

MEGANE

8 Electrical equipment

87G ENGINE COMPARTMENT CONNECTION UNIT

UPC

Vdiag No.: 44

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1. SCOPE OF THIS DOCUMENT

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

Vehicle(s): **MEGANE II, SCENIC II**
Function concerned: **UPC**

Name of computer: **UPC**
VDIAG No.: **44**

2. PREREQUISITES FOR FAULT FINDING

Documentation type

Fault finding procedures (this manual):

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

Wiring diagrams:

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

Type of diagnostic tools

- **CLIP**

Special tooling required

Special tooling required
Multimeter
Universal bornier

3. RECAP

Procedure

To run diagnostics on the vehicle's computers, switch on the ignition in fault finding mode (forced + after ignition feed).

Proceed as follows:

- insert the vehicle card in the card reader,
- press and hold Start button (longer than **5 seconds**) with start conditions not fulfilled,
- connect the diagnostic tool and perform the desired operations.

Note:

The left-hand and right-hand xenon lamp computers are powered when the dipped beam headlights light up. It will therefore not be possible to run fault finding on them until the ignition has been switched on in fault finding mode (forced + APC) and the dipped beam headlights have been switched on.

To turn off the + APC feed proceed as follows:

- disconnect the diagnostic tool,
- press the Start button twice briefly (less than **3 seconds**),
- check that the + APC has been turned off by the computer indicator lights on the instrument panel being switched off.

Faults

Faults are declared as either present or stored (depending on whether they appeared in a certain context and have disappeared since, or whether they remain present but have not been diagnosed within the current context).

The **present** or **stored** status of the fault should be taken into consideration when the diagnostic tool is used after the + after ignition feed has been connected (without any of the system components being activated).

For a **present fault**, apply the procedure described in the **Interpretation of faults** section.

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

If the fault is **confirmed** when the instructions in the Notes section are applied, the fault is present. Deal with the fault

If the fault is **not confirmed**, check:

- the electrical lines which correspond to the fault,
- the connectors on these lines (corrosion, bent pins, etc.),
- the resistance of the component detected as faulty,
- the condition of the wires (melted or split insulation, wear).

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 repair.

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

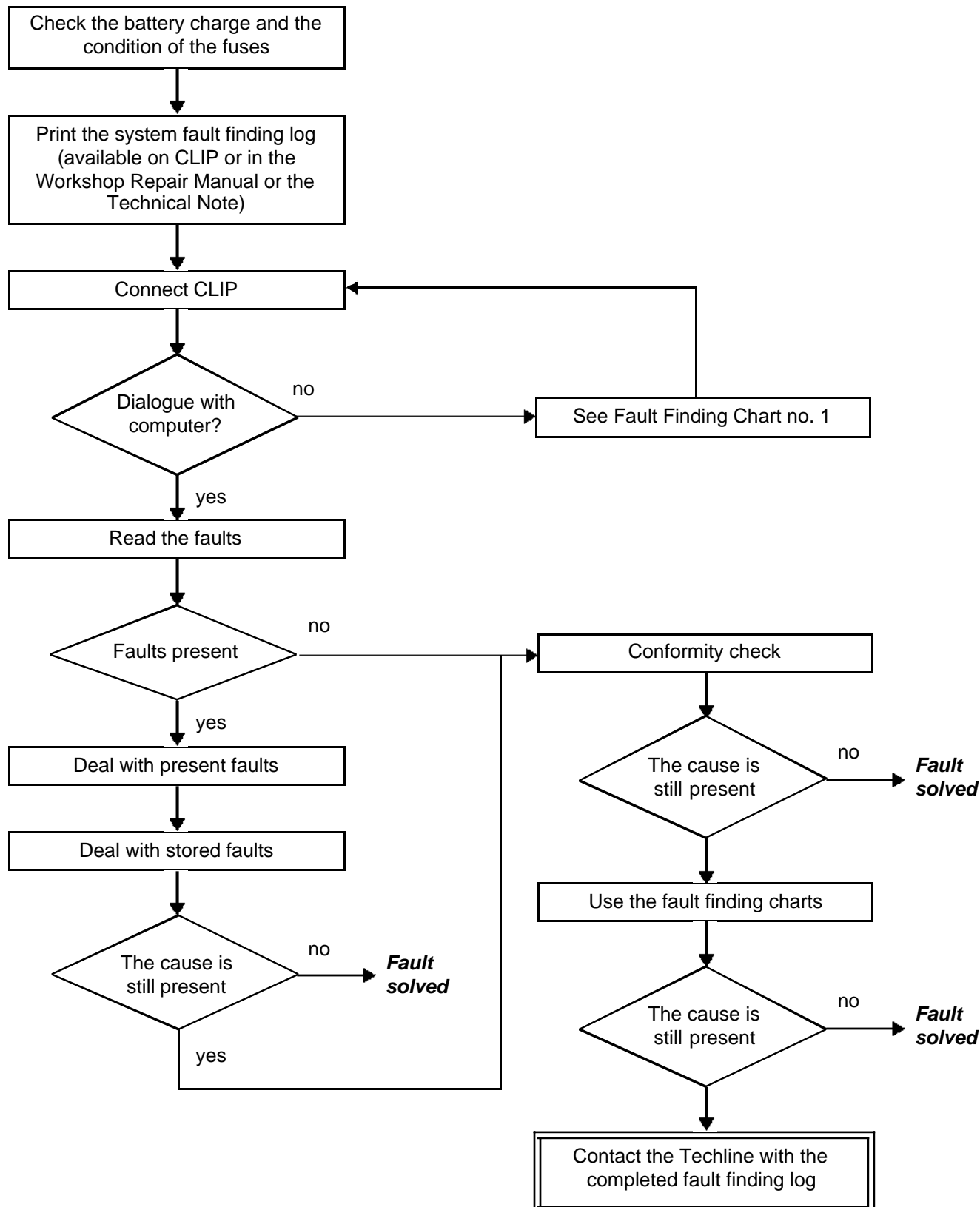
If a status is not behaving normally or a parameter is outside the permitted tolerance values, consult the corresponding fault finding page.

