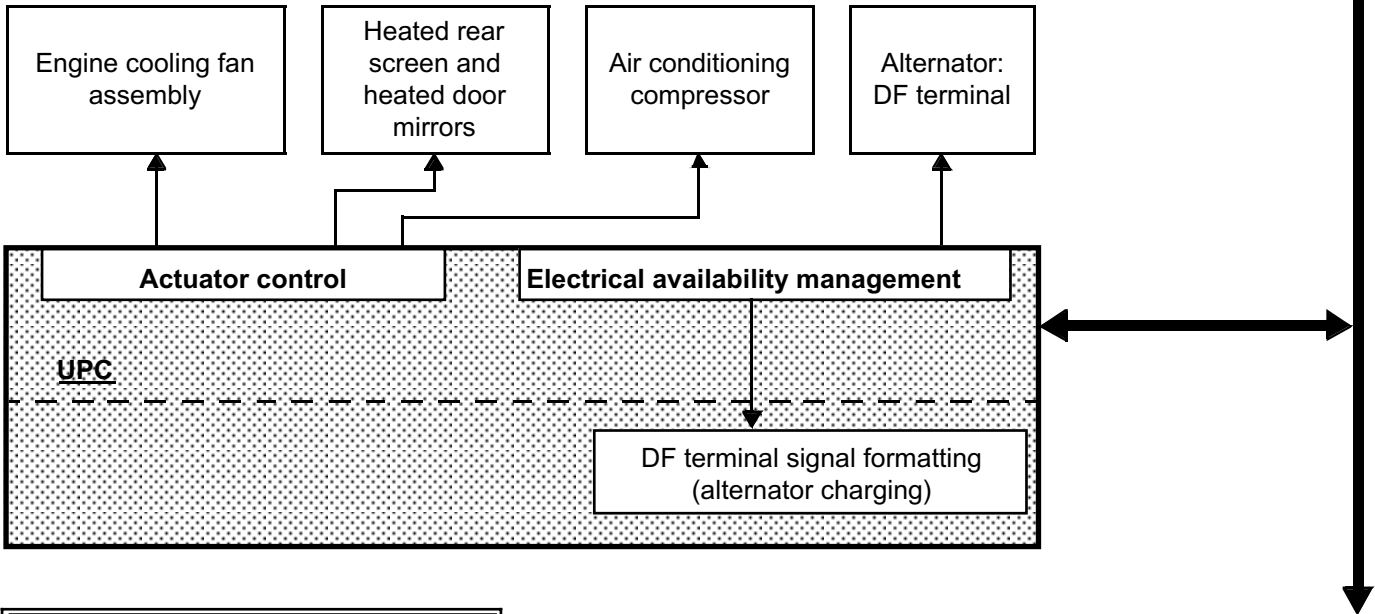
Summary diagram of components controlled or managed by the control panel of heater versions without air conditioning



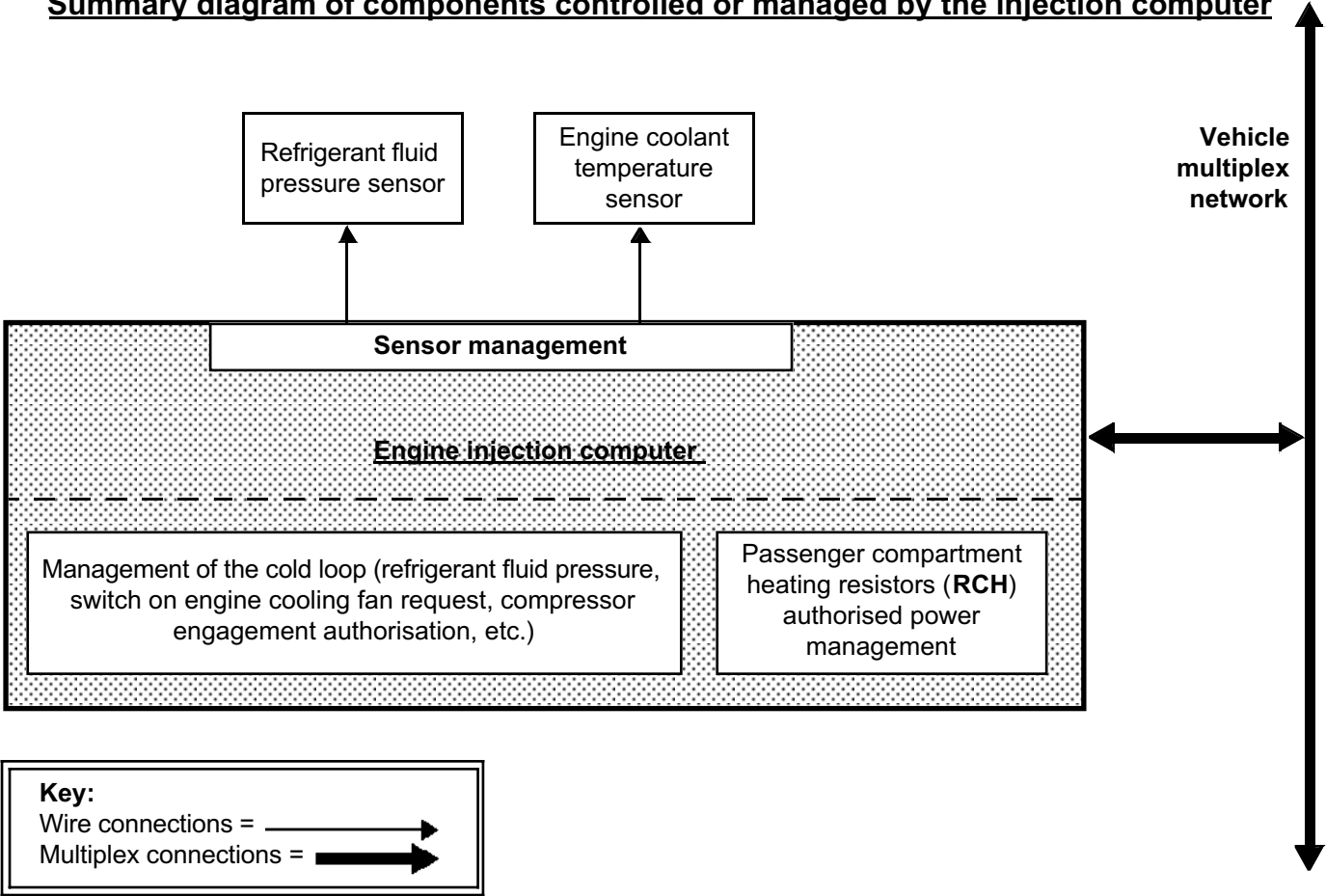
Summary diagram of components controlled or managed by the UCH



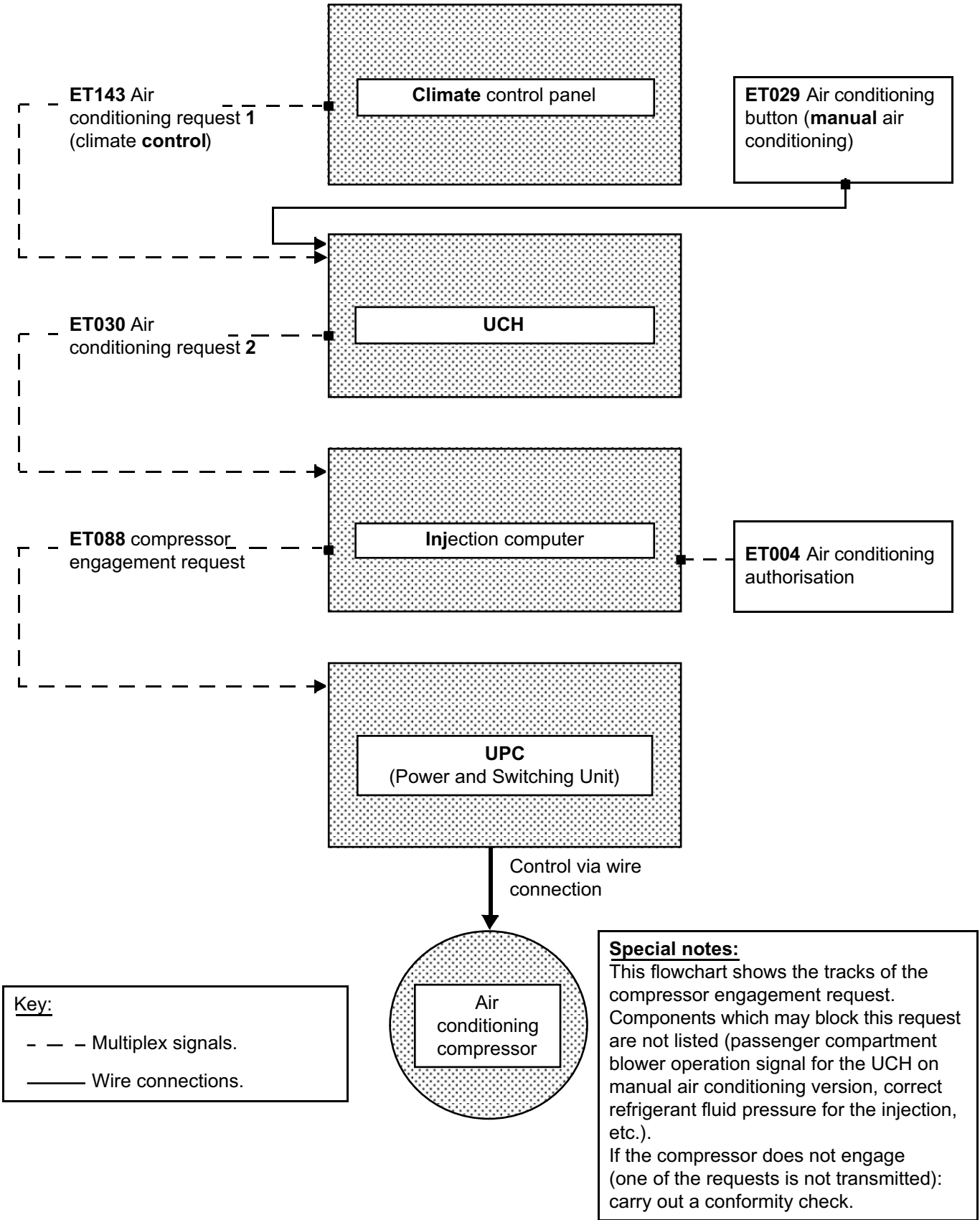
Summary diagram of components controlled or managed by the Protection and Switching Unit



Summary diagram of components controlled or managed by the injection computer



Compressor control flowchart



Air conditioning system configurations

Computers	Configuration	Option	Comment
Air conditioning (climate control computers only)	CF044 Vehicle type	B84/L84/J84/E84	Manual configuration (with CLIP)
	CF117 Type of heating resistor	Without/1000 W/ 1800 W	
UCH	SC008 Type of Passenger Compartment Control Unit		Configuration situation (possible to register all the UCH functions).
Injection (all types)	X	X	Automatic computer configuration
Protection and switching unit	CF001 Type of alternator	– KCB1 90 BOSCH – TG11 110 VALEO – SG12 VALEO – LIE8 150 BOSCH – SG15L VALEO – Other type	Manual configuration (with CLIP)

Air conditioning system configuration readings

Computers	Configuration reading	Option	Comment
Air conditioning	LC013 Vehicle type	B84/J84/E84	None
	LC043 Heating resistor	without/1000 W/ 1800 W	
UCH	LC013 Type of air conditioning	climate control/ manual/heating	None
	LC030 Type of heating resistor	without/1000W/ 1500W	
	LC011 Vehicle type	All except E8h	
S3000 injection N.B. These functions are only valid for the S3000 injection (K4J / K4M / F4R and F4R Turbocharged engines	LC009 Air conditioning	connected/ not connected	Following the first compressor engagement request: LC009 connected LC016 With
	LC016 Air conditioning pressure signal management	with/without	
	ET079 Air conditioning present	yes/no	ET079
	LC025 Heating resistor	with/without	None
Protection and switching unit	LC001 Type of alternator	– KCB1 90 BOSCH – TG11 110 VALEO – SG12 VALEO – LIE8 150 BOSCH – SG15L VALEO – Other type	None

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: ignition on (12 volts APC), engine stopped, AIR CONDITIONING SWITCHED OFF (passenger compartment blower switched off and air conditioning compressor not engaged).

Note:

Read the parameters when the vehicle is cold (in the morning) to check the conformity of the temperature parameters (without thermometer). The temperatures should be approximately equal (internal, external and engine coolant).

Fault finding procedures for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: cold loop

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	ET143: Air conditioning request 1.	ACTIVE for air conditioning request (AC button pressed or AUTO button pressed with maximum cold request). INACTIVE otherwise. Note: This status is only valid for <u>climate control systems</u> .	If there is a fault, refer to the fault finding procedure for this status . Note: This status represents the request from the air conditioning computer to the UCH to engage the compressor (refer to the flowchart in the General operation section).
	PR001: Internal temperature.	X = internal temperature $\pm 5\text{ }^{\circ}\text{C}$ (invalid value: $87.5\text{ }^{\circ}\text{C}$)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET141: Passenger compartment blower.	STOPPED (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for <u>climate control systems</u> .
	PR012: Mixing flap position.	0 % = Max. cold position ($15\text{ }^{\circ}\text{C}$) 100 % = Max. hot position ($27\text{ }^{\circ}\text{C}$)	If there is a fault, refer to the fault finding procedure for this parameter .
	PR006: Solar radiation.	0 watts (no sunlight) to 400 watts (maximum sunlight).	If there is a fault, refer to the fault finding procedure for this parameter .

Sub-function: cold loop (continued 1)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH	ET030: Air conditioning request 2.	INACTIVE (engagement of the compressor is only authorised when the engine is running).	If there is a fault, refer to the fault finding procedure for this status . Note: This status represents the request from the UCH to the injection computer to engage the compressor (refer to the flowchart in the General operation section).
	PR002: External temperature.	X = external temperature ± 5 °C (invalid value: 215 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET015: Passenger compartment blower.	INACTIVE (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	ET091: Engine running:	NO Note: This status is displayed by the UCH but is generated by the injection computer.	If there is a fault, refer to the fault finding procedure for this status . (Injection Technical Note).
Injection	ET079: Air conditioning present.	YES (automatic injection computer configuration).	If the status displays NO , refer to the fault finding procedure for this status .
	PR064: Coolant temperature.	X = engine coolant temperature.	If there is a fault, refer to the fault finding procedure for this parameter .
	ET004: Air conditioning authorisation.	NO (no authorisation with engine stopped).	If there is a fault, refer to the fault finding procedure for this status .

Sub-function: cold loop (continued 2)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Injection (continued 1)	ET088: Compressor activation request.	INACTIVE (engagement of the compressor is only authorised when the engine is running).	If there is a fault, refer to the fault finding procedure for this status . Note: This status represents the request from the injection computer to the Protection and Switching Unit to engage the compressor (refer to the flowchart in the General operation section).
	PR089: Vehicle speed.	0 mph or km/h	If there is a fault, refer to the fault finding procedure for this parameter .
	PR055: Engine speed.	0 rpm.	If there is a fault, refer to the fault finding procedure for this parameter .
	ET023: Fast idle request (except EDC 16 injection).	ABSENT	If there is a fault: refer to the fault finding procedure for this status . Note: This status is not displayed by the EDC16 injection (F9Q engine).
	PR053: Engine speed requested by air conditioning (except S3000 and DDCR injections).	0 rpm.	If there is a fault, refer to the fault finding procedure for this parameter . Note: This parameter is only displayed by the EDC16 injection (F9Q engine).
	PR037: Refrigerant pressure.	1 bar < X < 15 bar	If there is a fault, refer to the fault finding procedure for this parameter .
	PR125: Power absorbed by air conditioning compressor.	0 W < X < 300 W (ambient temperature 23 °C)	If there is a fault, refer to the fault finding procedure for this parameter .

Sub-function: cold loop (continued 3)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Injection (continued 2)	ET022: Low-speed fan assembly request (except 3000 injection)	INACTIVE Note: This status is not displayed by the S3000 injection (K4J, K4M, F4R and F4RT engines).	If there is a fault, refer to the fault finding procedure for this status . – For more information (Control of Fan 1 or Fan 2 according to vehicle speed and refrigerant fluid pressure), refer to the HELP section (62B).
	ET021: High-speed fan assembly request (except S3000 injection).	INACTIVE Note: This status is not displayed by the S3000 injection (K4J, K4M, F4R and F4RT engines).	If there is a fault, refer to the fault finding procedure for this status . – For more information (Control of Fan 1 or Fan 2 according to vehicle speed and refrigerant fluid pressure), refer to the HELP section (62B).
	ET014: Fan assembly 1 check (except DDCR injection).	STOPPED	If there is a fault, refer to the fault finding procedure for this status . Note: This status is not displayed by the DDCR injection (K9K engine).
	ET015: Fan assembly 2 check (except DDCR injection).	STOPPED	If there is a fault, refer to the fault finding procedure for this status . Note: This status is not displayed by the DDCR injection (K9K engine).

Sub-function: cold loop (continued 4)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Protection and Switching Unit	ET007: High-speed fan control.	INACTIVE (On Mégane saloons and coupes this status is always ACTIVE: ignore it).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative on Mégane Scénics (2 engine cooling fans and Fan 2 relay outside the UPC).
	AC008: Compressor control.	Command for testing the operation of the air conditioning compressor clutch.	If there is a fault, consult the fault finding procedure for this command . Note: The UPC cannot test the compressor control circuit; this command is the only way to test its operation.
	AC009: Low-speed fan assembly.	Command for testing the low speed operation of the engine cooling fan assembly (Fan 1).	If there is a fault, consult the fault finding procedure for this command . Note: The UPC cannot test the control circuit for fan 1; this command is the only way to test its operation.
	AC010: High-speed fan assembly	Command for testing the high speed operation of the engine cooling fan assembly (Fan 2).	If there is a fault, consult the fault finding procedure for this command . Note: On Mégane saloons and coupes the UPC cannot test the control circuit for Fan 2; this command is the only way to test its operation. On Mégane Scénics, the Fan 2 control relay is outside the UPC and its control line is tested by (DF002 High-speed fan assembly relay control circuit).

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: ignition on (12 volts APC), engine stopped, AIR CONDITIONING SWITCHED OFF (passenger compartment blower switched off and air conditioning compressor not engaged).

Note:

Read the parameters when the vehicle is cold (in the morning) to check the conformity of the temperature parameters (without thermometer). The temperatures should be approximately equal (internal, external and engine coolant).

Fault finding procedures for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: heater

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	ET086: Heated rear screen: manual mode.	ACTIVE: De-icing button at the bottom of the control panel pressed. INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status.
	ET085: Heated rear screen: auto mode.	ACTIVE: De-icing button at the top of the control panel pressed ("See clear" function). INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status.
	PR121: Blown air temperature setting.	0 < X < 80 °C.	If there is a fault, refer to the fault finding procedure for this parameter.
	PR001: Internal temperature.	X = internal temperature ± 5 °C (invalid value: 87.5).	If there is a fault, refer to the fault finding procedure for this parameter.
	PR012: Mixing flap position.	0 % = Max. cold position (15 °C) 100 % = Max. hot position (27 °C)	If there is a fault, refer to the fault finding procedure for this parameter.
	ET141: Passenger compartment blower.	OFF (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status. Note: This status is only operative for climate control systems .