Customer complaints - Fault finding chart

If the test with the diagnostic tool is OK but the customer complaint is still present, the fault should be dealt with by **customer complaints**.

A summary of the overall procedure to follow is provided on the following page in the form of a flow chart.

4. FAULT FINDING PROCEDURE



Wiring check:

Fault finding problems:

Disconnecting the connectors and/or manipulating the wiring harness may temporarily remove the cause of a fault. Electrical measurements of voltage, resistance and insulation are generally correct, especially if the fault is not present when the analysis is made (stored fault).

Visual inspection:

Look for damage under the bonnet and in the passenger compartment.
Carefully check the protective parts, insulators and wiring harness routing.
Look for signs of oxidation.

Tactile inspection:

While manipulating the wiring harness, use the diagnostic tool to note any change in fault status from stored to present.
Make sure that the connectors are properly tightened,
Apply light pressure to the connectors,
Twist the wiring harness.
If there is a change in status, try to locate the source of the fault.

Inspection of each component:

Disconnect the connectors and check the appearance of the clips and tabs, as well as their crimping (no crimping on the insulating section).
Make sure that the clips and tabs are properly locked in the sockets.
Check that no clips or tabs have been dislodged during connection.
Check the clip contact pressure using an appropriate model of tab.

Resistance check:

Check the continuity of entire lines, then section by section.
Look for a short circuit to earth, the **+12 V feed** or with another wire.
If a fault is detected, repair or replace the wiring harness.

5. FAULT FINDING PROCEDURE



WARNING!

IMPORTANT

Any fault on a complex system requires thorough fault finding with the appropriate tools. The FAULT FINDING LOG, which should be completed during the procedure, enables you to keep track of the procedure which is carried out. It is an essential document when consulting the manufacturer.

IT IS THEREFORE MANDATORY TO FILL OUT A FAULT FINDING LOG FOR EACH FAULT FINDING PROCEDURE.

You are always asked for this log:

- when requesting technical assistance from the Techline,
- for approval requests when replacing parts for which approval is obligatory,
- to be enclosed when returning monitored parts on request. The log is needed for warranty compensation, and enables better analysis of the parts removed.

6. SAFETY ADVICE

All work on components requires that the safety rules be obeyed to prevent damage or injury:

- Make sure that the battery is properly charged to avoid damaging the computers with a low load.
- Use the appropriate tools.

1. GENERAL FUNCTIONING

The UPC participates in the following functions:

- distributing and protecting the electrical power,
- keyless vehicles,
- wipers,
- lighting,
- de-icing,
- air conditioning,
- oil pressure detection.

Distributing and protecting electrical power

The main function of the UPC is to switch on and distribute part of the power in order to supply the vehicle systems, actuators or computers.

Another part of the power supply distribution is housed in the Engine Interconnection Unit but is not controlled electronically by the computer.

+12 V battery feed

The UPC receives energy from the battery via the 1 track screwed connector and redistributes +12 V around the vehicle.

+ after ignition feed

The UCH requests the + APC via the multiplex network. When the UPC receives this request, it controls the APC relay unconditionally.

Energy management

The computer transmits the signal to load the alternator on the multiplex network.

Keyless vehicle

In the Keyless vehicle function, the UPC participates in the start-up sub-function. The computer:

- receives the request to start up the UCH via the multiplex network,
- check that the start-up conditions have been met then controls the starter relay,
- can inhibit or turn off the starter relay command by means of a forbid start-up signal transmitted by the injection computer on the multiplex network.

Air conditioning

For the operation of this function and the role of the UPC in setting up this function (see **62A, Air conditioning, Function architecture and General functioning mode**).

Cold loop

The computer receives the compressor switch-on request from the injection via the multiplex network. The computer controls the compressor clutch activation relay.

Heating

The computer also controls the de-icing of the rear tailgate window and the electric rear view mirrors.

Fan assembly

When prompted for the engine check request, the UPC supplies the GMV with power.

Front wipers

The UPC receives the wiping requests from the UCH via the multiplex network.

The computer then controls the following requests:

- low or high speed windscreen wiper,
- windscreen wiper park position.

Lights

The UPC receives the lighting requests from the UCH via the multiplex network.

The computer then controls the following requests:

- side lights,
- dipped beam headlights,
- main beam headlights,
- front fog light.

Detecting the oil pressure

The UPC receives the signal from the oil pressure sensor and makes it available on the multiplex network.

2. UPC LEVELS

3 UPC levels can be fitted on vehicles:

- Entry level UPC,
- Top of the range UPC N2,
- Top of the range UPC N3.

Only the top of the range N2 and N3 UPCs are available as spare parts.

The N2 and N3 versions can be distinguished in the extent to which they control the high speed blower:

- on the N2, the UPC controls an external relay,
- on N3, the relay is integrated into the UPC.

The UPC is located in the Engine Interconnection Unit (engine compartment).

Refer to the NT electrical diagrams for the vehicle on which the fault finding was run for the track allocations and to consult the electrical diagrams.

1. REPLACING THE COMPUTER

See **Workshop repair Manual 364 Mechanics, 87G, Engine interconnection unit (Mégane)** or **Workshop Repair Manual 370 Mechanics, 87G, Engine interconnection unit (Scénic)**.

After replacing:

- Configure the alternator type using command **CF001 Alternator type** (see **Configurations and programming**).
- Enter the vehicle VIN using command **VP003 Enter VIN**.

NOTES	Ignition on, engine off.
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No.	Configuration	Related configuration reading	Note:
CF001	ALTERNATOR TYPE: TG11 110 VALEO SG12 VALEO LIE8 150 BOSCH SG15L VALEO MELCO 8GM	LC001	Find out which type of alternator is fitted on the vehicle then confirm. (MELCO = Mitsubishi Electronics Corporation)

No.	Different settings	Note:
VP003	ENTERING THE VIN:	Find out what the vehicle VIN is then confirm.

Tool fault	Associated DTC	Diagnostic tool title
DF002	9210	HIGH SPEED FAN RELAY CONTROL CIRCUIT
DF005	920E	INTERNAL ELECTRONIC FAULT
DF009	920D	+ IGNITION CIRCUIT

<p>DF002 PRESENT</p>	<p><u>HIGH SPEED FAN RELAY CONTROL CIRCUIT</u> CC.1 : Short circuit to +12 V</p>
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<p>NOTES</p>	<p>Special notes: The function is inhibited when the fault is present. Reactivating the function via a new ignition request.</p>
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<p>Measure the resistance between tracks 1 and 2. If the resistance is not 65 Ω ± 10 Ω, replace the relay.</p>	
<p>Take the relay out and make sure that it is insulated from the +12 V for the connection: UPC connector PPM2 track 2 —————▶ Track 2 of the fan relay connector Repair if necessary.</p>	
<p>If the fault is still present, check for the absence of +12 V on track 2 of the UPC connector PPM2. If +12 V is present, contact the Techline.</p>	

<p>AFTER REPAIR</p>	<p>Clear the computer memory. Turn the ignition off and then on again, then run a new check using the fault finding tool</p>
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D F005 PRESENT	<u>INTERNAL ELECTRONIC FAULT</u> DEF : Internal electronic fault
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NOTES	None.
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Disconnect the battery for 30 seconds then reconnect it.
If the fault is still present, contact the Techline.

AFTER REPAIR	Clear the computer memory. Turn the ignition off and then on again, then run a new check using the fault finding tool.
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DF009 PRESENT	<u>+ APC CIRCUIT</u> DEF : Consistency
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NOTES	None.
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<p>Check the voltage of the battery. Check that ET026 + ignition status is consistent</p>
<p>Check the condition of the fuses on the battery positive terminal. Repair if necessary. Check the status and the connection of the + battery on the UPC mounting and on the P2 connector. Repair if necessary.</p>
<p>With the ignition turned off, check that there is no +12 V supply on track 6 of UPC connector PPM2 If the +12 V feed is present, disconnect the following fuses one by one in order to isolate the faulty track:</p> <ul style="list-style-type: none"> – fuse 5C (track 6 connector PPM2), – fuse 5D (track 1 connector PEH), – fuse 5E (track 10 connector PPH2), – fuse 5F (track 11 connector PPH2), – fuse 5G (track 7 connector PPM2), – fuse 5H (track 10 connector PPM2). <p>Using an electrical diagram, check the insulation against +12 V, of the connection between the track which the UPC detected as faulty and the computers or consumers linked to this track.</p>
<p>With the ignition on, check for the presence of +12 V on one of the following UPC tracks:</p> <ul style="list-style-type: none"> – track 1 of connector PEH – tracks 6, 7 and 10 of connector PPM2 – tracks 10 and 11 of connector PPH2
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Clear the computer memory. Turn the ignition off and then on again, then run a new check using the fault finding tool.</p>
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ENGINE COMPARTMENT CONNECTION UNIT

Fault finding - Conformity check

87G

NOTES

Only check conformity after a complete check using the diagnostic tool.
Test conditions: Engine stopped, ignition on.

MAIN SCREEN

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Charging circuit	ET001: Battery warning light	LIT	In the event of a fault, refer to the relevant fault finding method.
2	Oil pressure contact	ET027: Oil pressure contact	CLOSED	
3	Gearbox	ET004: Reverse gear engaged	YES NO	

ENGINE COMPARTMENT CONNECTION UNIT

Fault finding - Conformity check

87G

NOTES

Only check conformity after a complete check using the diagnostic tool.
Test conditions: Engine stopped, ignition on.

KEYLESS VEHICLE: Starting the engine

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Gearbox	ET004: Reverse gear engaged	YES NO	In the event of a fault, refer to the relevant fault finding procedure.
		ET005: Manual gearbox lever	NEUTRAL OUT OF NEUTRAL NOT SUPPORTED , if the vehicle is fitted with an automatic gearbox	
2	Starting	ET010: Conditions for engine start satisfied.	YES , if the conditions for engine start have all been satisfied and after pressing the start button NO , if the engine start conditions have not all been satisfied or if the engine start button has not been pressed	

NOTES

Only check conformity after a complete check using the diagnostic tool.
Test conditions: Engine stopped, ignition on.

AIR CONDITIONING: Heating

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Starting	PR010: Alternator	In % The value must be fixed and greater than 98%	Refer to the relevant fault finding procedure in the event of a fault.
		AC011: Rear windscreen de-icing	The rear window heating resistors and the door mirrors (if the vehicle is fitted with heated door mirrors) must be supplied with power and heated.	

AIR CONDITIONING: Cold loop

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Fan assembly	AC009: Low speed fan unit	It must be possible to hear the fan running at low speed.	Refer to the relevant fault finding procedure in the event of a fault.
		AC010: High speed fan unit	It must be possible to hear the fan running at high speed This command cannot be used on vehicles not fitted with climate control	
2	Air conditioning	AC008: Compressor command	The compressor clutch must be heard (the compressor command is not permitted when the engine is running)	

NOTES

Only check conformity after a complete check using the diagnostic tool.
Test conditions: Engine stopped, ignition on.

WIPERS: Wiper power

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Park position	AC012: Windscreen wiper park position test	The front windscreen wiper must run for a single sweep and return to its initial position.	Refer to the relevant fault finding procedure in the event of a fault.
2	Wiper protection	ET002: Front windscreen wiper protection	INACTIVE	
3	Wipers	AC005: Low-speed windscreen wiper	The windscreen wiper must work at low speed.	
		AC006: High-speed windscreen wiper	The windscreen wiper must work at high speed.	