Sub-function: heater (continued 1)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH	PR001: Battery voltage.	10.5 < X < 14.4 volts.	If there is a fault, refer to the fault finding procedure for this parameter . If the fault is still present, carry out a fault finding test on the charging circuit .
	PR002: External temperature.	X = external temperature ± 5 °C (invalid value: 215 °C).	If there is a fault, refer to the fault finding procedure for this parameter .
	ET025: Retractable roof.	CLOSED or NOT CLOSED ABSENT if the vehicle does not have one.	If there is a fault, refer to the fault finding procedure for this status .
	ET091: Engine running.	NO Note: This status is displayed by the UCH but is generated by the injection computer.	If there is a fault, refer to the fault finding procedure for this status . (Injection Technical Note).
	ET015: Passenger compartment blower.	INACTIVE (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	ET026: Heated rear screen switch.	INACTIVE (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status .
	ET031: Fast idle request for RCH.	INACTIVE (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status .
	ET017: Number RCH required.	0, 1, 2 or 3 for Mégane saloons and coupes (1000 watt RCH). 0, 1, 2, 3, 4 or 5 for Mégane Scénics (1800 watt RCH). (according to heat requirement).	If there is a fault, refer to the fault finding procedure for this status .

Sub-function: heater (continued 2)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH (continued)	ET018: Number RCH authorised by alternator.	0 (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status.
	ET019: Number RCH authorised by injection.	0 (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status.
	ET020: Number RCH activated.	0 (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status.
	ET021: RCH relay control 1.	INACTIVE (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status.
	ET022: RCH relay control 2.	INACTIVE (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status.
	ET023: RCH relay control 3 (Mégane Scénic and Scénic 4x4 only).	INACTIVE (Inhibited with engine stopped).	If there is a fault, refer to the fault finding procedure for this status. Note: This status is inoperative for Mégane saloons and Mégane coupes.
	AC016: RCH relay 1.	Commands for testing the operation of the RCH (passenger compartment air resistors). The number of RCH stages switched on depends on the number of relays activated. Note: RCH relay 3 is only fitted to Mégane Scénics.	If there is a fault, refer to the fault finding procedure for these controls. Note: For information on the correlation between the relays actuated and the number of RCH engaged, refer to the General operation section of the UCH Technical Note.
	AC017: RCH relay 2.		
	AC018: RCH relay 3 (Mégane Scénic only).		

Sub-function: heater (continued 3)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Injection	ET024: Set number of RCH.	NO Note: Depending on the requirements of the injection system: power requirement, torque reduction, etc., the injection computer sets the number of the RCH stage switched on (no more, no less).	If there is a fault, refer to the fault finding procedure for this status .
	PR064: Coolant temperature.	X = engine coolant temperature.	If there is a fault, refer to the fault finding procedure for this parameter .
Protection and Switching Unit	PR002: Alternator charging signal.	99 %, engine stopped.	If there is a fault, refer to the fault finding procedure for this parameter .
	AC011: Heated rear screen.	Command for testing the operation of the rear screen heating.	If there is a fault, consult the fault finding procedure for this command . Note: The UPC cannot test the rear screen heating control circuit; this command is the only way to test its operation.

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: ignition on (12 volts APC), engine stopped, **AIR CONDITIONING SWITCHED OFF** (passenger compartment blower switched off and air conditioning compressor not engaged).

Note:

The fault finding procedure for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: user selection

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	ET086: Heated rear screen: manual mode.	ACTIVE: De-icing button at the bottom of the control panel pressed. INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status.
	ET085: Heated rear screen: auto mode.	ACTIVE: De-icing button at the top of the control panel pressed ("See clear" function). INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status.
	ET143: Air conditioning request 1.	ACTIVE for air conditioning request (AC button pressed or AUTO button pressed with maximum cold request). INACTIVE otherwise. Note: This status is only valid for <u>climate control systems</u> .	If there is a fault, refer to the fault finding procedure for this status. Note: This status represents the request from the air conditioning computer to the UCH to engage the compressor (refer to the flowchart in the General operation section).

Sub-function: user selection (continued)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH	ET029: Air conditioning button.	PRESSED if the AC button on the air conditioning control panel is pressed. RELEASED otherwise.	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning systems .
	ET028: Heated rear screen button.	PRESSED if the heated rear screen key on the air conditioning control panel is pressed. RELEASED otherwise.	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	ET015: Passenger compartment blower.	INACTIVE (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	AC015: Air conditioning button light.	Command enabling the air conditioning button light to be illuminated to check its operation.	If there is a fault, consult the fault finding procedure for this command . Note: This command is only operative for manual air conditioning systems .
	AC019: Heated rear screen indicator light.	Command enabling the heated rear screen button light to be illuminated to check its operation.	If there is a fault, consult the fault finding procedure for this command . Note: This command is only operative for manual air conditioning systems (and heater versions without air conditioning).

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: ignition on (12 volts APC), engine stopped, **AIR CONDITIONING SWITCHED OFF** (passenger compartment blower switched off and air conditioning compressor not engaged).

Note:

Read the parameters when the vehicle is cold (in the morning) to check the conformity of the temperature parameters (without thermometer). The temperatures should be approximately equal (internal, external and engine coolant). Fault finding procedures for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: passenger compartment ventilation

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	PR019: Passenger compartment blower PWM setting.	Speed 0 = 0 % . Speed 8 = 100 % . Note: The PWM signal is a modulated control voltage used to control the power module for the passenger compartment blower.	If there is a fault or for more information (to find the intermediate speed percentages), refer to the fault finding procedure for this parameter .
	PR012: Mixing flap position.	0 % = Max. cold position (15 °C) 100 % = Max. hot position (27 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET062: Recirculation flap position.	OPEN if the flap is in the external air position. CLOSED if the flap is in the recirculation position.	If there is a fault, refer to the fault finding procedure for this status .
	PR011: Distribution flap position.	from 0 % to 100 % . Note: 0 % = Full air vents position 100 % = De-icing position.	If there is a fault or for more information (various flap opening values according to the user selection), refer to the fault finding procedure for this parameter .

Sub-function: passenger compartment ventilation (continued)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control (continued)	PR001: Internal temperature.	X = internal temperature ± 5 °C (invalid value: 87.5).	If there is a fault, refer to the fault finding procedure for this parameter.
	PR002: External temperature.	X = external temperature ± 5 °C (invalid value: 215 °C). Note: This status is displayed via the climate control computer but is generated by the UCH.	If there is a fault, refer to the fault finding procedure for this parameter (UCH technical note).
	PR006: Solar radiation.	0 watts (no sunlight) to 400 watts (maximum sunlight).	If there is a fault, refer to the fault finding procedure for this parameter.

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: engine at idle speed, AIR CONDITIONING OPERATING (air conditioning compressor engaged).

Note:

Read the parameters when the vehicle is cold (in the morning) to check the conformity of the temperature parameters (without thermometer). The temperatures should be approximately equal (internal, external and engine coolant).

Fault finding procedures for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: cold loop

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	ET143: Air conditioning request 1.	ACTIVE Note: This status is only valid for <u>climate control systems</u> .	If there is a fault, refer to the fault finding procedure for this status . Note: This status represents the request from the air conditioning computer to the UCH to engage the compressor (refer to the flowchart in the General operation section).
	PR001: Internal temperature.	X = internal temperature ± 5 °C (invalid value: 87.5 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET141: Passenger compartment blower.	RUNNING (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for <u>climate control systems</u> .
	PR012: Mixing flap position.	0 % = Max. cold position (15 °C) 100 % = Max. hot position (27 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	PR006: Solar radiation.	0 watts (no sunlight) to 400 watts (maximum sunlight).	If there is a fault, refer to the fault finding procedure for this parameter .

Sub-function: cold loop (continued 1)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH	ET030: Air conditioning request 2.	ACTIVE	If there is a fault, refer to the fault finding procedure for this status . Note: This status represents the request from the UCH to the injection computer to engage the compressor (refer to the flowchart in the General operation section).
	PR002: External temperature	X = external temperature $\pm 5\text{ }^{\circ}\text{C}$ (invalid value: 215 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET015: Passenger compartment blower.	ACTIVE (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	ET091: Engine running.	YES Note: This status is displayed by the UCH but is generated by the injection computer.	If there is a fault, refer to the fault finding procedure for this status . (Injection Technical Note).
Injection	ET079: Air conditioning present.	YES (automatic injection computer configuration).	If the status displays NO , refer to the fault finding procedure for this status .
	PR064: Coolant temperature.	X = engine coolant temperature.	If there is a fault, refer to the fault finding procedure for this parameter .
	ET004: Air conditioning authorisation.	YES	If the status displays NO , refer to the fault finding procedure for this status .

Sub-function: cold loop (continued 2)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Injection (continued 1)	ET088: Compressor activation request.	ACTIVE	If the status displays INACTIVE , refer to the fault finding procedure for this status . Note: This status represents the request from the injection computer to the Protection and Switching Unit to engage the compressor (refer to the flowchart in the General operation section).
	PR089: Vehicle speed.	0 mph or km/h	If there is a fault, refer to the fault finding procedure for this parameter .
	PR055: Engine speed.	800 rpm.	If there is a fault, refer to the fault finding procedure for this parameter .
	ET023: Fast idle request (except EDC 16 injection).	PRESENT	If there is a fault: refer to the fault finding procedure for this status . Note: This status is not displayed by the EDC16 injection (F9Q engine).
	PR053: Engine speed required by air conditioning (except S3000 and DDCR injections).	800 rpm.	If there is a fault, refer to the fault finding procedure for this parameter . Note: This parameter is only displayed by the EDC16 injection (F9Q engine).
	PR037: Refrigerant pressure.	1 bar < X < 27 bar	If there is a fault, refer to the fault finding procedure for this parameter .
	PR125: Power absorbed by air conditioning compressor.	300 W < X < 5000 W (ambient temperature = 23 °C)	If there is a fault, refer to the fault finding procedure for this parameter .

Sub-function: cold loop (continued 3)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Injection (continued 2)	ET022: Low-speed fan assembly request (except 3000 injection).	ACTIVE if the refrigerant fluid pressure is less than 23 bar INACTIVE otherwise Note: This status is not displayed by the S3000 injection (K4J, K4M, F4R and F4RT engines).	If there is a fault, refer to the fault finding procedure for this status. – For more information (Control of Fan 1 or Fan 2 according to vehicle speed and refrigerant fluid pressure), refer to the HELP section (62B).
	ET021: High-speed fan assembly request (except S3000 injection).	ACTIVE if the refrigerant fluid pressure is more than 23 bar INACTIVE otherwise Note: This status is not displayed by the S3000 injection (K4J, K4M, F4R and F4RT engines).	If there is a fault, refer to the fault finding procedure for this status. – For more information (Control of Fan 1 or Fan 2 according to vehicle speed and refrigerant fluid pressure), refer to the HELP section (62B).
	ET014: Checking fan assembly 1 (except DDCR injection).	RUNNING if the refrigerant fluid pressure is less than 23 bar OFF otherwise	If there is a fault, refer to the fault finding procedure for this status. Note: This status is not displayed by the DDCR injection (K9K engine).
	ET015: Fan assembly 2 check (except DDCR injection).	RUNNING if the refrigerant fluid pressure is more than 23 bar OFF otherwise	If there is a fault, refer to the fault finding procedure for this status. Note: This status is not displayed by the DDCR injection (K9K engine).

Sub-function: cold loop (continued 4)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Protection and Switching Unit	ET007: High-speed fan assembly control.	INACTIVE (On Mégane saloons and coupes this status is always ACTIVE: <u>ignore it</u>).	If there is a fault, refer to the fault finding procedure for this status. Note: This status is only operative on Mégane Scénics (2 engine cooling fans and Fan 2 relay outside the UPC).
	AC008: Compressor control.	Command for testing the operation of the air conditioning compressor clutch.	If there is a fault, consult the fault finding procedure for this command. Note: The UPC cannot test the compressor control circuit; this command is the only way to test its operation.
	AC009: Low-speed fan assembly.	Command for testing the low speed operation of the engine cooling fan assembly (Fan 1).	If there is a fault, consult the fault finding procedure for this command. Note: The UPC cannot test the control circuit for fan 1; this command is the only way to test its operation.
	AC010: High-speed fan assembly.	Command for testing the high speed operation of the engine cooling fan assembly (Fan 2).	If there is a fault, consult the fault finding procedure for this command. Note: On Mégane saloons and coupes the UPC cannot test the control circuit for Fan 2; this command is the only way to test its operation. On Mégane Scénics, the Fan 2 control relay is outside the UPC and its control line is tested by (DF002 High-speed fan assembly relay control circuit).

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: engine at idle speed, AIR CONDITIONING OPERATING (air conditioning compressor engaged).

Note:

Fault finding procedures for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: heater

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	ET086: Heated rear screen: manual mode.	ACTIVE: De-icing button at the bottom of the control panel pressed. INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status .
	ET085: Heated rear screen: auto mode.	ACTIVE: De-icing button at the top of the control panel pressed ("See clear" function). INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status .
	PR121: Blown air temperature setting.	0 < X < 80 °C.	If there is a fault, refer to the fault finding procedure for this parameter .
	PR001: Internal temperature.	X = internal temperature ± 5 °C (invalid value: 87.5).	If there is a fault, refer to the fault finding procedure for this parameter .
	PR012: Mixing flap position.	0 % = Max. cold position (15 °C) 100 % = Max. hot position (27 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET141: Passenger compartment blower.	RUNNING. (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for climate control systems .

Sub-function: heater (continued 1)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH	PR001: Battery voltage.	12.5 < X < 14.4 volts.	If there is a fault, refer to the fault finding procedure for this parameter . If the fault is still present, carry out fault finding on the charge circuit .
	PR002: External temperature.	X = external temperature ± 5 °C (invalid value: 215 °C).	If there is a fault, refer to the fault finding procedure for this parameter .
	ET025: Retractable roof.	CLOSED or NOT CLOSED ABSENT if the vehicle does not have one.	If there is a fault, refer to the fault finding procedure for this status .
	ET091: Engine running.	YES Note: This status is displayed by the UCH but is generated by the injection computer.	If there is a fault, refer to the fault finding procedure for this status . (Injection Technical Note).
	ET015: Passenger compartment blower.	ACTIVE (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	ET026: Heated rear screen switch.	ACTIVE if the heated rear screen is operating. INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status .
	ET031: Fast idle request for RCH.	ACTIVE if the RCH are operating. INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status .
	ET017: Number RCH required.	0, 1, 2 or 3 for Mégane saloons and coupes (1000 watt RCH). 0, 1, 2, 3, 4 or 5 for Mégane Scénics (1800 watt RCH). (according to heat requirement).	If there is a fault, refer to the fault finding procedure for this status .

Sub-function: heater (continued 2)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH (continued 1)	ET018: Number RCH authorised by alternator.	0, 1, 2 or 3 for Mégane saloons and coupes (1000 watt RCH). 0, 1, 2, 3, 4 or 5 for Mégane Scénics (1800 watt RCH). (depending on the electricity available).	If there is a fault, refer to the fault finding procedure for this status.
	ET019: Number RCH authorised by injection.	0, 1, 2 or 3 for Mégane saloons and coupes (1000 watt RCH). 0, 1, 2, 3, 4 or 5 for Mégane Scénics (1800 watt RCH). (according to the injection's requirements: power requirement, torque reduction, etc.).	If there is a fault, refer to the fault finding procedure for this status.
	ET020: Number RCH activated.	0, 1, 2 or 3 for Mégane saloons and coupes (1000 watt RCH). 0, 1, 2, 3, 4 or 5 for Mégane Scénics (1800 watt RCH). (depending on statuses ET017, ET018 and ET019).	If there is a fault, refer to the fault finding procedure for this status.
	ET021: RCH relay control 1.	ACTIVE or INACTIVE (depending on status ET020).	If there is a fault, refer to the fault finding procedure for this status.
	ET022: RCH relay control 2.	ACTIVE or INACTIVE (depending on status ET020).	If there is a fault, refer to the fault finding procedure for this status.
	ET023: RCH relay control 3 (Mégane Scénic and Scénic 4x4 only).	ACTIVE or INACTIVE (depending on status ET020).	If there is a fault, refer to the fault finding procedure for this status. Note: this status is <u>inoperative</u> for Mégane saloons and Méganes coupes.

Sub-function: heater (continued 3)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH (continued 2)	AC016: RCH relay 1.	Commands for testing the operation of the RCH (passenger compartment air heating resistors). The number of RCH stages switched on depends on the number of relays activated. Note: RCH relay 3 is only fitted to Mégane Scénics.	If there is a fault, refer to the fault finding procedure for these controls . Note: For information on the correlation between the relays actuated and the number of RCH engaged, refer to the General operation section of the UCH Technical Note.
	AC017: RCH relay 2.		
	AC018: RCH relay 3. (Mégane Scénics only)		
Injection	ET024: Set number of RCH.	YES or NO Note: Depending on the requirements of the injection system: power requirement, torque reduction, etc., the injection computer sets the number of the RCH stage switched on (no more, no less).	If there is a fault, refer to the fault finding procedure for this status .
	PR064: Coolant temperature.	X = engine coolant temperature.	If there is a fault, refer to the fault finding procedure for this parameter .
Protection and Switching Unit	PR002: Alternator charging signal.	0 < X < 100 % – 0 % = zero electricity consumption. – 100 % = maximum electricity consumption.	If there is a fault, refer to the fault finding procedure for this parameter .
	AC011: Heated rear screen.	Command for testing the operation of the rear screen de-icer.	If there is a fault, consult the fault finding procedure for this command . Note: The UPC cannot test the rear screen de-icer control circuit; this command is the only way to test its operation.

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: engine at idle speed, AIR CONDITIONING OPERATING (air conditioning compressor engaged).

Note:

The fault finding procedure for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: user selection

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	ET086: Heated rear screen: manual mode.	ACTIVE: De-icing button at the bottom of the control panel pressed. INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status .
	ET085: Heated rear screen: auto mode.	ACTIVE: De-icing button at the top of the control panel pressed ("See clear" function). INACTIVE otherwise.	If there is a fault, refer to the fault finding procedure for this status .
	ET143: Air conditioning request 1.	ACTIVE Note: This status is only valid for <u>climate control systems</u> .	If there is a fault, refer to the fault finding procedure for this status . Note: This status represents the request from the air conditioning computer to the UCH to engage the compressor (refer to the flowchart in the General operation section).

Sub-function: user selection (continued)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
UCH	ET029: Air conditioning button.	PRESSED (AC button on the manual air conditioning control panel pressed).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning systems .
	ET028: Heated rear screen button.	PRESSED if the heated rear screen key on the air conditioning control panel is pressed. RELEASED otherwise.	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	ET015: Passenger compartment blower.	ACTIVE (according to test conditions: see Notes).	If there is a fault, refer to the fault finding procedure for this status . Note: This status is only operative for manual air conditioning (and heater versions without air conditioning).
	AC015: Air conditioning button indicator light.	Command enabling the air conditioning button indicator light to be illuminated to check its operation.	If there is a fault, consult the fault finding procedure for this command . Note: This command is only operative for manual air conditioning systems .
	AC019: Heated rear screen indicator light.	Command enabling the heated rear screen button light to be illuminated to check its operation.	If there is a fault, consult the fault finding procedure for this command . Note: This command is only operative for manual air conditioning systems (and heater versions without air conditioning).

NOTES

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Test conditions: engine at idle speed, AIR CONDITIONING OPERATING (air conditioning compressor engaged).