NOTES	Only check conformity after a complete check using the diagnostic tool. Test conditions: Engine stopped, ignition on.
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LIGHTING: Lighting power

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Lighting	AC003: Side lights	The front and rear side lights and the number plate lights as well as the controls and switches in the passenger compartment must light up.	Refer to the relevant fault finding procedure in the event of a fault.
		AC002: Dipped beam headlights	The dipped beam headlights must come on.	
		AC001: Main beam headlights	The main beam headlights must come on.	
		AC004: Front fog lights	The front fog lights must come on.	

ENGINE COMPARTMENT CONNECTION UNIT

Fault finding - Conformity check

87G

NOTES

Only check conformity after a complete check using the diagnostic tool.
Condition for carrying out this operation: the engine must be running.

MAIN SCREEN

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Charging circuit	ET001: Battery warning light	OFF	Refer to the relevant fault finding procedure in the event of a fault.
2	Oil pressure contact	ET027: Oil pressure contact	OPEN	
3	Gearbox	ET004: Reverse gear engaged	YES NO	

NOTES

Only check conformity after a complete check using the diagnostic tool.
Condition for carrying out this operation: the engine must be running.

KEYLESS VEHICLES: Starting the engine

Order	Function	Parameter or Status checked or Action	Display and Notes	Fault finding
1	Gearbox	ET004: Reverse gear engaged	YES NO	Refer to the relevant fault finding procedure in the event of a fault.
		ET005: Manual gearbox lever	NEUTRAL OUT OF NEUTRAL NOT SUPPORTED , if the vehicle is fitted with an automatic gearbox	
2	Starting	ET010: Conditions for starting the engine satisfied.	YES , if the conditions for starting the engine have been met and after a press on the engine start button NO , if the conditions for starting the engine have not been met or if the engine start button has not been pressed	

NOTES

Only check conformity after a complete check using the diagnostic tool.
Condition for carrying out the operation: the engine must be running.

AIR CONDITIONING: Heating

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Starting	PR010: Alternator	In % The value varies according to electricity consumption.	Refer to the relevant fault finding method in the event of a fault.
		AC011: Rear windscreen de-icing	The heating resistance for the rear window and the door mirrors (if the vehicle is fitted with door mirrors) must be supplied with power and supply heat	

AIR CONDITIONING: Cold loop

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Fan assembly	AC009: Low speed fan unit	The fan must be heard running at low speed	Refer to the relevant fault finding procedure in the event of a fault.
		AC010: High speed fan unit	The fan must be heard running at a high speed This command cannot be used on vehicles which are not fitted with climate control	
2	Air conditioning	AC008: Compressor control	(this command is not permitted when the engine is running)	

NOTES	Only check conformity after a complete check using the diagnostic tool. Condition for carrying out this operation: the engine is running.
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WIPERS: Wiper power

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Park position	AC012: Windscreen wiper park position test	The windscreen wiper must perform a single sweep and stop at its initial position	Refer to the relevant fault finding procedure in the event of a fault.
	Wiper protection	ET002: Windscreen wiper protection	INACTIVE	
	Wipers	AC005: Low-speed windscreen wiper	The windscreen wiper must function at low speed	
		AC006: Front high-speed windscreen wiper	The front windscreen wiper must function at high speed	

NOTES

Only check conformity after a complete check using the diagnostic tool.
Condition for carrying out the operation: the engine must be running.

LIGHTING: Lighting power

Order	Function	Parameter or Status checked or Action	Display and notes	Fault finding
1	Lighting	AC003: Side lights	The front and rear side lights and the number plate lights as well as the controls and switches inside the passenger compartment must light up.	Refer to the relevant fault finding procedure in the event of a fault.
		AC002: Dipped beam headlights	The dipped beam headlights must come on.	
		AC001: Main beam headlights	The main beam headlights must come on.	
		AC004: Front fog lights	The front fog lights must come on.	

Tool status	Diagnostic tool title
ET001	BATTERY WARNING LIGHT
ET002	WINDSCREEN WIPER PROTECTION
ET004	REVERSE GEAR ENGAGED
ET005	MANUAL GEARBOX GEAR LEVER POSITION
ET010	START CONDITIONS SATISFIED
ET013	HIGH SPEED FAN ASSEMBLY RELAY CONTROL
ET026	+ AFTER IGNITION FEED
ET027	OIL PRESSURE CONTACT

Tool parameter	Diagnostic tool title
PR010	ALTERNATOR

ET001	<u>BATTERY WARNING LIGHT</u>
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NOTES	<p>Check that the status is OUT with the engine running and LIT with the engine stopped and the ignition on.</p> <p>Check consistency with the instrument panel warning light.</p>
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<p>With the engine running, check that the battery voltage is much higher than +12 V. Perform a fault finding procedure on the charge circuit if necessary.</p>
<p>Check the status and the connection of connector PEM on the UPC and of the connections on the alternator. Repair if necessary.</p>
<p>Turn off the ignition and ensure that there is insulation against +12 V and continuity in the connection: UPC connector PEM track 8 —————> Track 1 of the alternator 2-track connector Repair if necessary.</p>
<p>With the ignition on, ensure that there is insulation against earth and the continuity in the connection: UPC connector PEM track 8 —————> Track 1 of the alternator 2-track connector Repair if necessary.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET002	<u>WINDSCREEN WIPER PROTECTION</u>
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NOTES	Before starting, check the operation of the windscreen wiper motor by running commands AC005 Windscreen wiper at low speed and AC006 Windscreen wiper at high speed and then check the park position using command AC012 Windscreen wiper park position .
	<p>These statuses are listed in the order of severity or persistence of incorrect wiper operation.</p> <ul style="list-style-type: none">– if the status is INACTIVE, the wiper function is normal.– If the status is LOW SPEED, the UPC has detected an abnormal wiper operation on the higher speed setting for more than 6 seconds (the wiper has stuck or is blocked); windscreen wiping is therefore forced to operate on the lower speed setting when the higher speed setting is requested,– If the status is INTERMITTENT, the wiper function is stopped for 10 seconds following the detection and persistence of the fault (restrained or blocked),– If the status is BLOCKED, wiping stops 30 seconds after the malfunction has lasted for more than 2 minutes. <p>The status returns to INACTIVE, once the UCH requests a new wiping instruction (by following the movement of the wiper stalk or by request from the rain sensor).</p>

<p>Make sure that nothing is mechanically blocking movement of the wiper blades (blades stuck, condition and assembly of the wiper mechanism linkage and no object interfering with the motion of the device). Check that the wiper mechanism is not seized. Repair if necessary.</p>
<p>Check the status and the connection of connectors PPH2 and PEH on the UPC and of the windscreen wiper motor. Repair if necessary.</p>

ET002 (continued)	
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<p>Check the insulation against earth and the continuity of the connections:</p> <p>UPC connector PEH track 6 ➡ Track 2 of the windscreen wiper motor connector</p> <p>UPC PPH2 connector track 1 ➡ Track 5 of the windscreen wiper motor connector</p> <p>UPC connector PPH2 track 2 ➡ Track 4 of the windscreen wiper motor connector</p> <p>Repair if necessary.</p>	
<p>If the fault is still present, contact the Techline.</p>	

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET004	<u>REVERSE GEAR ENGAGED</u>
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NOTES	Check, and if necessary, replace fuse 5C on the UPC.
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Manual gearbox

Check the status and the connection of the reverse gear switch connector and connector PPM2 on the UPC. Repair if necessary.
<p>With the ignition on and reverse gear selected, check the presence of +12 V on track 9 of connector PPM2. If there is a fault, check the insulation against earth and continuity of the connections:</p> <p>UPC connector PPM2 track 9 —————> Track 1 (track 3 on the ND0 gearbox) of the switch UPC connector PPM2 track 6 —————> Track 2 (track 1 on gearbox ND0) of the switch</p> <p>Repair if necessary.</p>
<p>With reverse gear selected, check the continuity between tracks 1 and 2 (or tracks 1 and 3 on gearbox NDO) of the switch. Replace the reverse gear switch if necessary.</p>
If the fault is still present, contact the Techline.

ET004
(continued)

AUTOMATIC GEARBOX

Check the status and the connection of the multifunction switch connector and connector PPM2 on the UPC.
Repair if necessary.

With the ignition on and reverse gear selected, check the presence of **+12 V** on **track 9** of connector PPM2.

If there is a fault, check **the insulation against earth and the continuity** of the connections:

UPC connector PPM2 **track 9** —————▶ **Track 1** of the multifunction switch

UPC connector PPM2 **track 6** —————▶ **Track 2** of the multifunction switch

Repair if necessary.

With reverse gear engaged, check the continuity of **tracks 1 and 2** of the switch.

Replace the multifunction switch if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other possible faults.

Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.

ET005	<u>POSITION OF GEAR LEVER IN MANUAL GEARBOX</u>
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NOTES	<p>Check, and if necessary, replace fuse "5C" on the UPC. Applicable on vehicles fitted with a manual gearbox only.</p>
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<p>Check the status and the connection of the neutral switch connector and connectors PPM2 and PEM on the UPC. Repair if necessary.</p>
<p>With the ignition on and in neutral, check the presence of +12 V on track 6 of connector PEM. If there is a fault, check the insulation against earth and the continuity of the connection between the switch and track 6 of connector PEM on the UPC.</p>
<p>Check the operation of the switch: There is continuity between tracks 1 and 2 of the switch when the gearbox is in neutral. There is an open circuit between tracks 1 and 2 of the switch when a gear is selected. If faulty, replace the switch.</p>
<p>With the ignition on, check the presence of +12 V on track 2 (track 1 on gearbox ND0) of the neutral switch connector. If there is a fault, check the insulation against earth and the continuity of the connection between the switch and track 6 of connector PPM2 on the UPC.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ET009	<u>OIL PRESSURE CONTACT</u>
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NOTES	CLOSED engine stopped, OPEN engine running.
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Check the status and the connection of connectors PEM on the UPC and the oil pressure sensor. Repair if necessary.
Make sure that the sensor is securely mounted on the engine.
Check the insulation against +12 V and the continuity of the connection between: UPC connector PEM track 12 —————> Track 1 pressure sensor Repair if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other possible faults. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.
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ET010	<u>CONDITIONS FOR STARTING THE ENGINE SATISFIED</u>
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NOTES	No particular instructions.
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<p>In the Keyless vehicle function, check that the starting conditions are met. The UPC participates in the engine start function by managing the switches on the gearbox. Check the operation of the gearbox switches using statuses ET004 Reverse gear selected and ET005 Manual gearbox gear lever position then run fault finding on UCH start and engine management functions.</p>	
<p>If the conditions have been satisfied and the starter does not work, refer to ALP 2.</p>	
<p>If the fault is still present, contact the Techline.</p>	

AFTER REPAIR	<p>Deal with any other possible faults. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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PR010	<u>ALTERNATOR CHARGE</u>
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NOTES	<p>Check in the configuration readings that the alternator type has been configured correctly.</p> <p>When the engine has stopped, the value must be constant and greater than 98 %.</p> <p>With the engine running, the value varies according to the electricity consumption. The value must not be constant.</p>
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Carry out fault finding on the charging circuit.
<p>Disconnect the 2 track connector from the alternator.</p> <p>With the ignition on, check the presence of + 12 V on track 2 of the alternator.</p> <p>With the ignition off, check the presence of a voltage below 6 V on track 2 of the alternator.</p> <p>Repair if necessary.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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AC001	<u>MAIN BEAM HEADLIGHTS</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none"> – the status and the connection of fuses 8A and 8B on the UPC, – the status of the bulbs. <p>Replace them, if necessary.</p>
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Without xenon lights

<p>Check the status and the connection of connector PPA and the fuses on the UPC. Repair if necessary.</p>
<p>Check the condition and connection of the headlight connectors. Repair if necessary.</p>
<p>Check the presence of earth on the connection R9 and then on track 1 of the headlight connector. Repair if necessary.</p>
<p>Check the presence of +12 V on track 4 of the headlights when these are controlled by command AC001. If everything is fine, replace the bulbs.</p>
<p>If there is a problem, check the insulation against earth and the continuity between the connections:</p> <p>UPC connector PPA track 3 —————> Left headlight track 4 UPC connector PPA track 4 —————> Right headlight track 4</p> <p>Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AC001
(continued)

With xenon lights

Check the status and the connection of connector PPA and the fuses on the UPC.
Repair if necessary.