Note:

Read the parameters when the vehicle is cold (in the morning) to check the conformity of the temperature parameters (without thermometer). The temperatures should be approximately equal (internal, external and engine coolant). Fault finding procedures for the statuses, parameters and commands listed in this check are explained in the technical notes relating to the computer which generates the signal (see the Introduction section).

Sub-function: passenger compartment ventilation

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control	PR019: PWM setting Passenger compartment blower.	from 18 % to 100 % . (18 % corresponds to speed 1) Note: The PWM signal is a modulated control voltage used to control the power module for the passenger compartment blower.	If there is a fault or for more information (to find the intermediate speed percentages), refer to the fault finding procedure for this parameter .
	PR012: Mixing flap position.	0 % = Max. cold position (15 °C) 100 % = Max. hot position (27 °C)	If there is a fault, refer to the fault finding procedure for this parameter .
	ET062: Recirculation flap position.	OPEN if the flap is in the external air position. CLOSED if the flap is in the recirculation position.	If there is a fault, refer to the fault finding procedure for this status .
	PR011: Distribution flap position.	from 0 % to 100 % . Note: 0 % = Full air vents position 100 % = De-icing position	If there is a fault or for more information (various flap opening values according to the user selection), refer to the fault finding procedure for this parameter .

Sub-function: passenger compartment ventilation (continued)

Computer (signal generator)	Parameter or status check or action	Display and Notes	Fault finding
Climate control (continued)	PR001: Internal temperature.	X = internal temperature ± 5 °C (invalid value: 87.5).	If there is a fault, refer to the fault finding procedure for this parameter .
	PR002: External temperature.	X = external temperature ± 5 °C (invalid value: 215 °C). Note: This status is displayed via the climate control computer but is generated by the UCH.	If there is a fault, refer to the fault finding procedure for this parameter (UCH technical note).
	PR006: Solar radiation.	0 watts (no sunlight) to 400 watts (maximum sunlight).	If there is a fault, refer to the fault finding procedure for this parameter .

NOTES	Special notes: This section gives the complete list of possible customer complaints (the fault finding charts are to be found in sections 62A , 62B and 62C : see below).
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COMMUNICATION FAULT (only for regulated versions)	Section 62B
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_____ **NO DIALOGUE WITH THE COMPUTER** _____ **ALP 1**

AIR DISTRIBUTION PROBLEM	Sections 62B and 62C
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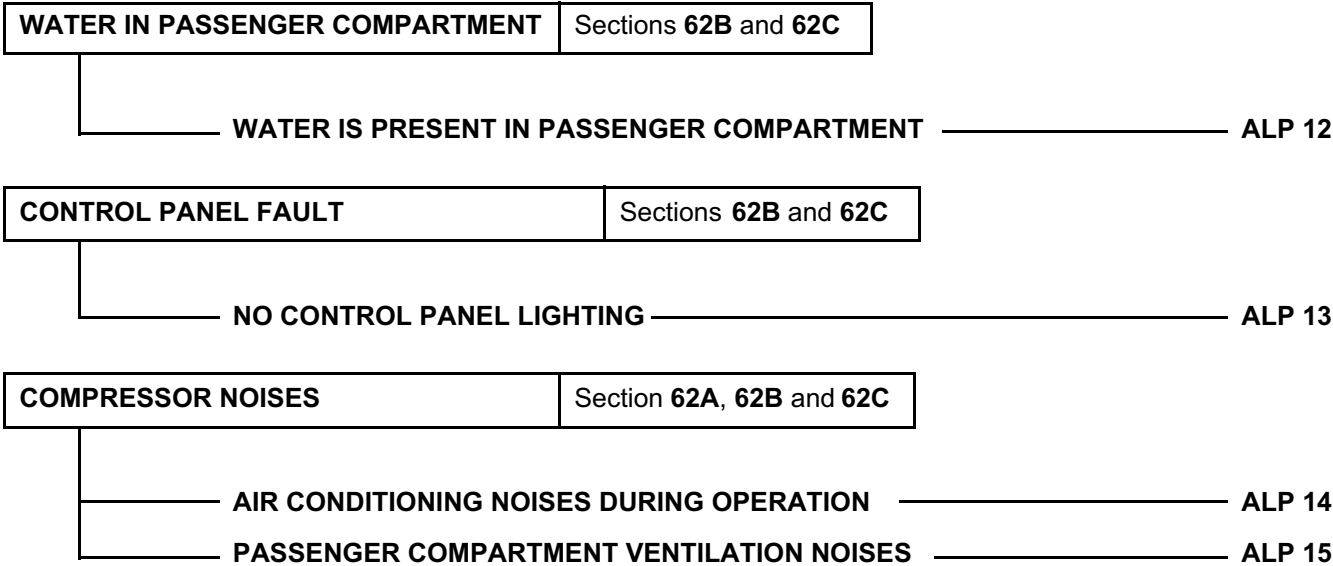
_____ **AIR DISTRIBUTION PROBLEM** _____ **ALP 2**
_____ **AIR FLOW FAULT** _____ **ALP 3**
_____ **INEFFICIENT WINDSCREEN DEMISTING** _____ **ALP 4**
_____ **NO PASSENGER COMPARTMENT VENTILATION** _____ **ALP 5**

AIR CONDITIONING FAULT	Section 62A
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_____ **NO HEATING OR INADEQUATE HEATING** _____ **ALP 6**
_____ **EXCESSIVE HEATING** _____ **ALP 7**
_____ **NO COLD AIR** _____ **ALP 8**
_____ **TOO MUCH COLD AIR** _____ **ALP 9**
_____ **INEFFICIENT REAR SCREEN DE-ICING OR DEMISTING** _____ **ALP 10**

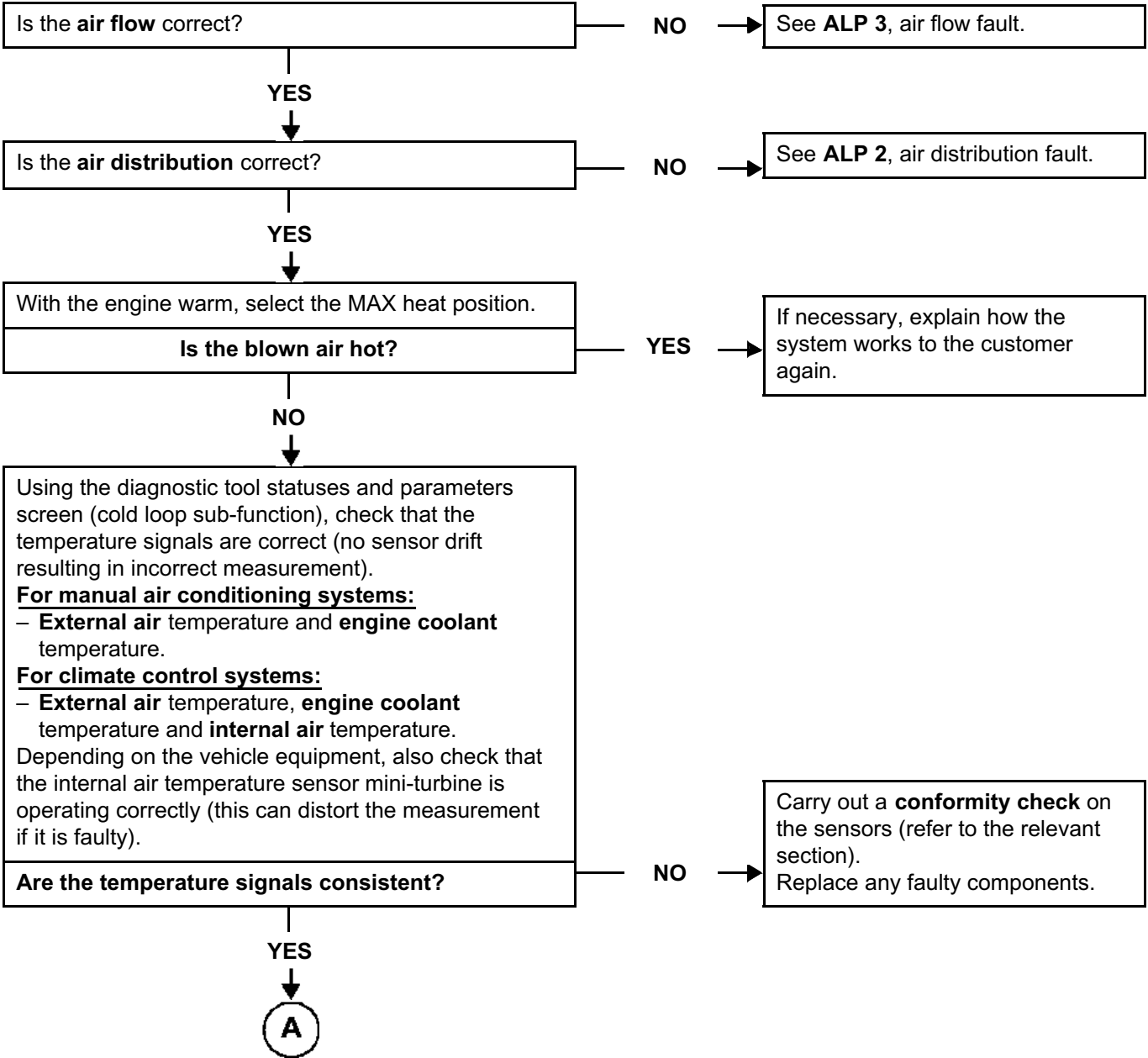
PASSENGER COMPARTMENT ODOURS	Sections 62B and 62C
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_____ **UNPLEASANT ODOURS IN PASSENGER COMPARTMENT** _____ **ALP 11**