Check the condition and connection of the headlight connectors.
Repair if necessary.

Check the presence of **earth** on connection **R9** then on **tracks 4 and 10** of the headlights.
Repair if necessary.

Check the presence of **+12 V** on **track 5** (for Mégane vehicles) **or** on **track 4** (for Scénic type vehicles) for the headlights when controlled by command **AC001**.
If everything is fine, run the fault finding procedure (see **80C, Discharge bulbs**).

If there is a problem, check **the insulation against earth and the continuity** of the connections:
UPC connector PPA **track 3** —————> **Track 5 or track 4** (depending on vehicle type) for the left-hand headlight
UPC connector PPA **track 4** —————> **Track 5 or track 4** (depending on vehicle type) right-hand headlight
Repair if necessary.

If the fault is still present, contact the Techline.



AFTER REPAIR

Deal with any other possible faults.
Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.

AC002	<u>DIPPED BEAM HEADLIGHTS</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none">– the status and the connection of fuses 8C and 8D on the UPC,– the status of the bulbs. <p>Replace them, if necessary.</p>
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Without xenon lights

Check the status and connection of connector PPA and the fuses on the UPC. Repair if necessary.
Check the condition and connection of the headlight connectors. Repair if necessary.
Check the presence of earth on connection R9 then on track 1 of the headlight connector. Repair if necessary.
Check the presence of +12 V on track 2 of the headlights when controlled by command AC002 . If everything is find, replace the bulb or bulbs.
<p>If there is a fault, check the insulation against earth and the continuity of the connections:</p> <p>UPC connector PPA track 6  Left headlight track 2</p> <p>UPC connector PPA track 5  Right headlight track 2</p> <p>Repair if necessary.</p>
If the fault is still present, contact the Techline.

AC002
(continued)

With xenon lights

Check the status and the connection for connector PPA and the fuses on the UPC.
Repair if necessary.

Check the condition and connection of the headlight connectors.
Repair if necessary.

Check for the presence of **earth** on connection **R9** then on **tracks 4 and 10** of the headlight connectors.
Repair if necessary.

Check that there is a **+12 V supply** on **track 3** of the headlights when controlled by command **AC002**.
If everything is fine, apply the fault finding procedure (see **80C, Discharge bulbs**).

If there is a fault, check **the insulation against earth is in place and continuity on the** connections:
 UPC connector PPA **track 6** —————> Left headlight **track 3**
 UPC connector PPA **track 5** —————> Right headlight **track 3**
 Repair if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other possible faults.
Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.

AC003	<u>SIDE LIGHTS</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none">– the status and connection of fuses 7A and 7B on the UPC,– the status of the bulbs. <p>Replace them, if necessary.</p>
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Without xenon lights

<p>Check the condition and connection of connectors PPA and PPH2 and the fuses in the Protection and Switching Unit. Repair if necessary.</p>												
<p>Check the condition and connection of the headlights and rear lights. Repair if necessary.</p>												
<p>Check for the presence of earth on connection R9 then on track 1 of the headlights and on track 2 of the rear lights and the vehicle number plate lights. Repair if necessary.</p>												
<p>Check that there is a +12 V supply on track 5 of the headlights and track 1 of the rear lights and the number plate when controlled by command AC003. If everything is fine, replace the bulb or bulbs.</p>												
<p>If there is a fault, check the insulation against earth and continuity of the connections:</p> <table><tr><td>UPC connector PPH2 track 6</td><td>————→</td><td>Left rear light track 1</td></tr><tr><td>UPC connector PPH2 track 7</td><td>————→</td><td>Track 1 right-hand rear light and number plate lights</td></tr><tr><td>UPC connector PPA track 1</td><td>————→</td><td>Left headlight track 5</td></tr><tr><td>UPC connector PPA track 2</td><td>————→</td><td>Right headlight track 5</td></tr></table> <p>Repair if necessary.</p>	UPC connector PPH2 track 6	————→	Left rear light track 1	UPC connector PPH2 track 7	————→	Track 1 right-hand rear light and number plate lights	UPC connector PPA track 1	————→	Left headlight track 5	UPC connector PPA track 2	————→	Right headlight track 5
UPC connector PPH2 track 6	————→	Left rear light track 1										
UPC connector PPH2 track 7	————→	Track 1 right-hand rear light and number plate lights										
UPC connector PPA track 1	————→	Left headlight track 5										
UPC connector PPA track 2	————→	Right headlight track 5										
<p>If the fault is still present, contact the Techline.</p>												

AC003 (continued)	
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With xenon lights

Check the status and connection of connectors PPA and PPH2 and the fuses on the UPC. Repair if necessary.
Check the condition and connection of the headlights and rear lights. Repair if necessary.
Check for the presence of earth on connection R9 then on tracks 4 and 10 of the headlights and on track 2 of the rear lights and the number plate lights. Repair if necessary.
Check for the presence of +12 V supply on track 9 of the headlights and track 1 of the rear lights and the number plate lights when controlled by command AC003 . If everything is fine, replace the bulb or bulbs.
If there is a problem, check the insulation against earth and continuity of the connections: UPC connector PPH2 track 6 —————> Left rear light track 1 UPC connector PPH2 track 7 —————> Track 1 right-hand rear light and number plate lights UPC connector PPA track 1 —————> Left headlight track 9 UPC connector PPA track 2 —————> Right headlight track 9 Repair if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any other possible faults. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.
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AC004	<u>FRONT FOG LIGHTS</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none"> – the condition and the connection of fuse 10, – the condition of the bulbs. <p>Replace them, if necessary.</p>
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<p>Check the condition and connection of connector PPA on the UPC. Repair if necessary.</p>
<p>Check the condition and connection of the bulb connectors. Repair if necessary.</p>
<p>Check the presence of earth on connection R9 and then on the bulb connectors. Repair if necessary.</p>
<p>Check the presence of +12 V on the fog light connectors while controlled by command AC004. If everything is correct, replace the bulb or bulbs.</p>
<p>Check the continuity and insulation of the following connections:</p> <p>UPC connector PPA track 8 —————> Track 1 of the left-hand front fog light connector</p> <p>UPC connector PPA track 7 —————> Track 1 of the right-hand front fog light</p> <p>Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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AC005	<u>LOW-SPEED WINDSCREEN WIPER</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none"> – the condition and connection of fuse 9. <p>Replace it if necessary.</p>
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<p>Check the condition and connection of connector PPH2 on the UPC. Repair if necessary.</p>
<p>Check the condition and connection of the front windscreen wiper motor. Repair if necessary.</p>
<p>Check for the presence of earth on track 1 of the windscreen wiper motor. Repair if necessary.</p>
<p>Check for the presence of a +12 V supply on track 4 of the windscreen wiper motor while controlled by command AC005. If correct, replace the motor.</p>
<p>Check the insulation and continuity of the connection between: UPC connector PPH2 track 2 —————→ Track 4 of the windscreen wiper motor Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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AC006	<u>HIGH-SPEED WINDSCREEN WIPER</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none"> – the condition and connection of fuse 9 <p>Replace it if necessary.</p>
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<p>Check the condition and connection of connector PPH2 on the UPC. Repair if necessary.</p>
<p>Check the condition and connection of the windscreen wiper motor. Repair if necessary.</p>
<p>Check for the presence of earth on track 1 of the windscreen wiper motor. Repair if necessary.</p>
<p>Check for the presence of a +12 V supply on track 5 of the windscreen wiper motor while controlled by AC006. If correct, replace the motor.</p>
<p>Check the insulation and continuity of the connection between: UPC connector PPH2 track 1 —————> Track 5 of the windscreen wiper motor Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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AC008	<u>COMPRESSOR CONTROL</u>
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NOTES	<p>This command is not permitted when the engine is running.</p> <p>Check:</p> <ul style="list-style-type: none"> – the condition and the connection of fuse 4. <p>Replace it if necessary.</p>
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<p>Check the condition and connection of connector PPM2 on the UPC. Repair if necessary.</p>
<p>Check the condition and connection of the air conditioning compressor. Repair if necessary.</p>
<p>Make sure that the compressor is properly earthed.</p>
<p>Check for the presence of a +12 V supply on the compressor connector while controlled by command AC008. If there is a fault, check the insulation against earth and continuity of the connection: UPC connector PPM2 track 5 —————> Air conditioning compressor connector Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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AC009	<u>LOW-SPEED FAN UNIT</u>
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NOTES	<p>Check:</p> <ul style="list-style-type: none"> – the condition and connection of fuse 11. <p>Replace it if necessary.</p> <p>The fans must have stopped.</p> <p>Make sure nothing is mechanically blocking the blade rotation.</p>
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<p>Check the condition and connection of the fan connector.</p> <p>Repair if necessary.</p>
<p>Ensure that there is a good earth connection on track 2 of the fan.</p>
<p>Check that the resistor in the fan unit (if it exists) is not in open circuit with a resistance equal to 0.69 Ω ± 20%.</p> <p>If not correct, replace it.</p>
<p>Check that there is a +12 V supply on the fan while controlled by command AC009.</p> <p>If everything is correct, replace the fan.</p>
<p>If there is a problem, check the insulation against earth and continuity of the connections:</p> <p>UPC connector PPM1 track 4 —————> Track 1 of the fan</p> <p style="text-align: center;">OR</p> <p>UPC connector PPM1 track 4 —————> Resistor in the fan unit (if it exists)</p> <p>Resistance in the fan unit (if it exists) —————> Track 1 of the fan</p> <p>Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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AC010	<u>HIGH-SPEED FAN UNIT</u>
NOTES	<p>This command is only applicable on versions fitted with air conditioning.</p> <p>Check:</p> <ul style="list-style-type: none"> – the condition and connection of fuse 11 (UPC level N3 only). <p>Replace it if necessary.</p>

UPC type N2

<p>Check the condition and connection of the fan connector. Repair if necessary.</p>
<p>Ensure that the fan is properly earthed.</p>
<p>Check the resistance of the external high-speed fan control relay: 65 Ω ± 10 Ω. Replace it if necessary.</p>
<p>Check the presence of +12 V on track 1 of the high-speed fan external control relay when controlled by command AC010. If there is a fault, check the insulation against earth and continuity of the connection UPC connector PPM2 track 3 —————> Track 1 of the high-speed fan external control relay Repair if necessary.</p>
<p>Check that there is earthing on track 2 of the high-speed fan external control relay. If there is a fault, check the insulation against +12 V and continuity of the connection: UPC connector PPM2 track 2 —————> Track 2 of the high-speed fan external control relay Repair if necessary.</p>
<p>Check for the presence of +12 V supply on track 1 of the fan while controlled by command AC010. If there is a problem, check the insulation against earth and continuity of the connection: Fan track 1 —————> Track 5 of the high-speed fan external control relay Repair if necessary.</p>

AC010 (continued 1)	
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Check for the presence of a +12 V supply battery on track 3 of the high-speed fan external control relay. If there is a fault, check the insulation against earth and continuity of the connections: High-speed fan external relay track 3 —————▶ Track 1 of the power supply fuse plate Repair if necessary.
Check fuse F1 on the power supply fuse plate. Replace it if necessary.
If the fault is still present, contact the Techline.

AC010
(continued 2)

UPC type N3

Check the condition and the connection of the fan connector.
Repair if necessary.

Make sure that the fan **earth connection** is correct.