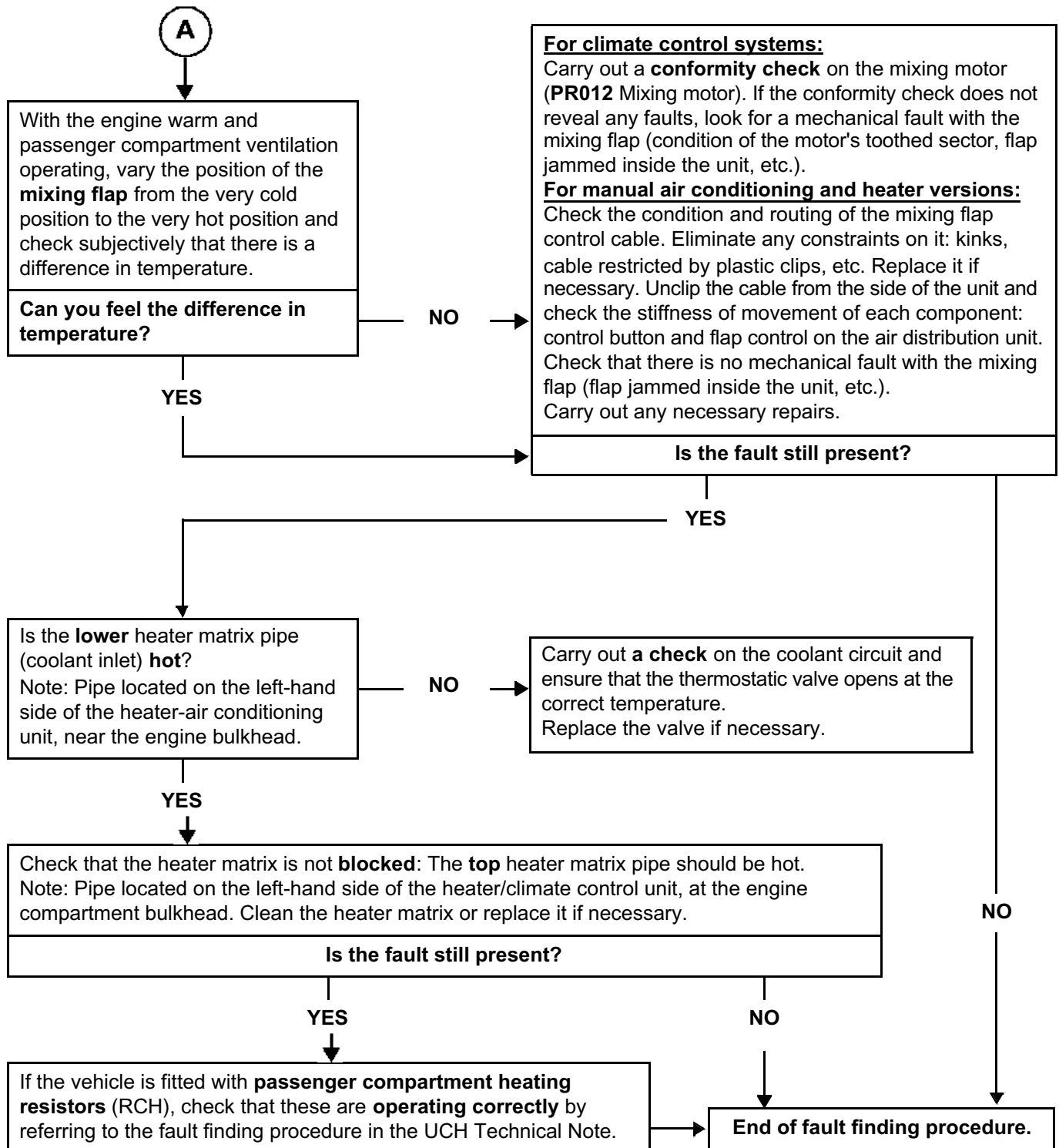


ALP 6	No heating or inadequate heating
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NOTES	Only refer to this customer complaint after a full check with the diagnostic tool (fault reading and configuration checks).
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AFTER REPAIR	Perform a complete check using the diagnostic tool.
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ALP 6
CONTINUED

AFTER REPAIR

Perform a complete check using the diagnostic tool.

ALP 7**Too much hot air****NOTES**

Only refer to this customer complaint after a **full check with the diagnostic tool** (fault reading and configuration checks).

Is the **air flow** correct?

NO →

See **ALP 3**, air flow fault.

YES
↓

Is the **air distribution** correct?

NO →

See **ALP 2**, air distribution fault.

YES
↓

Using the diagnostic tool statuses and parameters screen (cold loop sub-function), check that the temperature signals are correct (no sensor drift resulting in incorrect measurement).

For manual air conditioning: External air temperature and **engine coolant** temperature.

For regulated climate control systems: External air temperature, **engine coolant** temperature and **internal air** temperature.

Depending on the vehicle equipment, also check that the internal air temperature sensor mini-turbine is operating correctly (this can distort the measurement if it is faulty).

Are the temperature signals consistent?

NO →

Carry out a **conformity check** on the sensors (refer to the relevant section). Replace any faulty components.

YES
↓

With the engine warm and passenger compartment ventilation operating, vary the position of the **mixing flap** from the maximum hot position to the maximum cold position and check subjectively that there is a difference in temperature.

Can you feel the difference in temperature?

NO →

YES
↓

A

For climate control systems:

Carry out a **conformity check** on the mixing motor (**PR012** Mixing motor). If the conformity check does not reveal any faults, look for a mechanical fault with the mixing flap (condition of the motor's toothed sector, flap jammed inside the unit, etc.).

For manual air conditioning systems:

Check the condition and routing of the mixing flap control cable. Eliminate any constraints on it: kinks, cable restricted by plastic clips, etc. Replace it if necessary. Unclip the cable from the side of the unit and check the stiffness of movement of each component: control button and flap control on the air distribution unit.

Check that there is no mechanical fault with the mixing flap (flap jammed inside the unit, etc.). Carry out any necessary repairs.

AFTER REPAIR

Perform a complete check using the diagnostic tool.

ALP 7
CONTINUED**For climate control systems:**

Using the diagnostic tool statuses and parameters screen (passenger compartment ventilation sub-function), check that the recirculation flap is in the **external air** position: status **ET062** Recirculation flap position should display OPEN. If it is closed when the user does not want recirculation, use the fault finding procedure for fault: **DF021** Recirculation motor circuit.

For manual air conditioning systems:

check that the recirculation flap is in the **external air** position. If this is not operating correctly (impossible to change the flap to the exterior air position), check the condition and routing of the recirculation flap control cable. Eliminate any constraints on it: kinks, cable restricted by plastic clips, etc.

Replace it if necessary.

Check that there is no mechanical fault with the recirculation flap (flap jammed).

Carry out any necessary repairs.

Is the fault still present?

YES

NO

Is the **lower** heater matrix pipe
(coolant inlet) **hot**?

Note: Pipe located on the left-hand side
of the heater/climate control unit, at the
engine compartment bulkhead.

NO

Carry out a **check** on the
coolant circuit and ensure
that thermostatic valve
opens at the correct
temperature.
Replace the valve if
necessary.

YES

If the vehicle is fitted with passenger compartment heating resistors,
check that these are **operating correctly** (not switching on
unnecessarily) by referring to the fault finding procedure contained in
the UCH technical note.

End of fault finding procedure.

AFTER REPAIR

Perform a complete check using the diagnostic tool.

ALP 8**No cold air****NOTES**

Only carry out this conformity check after a **full check** with the diagnostic tool (fault reading and configuration checks).

Using the diagnostic tool statuses and parameters screen (cold loop sub-function), check that the temperature signals are consistent (no sensor drift resulting in incorrect measurement).

For manual air conditioning: External air temperature and engine coolant temperature.

For regulated climate control systems: External air temperature, engine coolant temperature and internal air temperature. Depending on the vehicle equipment, also check that the internal air temperature sensor mini-turbine is operating correctly (this can distort the measurement if it is faulty).

Are the temperature signals consistent?

NO

Carry out a **conformity check** on the sensors. Replace any faulty components.

YES

Start the engine and switch on the air conditioning by pressing the **AC** button (with a request for maximum cold temperature and the passenger compartment fan running).

View the following statuses on the user selection sub-function screen:

– **For climate control systems:**

Status **ET143** AIR CONDITIONING REQUEST 1 should display ACTIVE and the symbol AC should be displayed on the air conditioning control panel screen.

– **For manual air conditioning systems:**

Status **ET029** AIR CONDITIONING BUTTON should display PRESSED. Note: these statuses show the request from the air conditioning control panel to the UCH to start the air conditioning.

Are the correct statuses displayed?

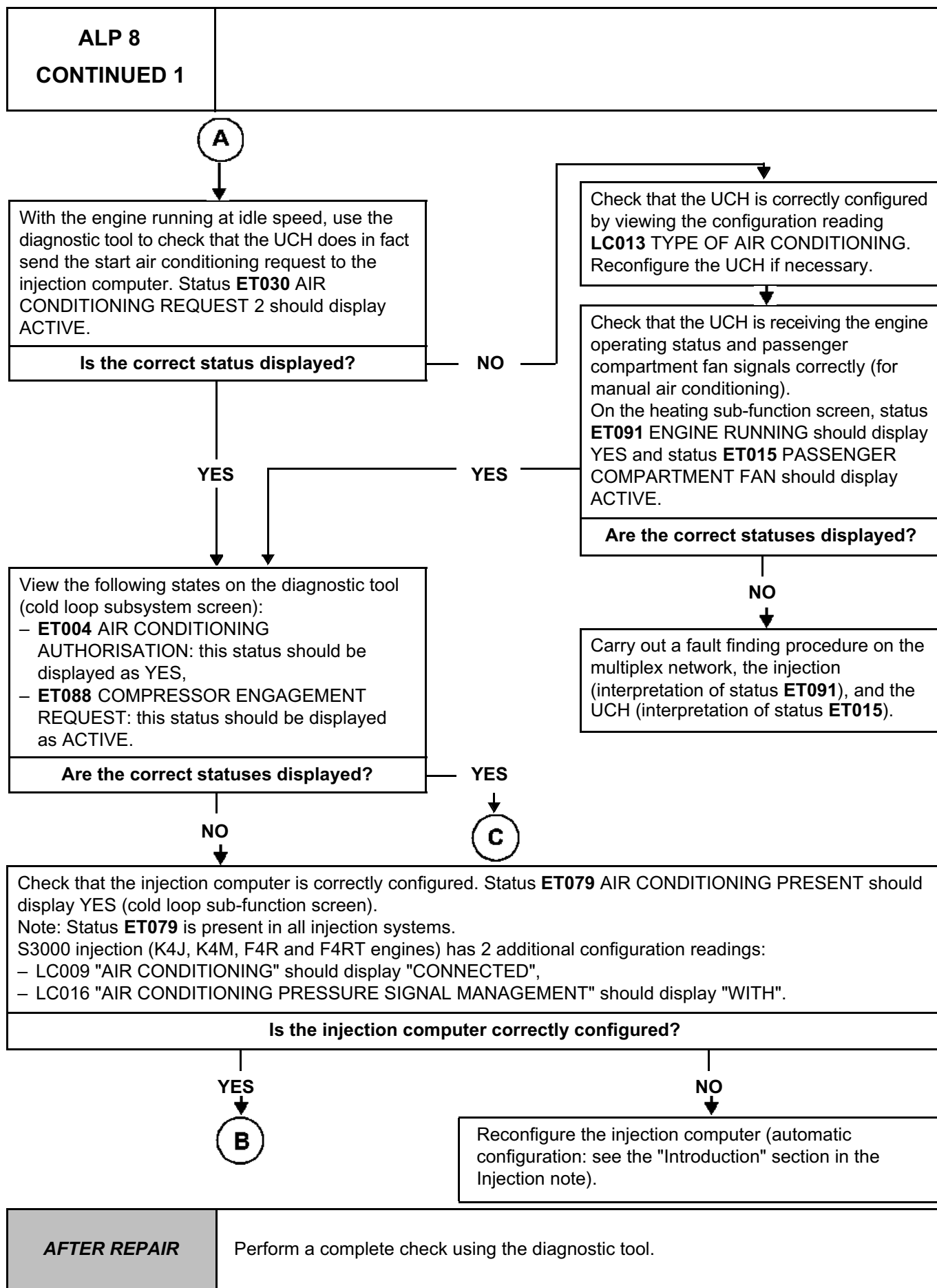
NO

Contact your Techline.

YES

**AFTER REPAIR**

Perform a complete check using the diagnostic tool.



ALP 8 CONTINUED 2	
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Carry out **fault finding on the injection system** to ensure that no fault is present (if faults are displayed by the injection computer, engagement of the air conditioning may be inhibited).
If there are present or stored faults: **carry out the necessary repairs** (see the injection Technical Note).



Check that the **refrigerant fluid pressure** is correct (neither too low nor too high) using parameter **PR037 REFRIGERANT FLUID PRESSURE**: see the conformity check in this note (cold loop sub-function).



Check that the engine cooling fan assembly is at speed 1 by viewing the following statuses on the cold loop sub-function screen:

- Status **ET014** FAN ASSEMBLY 1 CHECK should display RUNNING.
- status **ET022** LOW SPEED FAN ASSEMBLY REQUEST should display ACTIVE.

NOTE: These statuses are not displayed by all types of injection system (see the cold loop sub-function conformity check).

Is the engine fan running at speed 1?

NO →

Carry out fault finding on the injection (which calls for the fan units to be switched on) and the Switching Protection Unit (which controls the fan units).

YES



AFTER REPAIR	Perform a complete check using the diagnostic tool.
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ALP 8 CONTINUED 3



Check the **condition of the air conditioning compressor belt** and its **tension**.

Is the tension correct?

NO → **Replace the belt**
(refer to repair methods).

YES

With the engine stopped, use the diagnostic tool to run command **AC008 COMPRESSOR CONTROL** (Protection and Switching Unit command mode menu).

Does the compressor clutch jam?

NO → Use the fault finding procedure for command **AC008 COMPRESSOR CONTROL** found in the Protection and Switching Unit Technical Note.

YES

With the engine warm and passenger compartment ventilation operating, vary the position of the **mixing flap** from the maximum hot position to the maximum cold position and check subjectively that there is a difference in temperature.

Can you feel the difference in temperature?

NO →

For climate control systems:

Carry out a **conformity check** on the mixing motor (**PR012 MIXING MOTOR**). If the conformity check does not reveal any faults, look for a mechanical fault with the mixing flap (condition of the motor's toothed sector, flap jammed inside the unit, etc.).

For manual air conditioning systems:

Check the condition and routing of the mixing flap control cable. Eliminate any stresses on it: kinks, cable restricted by plastic clips, etc. Replace it if necessary. Unclip the cable from the side of the unit and check the stiffness of movement of each component: control button and flap control on the air distribution unit. Check that there is no mechanical fault with the mixing flap (flap jammed inside the unit, etc.). Carry out any necessary repairs.

Is the fault still present?

YES

NO

End of fault finding procedure.



AFTER REPAIR

Perform a complete check using the diagnostic tool.

ALP 8
CONTINUED 4

Check that the condenser is clean (presence of leaves, mud, etc.).
Clean the condenser if necessary.

Check the cold loop by checking the condition of the pipes and checking that the air conditioning system is not **leaking refrigerant** (carry out the check with the **engine cold and then hot**, using the electronic buzzer or a leak detecting product to avoid filling the air conditioning system twice in succession).
Repair if necessary.

With the air conditioning operating (maximum cold requested), check that the refrigerant pipe between the sized port and the evaporator is **very cold** to the touch (lower evaporator inlet pipe at the engine compartment bulkhead).

Is the refrigerant pipe cold?

NO

Check the presence of the
calibrated jet.

Is the sized port present?

NO

Replace the pipe (between the
condenser outlet and the
evaporator inlet).

YES

Replace the calibrated jet.

Top up the refrigerant, referring to the Repair Manual (550 g ± 25 g).

Is the fault still present?

YES

Replace the air conditioning compressor.

NO

End of fault finding procedure.

AFTER REPAIR

Perform a complete check using the diagnostic tool.

ALP 9**Too much cold air****NOTES**

Only refer to this customer complaint after a **full check with the diagnostic tool** (fault reading and configuration checks).

With the engine running at idle speed and air conditioning switched off ("AC" button not pressed and no "AUTO" mode), check that the air conditioning compressor clutch is not engaged.

Is the air conditioning compressor clutch engaged?

NO

YES

With the engine stopped, use the diagnostic tool to run command **AC008** COMPRESSOR CONTROL (Protection and Switching Unit command mode menu) to check the correct operation of the compressor clutch electrical control. During the command, **track A** of the compressor clutch must be supplied with + 12 volts. If the + 12 volts feed is still present after the command has terminated: refer to the interpretation of this command (check the continuity and **insulation against + 12 volts** of the electrical connection between the UPC and the compressor clutch).

If there are no faults on the compressor command line but the clutch remains engaged: check that the air conditioning compressor clutch is not seized (mechanical fault). Replace the air conditioning compressor if necessary.

Is the fault still present?

NO

**End of fault finding
procedure.**

YES

**AFTER REPAIR**

Perform a complete check using the diagnostic tool.

ALP 9
CONTINUED

Using the diagnostic tool statuses and parameters screen (cold loop sub-function), check that the temperature signals are correct (no sensor drift resulting in incorrect measurement).

For manual air conditioning: External air temperature and engine coolant temperature.

For regulated climate control systems: External air temperature, engine coolant temperature and internal air temperature.

Depending on the vehicle equipment, also check that the internal air temperature sensor mini-turbine is operating correctly (this can distort the measurement if it is faulty).

Are the temperature signals consistent?

NO

Carry out a **conformity check** on the sensors (refer to the relevant section). Replace any faulty components.

YES

With the engine warm and passenger compartment ventilation operating, vary the position of the **mixing flap** from the very cold position to the very hot position and check subjectively that there is a difference in temperature.

Can you feel the difference in temperature?

NO

YES

Check the refrigerant fluid level.

For climate control systems:

Carry out a **conformity check** on the mixing motor (PR012 Mixing motor). If the conformity check does not reveal any faults, look for a mechanical fault with the mixing flap (condition of the motor's toothed sector, flap jammed inside the unit, etc.).

For manual air conditioning systems:

Check the condition and routing of the mixing flap control cable. Eliminate any constraints on it: kinks, cable restricted by plastic clips, etc. Replace it if necessary. Unclip the cable from the side of the unit and check the stiffness of movement of each component: control button and flap control on the air distribution unit.

Check that there is no mechanical fault with the mixing flap (flap jammed inside the unit, etc.). Carry out any necessary repairs.

AFTER REPAIR

Perform a complete check using the diagnostic tool.

ALP 10**Inefficient rear screen de-icing or demisting****NOTES**

Only refer to this customer complaint after a **full check with the diagnostic tool** (fault readings, especially those of the Protection and Switching Unit, and configuration checks).

Special notes:

- Check that the inside of the glass is not **greasy** as this lowers the de-icing efficiency.

Note: The de-icing command may only be used when the engine is running to prevent a power drain.

Rear screen de-icing can be activated in two ways:

- Pressing the de-icing button (at the bottom of the control panel) switches on the heated rear screen in manual mode (with timer) and heated door mirrors.
- Pressing the de-icing button at the top of the control panel activates the "See clear" function: heated rear screen in automatic mode (no timer) heated door mirrors, air conditioning and high speed windscreen ventilation all switched on.

Check that there are no water leaks into the passenger compartment which would significantly increase the humidity levels and reduce the effectiveness of demisting. Repair if necessary (see **ALP 12**).