Check for the presence of a **+12 V supply** on the fan when controlled by command **AC010**.
If everything is correct, replace the fan.
If there is a fault, check the **insulation against earth is in place and continuity** of the connection:
UPC connector P1 → Fan
Repair if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other possible faults.
Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.

AC011	<u>HEATED REAR SCREEN</u>
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NOTES	Ignition on Check: – the condition and the connection of fuse 6 and fuse W located in the passenger compartment. Replace it if necessary.
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Rear screen

Check the condition and the connection of connector PPH1 on the UPC. Repair if necessary.
Check the condition and connection of the rear screen connectors. Repair if necessary.
Check that the resistance value of the rear screen is between 0.5 Ω and 1 Ω . Replace the rear screen if necessary.
Check the earth of the rear screen heater .
Check for the presence of a +12 V supply on the rear screen terminal while controlled by command AC011 . If there is a fault, check the insulation against earth and continuity of the connection: UPC connector PPH1 track 2 —————> Rear screen Repair if necessary.
If the fault is still present, contact the Techline.

AC011
(continued)

Rear-view mirrors (if equipped with heaters)

Check the condition and connection of connector PPH1 on the UPC.
Repair if necessary.

Check the condition and connection of the rear-view mirror connectors.
Repair if necessary.

Check for the presence of **earth** on **track 5** of the rear view mirror connectors.

Check for the presence of a **+12 V supply** on **track 1** of the rear view mirror connector while controlled by command.

If there is a fault, check the **insulation against earth and continuity of the** connection:

UPC connector PPH1 **track 2** —————> **Track 1** of the rear view mirror passing via the fuse box and the passenger compartment relay

Repair if necessary.

If the fault is still present, contact the Techline.

AFTER REPAIR

Deal with any other possible faults.

Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.

AC012	<u>WINDSCREEN WIPER PARK POSITION TEST</u>
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NOTES	<p>Commands AC005 Low-speed windscreen wiper and AC006 High-speed windscreen wiper must operate for this command to be activated.</p> <p>If this is not the case, refer to the interpretation of these commands.</p> <p>This step must be applied if the windscreen wipers do not stop in their initial position.</p>
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<p>Check the condition and the connection of connector PEH on the UPC.</p> <p>Repair if necessary.</p>
<p>Check the condition and the connection of the windscreen wiper motor connector.</p> <p>Repair if necessary.</p>
<p>Check the insulation and continuity of the connection between:</p> <p>UPC connector PEH track 6 —————▶ Track 2 of the wiper motor</p> <p>Repair if necessary.</p>
<p>Check, using an indicator light placed between track 2 of the windscreen wiper motor + battery, that the lamp lights up briefly at the end of the wiping cycle.</p> <p>If not correct, replace the wiper motor.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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NOTES	Carry out a fault finding procedure on the multiplex network. Carry out fault finding on the UPC.
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RECORDED FAULTS

	NO DIALOGUE WITH THE COMPUTER	ALP 1
	THE STARTER DOES NOT WORK	ALP 2
	VARIOUS PASSENGER COMPARTMENT FUNCTIONS DO NOT LIGHT UP	ALP 3

ALP 1	No dialogue with the computer
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NOTES	Test the multiplex network.
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<p>Check the voltage of the battery. Check the condition and connection of the battery terminals and power fuses. Repair if necessary.</p>
<p>Check for the presence of earth on track 3 of connector PPH2. If necessary, repair the defective connection and/or connector.</p>
<p>Check for the presence of +12 V battery on connector P2. If necessary, repair the defective connection and/or connector.</p>
<p>Check the condition and connection of connector PEH. Repair if necessary.</p>
<p>If the fault is still present, contact the Techline.</p>

AFTER REPAIR	<p>Deal with any other possible faults. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ALP 2	The starter does not work
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NOTES	<p>Check for any faults in the multiplex network by running the network test. Refer to the Starting function to check that the starting conditions are met. Check that status ET010 Conditions for starting the engine satisfied is YES after a press of the start button, if not refer to the relevant status interpretation procedure. Check: – the condition and connection of fuse F3. Replace it if necessary.</p>
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Check the starter cabling (terminal tightness, continuity).
Check the condition and connection of starter power supply fuse. Replace it if necessary.
Check the condition and connection of connector PPM1 in the Protection and Switching Unit and the control terminal on the starter motor. Repair if necessary.
If everything is correct, check, by running the starter, for a +12 V supply on the control terminal on the starter. If correct, carry out a fault finding procedure on the starter.
Check that the insulation against earth and continuity of the connection: UPC connector PPM1 track 3 —————> The control terminal on the starter. Repair if necessary.
If the fault is still present, contact the Techline.

AFTER REPAIR	<p>Deal with any other possible faults. Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>
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ALP 3	Various passenger compartment functions do not light up
NOTES	<p>The side lights must not be faulty, if they are, refer to the interpretation of command AC003 Side lights.</p>
<p>Check the condition and connection of the faulty function(s). Repair if necessary.</p>	
<p>Check for the presence of earth on the defective function(s). Repair if necessary.</p>	
<p>With the side lights on, check for the presence of a +12 V supply on the defective function or functions. If it is in order, replace the defective component.</p>	
<p>Check the insulation against earth and continuity between the defective function and the UPC:</p> <div> <div> <p>Cigar lighters, air conditioning control panel, radio, multifunction display, rear view mirror controls, front and rear window riser commands and window riser locking, door locking switch, instrument panel command and in-situ control of headlights command.</p> <p>Heated seat switches, rigid roof switches, petrol or LPG selector switch, electronic stability program switch, simultaneous window control, automatic gearbox display and speed limiter / cruise control commands.</p> <p>Repair if necessary.</p> </div> <div> <p>—————> Track 6 of connector PPH2 on the UPC</p> <p>—————> Track 7 connector PPH2 of the UPC</p> </div> </div>	
<p>If the fault is still present, contact the Techline.</p>	
AFTER REPAIR	<p>Deal with any other possible faults.</p> <p>Switch off the ignition and carry out a road test followed by a test with the diagnostic tool.</p>