Is the fault still present?

NO

End of fault finding procedure.

YES

Check for **earth** on the right-hand side terminal of the heated rear screen.
Repair if necessary.

Use the diagnostic tool to run command **AC011** Heated rear screen (Protection and Switching Unit command mode menu).

Is the 12 V feed present on the left-hand connector of the heated rear screen?

YES

If the **12 V** feed and earth both arrive correctly at the heated rear screen terminals but the screen still does not operate correctly: unclip the plastic rear screen pillars and check that the **de-icing lines are not broken**. The resistance of the lines should be neither zero nor infinity (average **0.5 Ω**). Repair if necessary.

NO

**AFTER REPAIR**

Perform a complete check using the diagnostic tool.

ALP 10
CONTINUED 1**A**

Use the fault finding procedure for command **AC011** HEATED REAR SCREEN found in the Protection and Switching Unit Technical Note.

Is the fault still present?**NO****End of fault finding procedure.****YES**

Using the tables below, check the control panel button(s).

NOTE: With climate control systems, press the de-icing button at the top of the control panel for auto de-icing ("See clear" function), and press the de-icing button at the bottom of the control panel for manual de-icing.

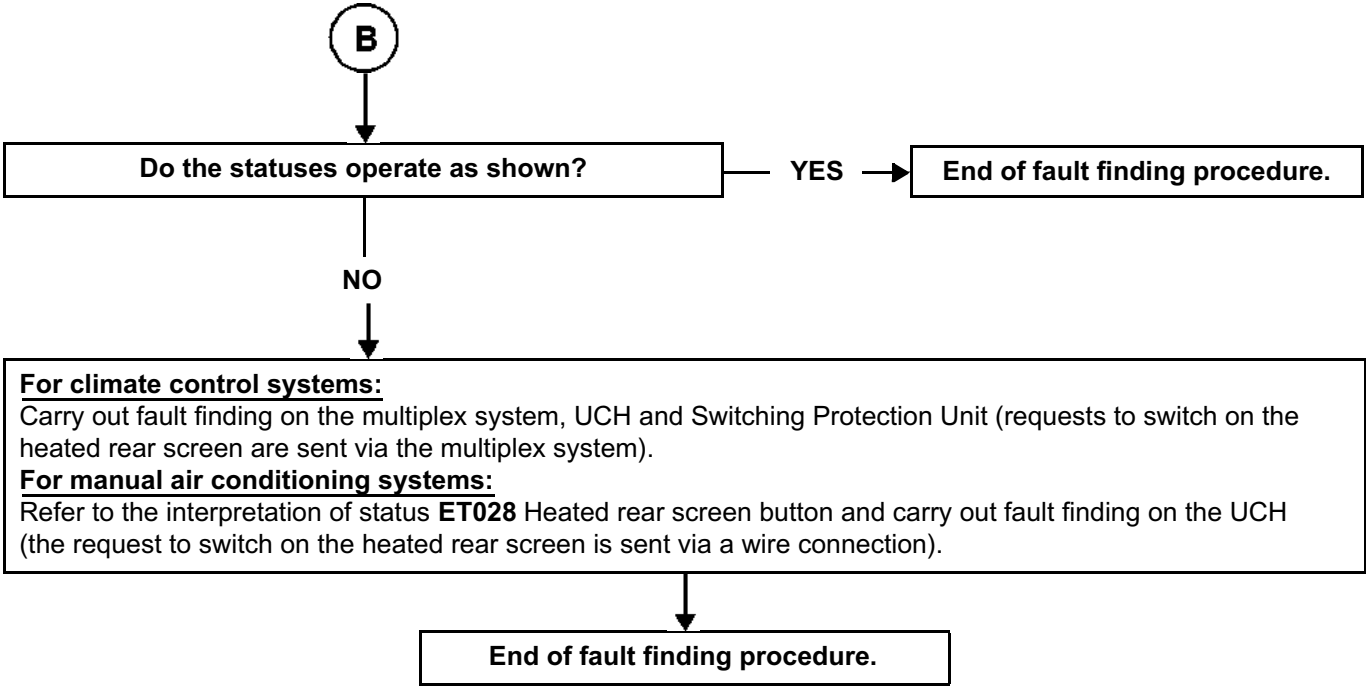
<u>CLIMATE CONTROL</u>	ENGINE STOPPED			ENGINE RUNNING		
	No button pressed	Auto de-icing pressed	Manual de-icing pressed	No button pressed	Auto de-icing pressed	Manual de-icing pressed
ET085 Heated rear screen: automatic mode	INACTIVE	ACTIVE	INACTIVE	INACTIVE	ACTIVE	INACTIVE
ET086 Heated rear screen: manual mode	INACTIVE	INACTIVE	ACTIVE	INACTIVE	INACTIVE	ACTIVE
ET026 Heated rear screen control	INACTIVE	INACTIVE	INACTIVE	INACTIVE	ACTIVE	ACTIVE

<u>MANUAL AIR CONDITIONING</u> (and heater version without air conditioning)	ENGINE STOPPED		ENGINE RUNNING	
	No button pressed	De-icing pressed	No button pressed	De-icing pressed
ET026 Heated rear screen control	INACTIVE	INACTIVE	INACTIVE	ACTIVE
ET028 Heated rear screen button	RELEASED	DEPRESSED	RELEASED	DEPRESSED

B**AFTER REPAIR**

Perform a complete check using the diagnostic tool.

ALP 10 CONTINUED 2	
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AFTER REPAIR	Perform a complete check using the diagnostic tool.
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ALP 14	Air conditioning noises during operation
NOTES	Only deal with this customer complaint after a full check with the diagnostic tool (fault reading and configuration checks).
<p>Check that the computers involved in the air conditioning function (Injection, Protection and Switching Unit, UCH and Air conditioning control panel) are correctly configured. Reconfigure if necessary (see Configurations and Configuration readings).</p>	
<p>Check that:</p> <ul style="list-style-type: none"> – the compressor fitted to the vehicle corresponds correctly to the engine (see MR 364 Mechanical, 62A, Air conditioning, Air conditioning: Parts and consumables for the repair). <p>Replace the compressor if necessary (see MR 364, Mechanical, 62A, Air conditioning, Compressor: Removal - Refitting).</p> <ul style="list-style-type: none"> – the compressor is correctly fixed (see MR 364 Mechanical, 62A, Air conditioning, Compressor: Removal - Refitting). 	
<p>Check the condition of the compressor belt and check its tension. Replace the belt if necessary (see MR 364 Mechanical, 11A, Top and front of engine, Accessories belt: Removal - Refitting).</p>	
<p>Check that the intermediate pipes, condenser and dehydrator reservoir are correctly fitted.</p> <ul style="list-style-type: none"> – Check the mountings and brackets of the components. – Check the contact between and proximity of the components. <p>(See MR 364 Mechanical, 62A, Air conditioning, Air conditioning: List and location of components).</p>	
<p>Check the correct operation of the cooling fan assembly or passenger compartment fan assembly and condenser:</p> <ul style="list-style-type: none"> – check the electrical supply of the fan using parameters ET007 High speed fan assembly control, AC009 Low speed fan assembly and AC010 High speed fan assembly (see Conformity check, Sub-function: Cold loop). 	
<p>Check the quantity of refrigerant (see MR 364 Mechanical, 62A, Air conditioning, Air conditioning: Parts and consumables for the repair).</p> <p>If the quantity of refrigerant is:</p> <ul style="list-style-type: none"> – Greater than the manufacturer's information, recharge according to the manufacturer's values (see MR 364 Mechanical, 62A, Air conditioning: Draining - Filling). – Less than the manufacturer's information, check for leaks (see MR 364 Mechanical, 62A, Air conditioning, Refrigerant circuit: Check). 	
<p>If the fault is still present, replace the compressor (see MR 364, Mechanical, 62A, Air conditioning, Compressor: Removal - Refitting).</p>	

AFTER REPAIR	Carry out a complete check using the diagnostic tool.
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ALP 15

Passenger compartment ventilation noises

NOTES

Only deal with this customer complaint after a **full check with the diagnostic tool** (fault reading and configuration checks).

The aim of the following operations is to check and, if necessary, eliminate any foreign bodies (leaves, insects, other, etc.) in:

- the passenger compartment air inlet,
- the cabin filter housing,
- the housing and on the fan assembly.

Check the passenger compartment air inlet:

Remove:

- the scuttle panel grille (see **MR 365 Bodywork, 56A, Exterior equipment, Scuttle panel grille: Removal - Refitting**),
- the scoop under the scuttle panel grille.

Check that there are no foreign bodies (leaves, insects, other, etc.) and, if necessary, clean the passenger compartment air inlet and the cabin filter housing.

Refit:

- the scoop under the scuttle panel grille,
- the scuttle panel grille (see **MR 365 Bodywork, 56A, Exterior equipment, Scuttle panel grille: Removal - Refitting**).

Check the cabin filter housing:

Remove the cabin filter (see **MR 364 Mechanical, 61A, Heating system, Cabin filter: Removal – Refitting**).

Check that there are no foreign bodies (leaves, insects, other, etc.) and, if necessary, clean the cabin filter housing.
Refit the cabin filter (see **MR 364 Mechanical, 61A, Heating system, Cabin filter: Removal – Refitting**).

Check the housing and the fan assembly:

Remove the fan assembly (see **MR 364 Mechanical, 61A, Heating system, Fan assembly: Removal - Refitting**).

Check that there are no foreign bodies (leaves, insects, other, etc.) and, if necessary, clean the fan assembly housing.

Check that there are no foreign bodies (leaves, insects, other, etc.) and, if necessary, clean the fan assembly.
Refit the fan assembly (see **MR 364 Mechanical, 61A, Heating system, Fan assembly: Removal - Refitting**).

AFTER REPAIR

Carry out a complete check using the diagnostic tool.