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# **0 General**

## **01 FAULT FINDING GENERAL INFORMATION**

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### VEHICLE DESCRIPTION

Clio is a Renault vehicle with a multiplex network (a CAN network that links most of the main computers).

This technology makes possible new functions such as the electronic stability program...

On the other hand, it involves **a great deal of information exchange** between the various systems.

To carry out the fault finding for this vehicle, select the **Clio II Phase 2** menu in the tools.

### ***This means that:***

- ***a short circuit in the multiplexed network could paralyse all the vehicle functions.***
- ***a computer or a function (1) may fail due to a fault in another computer (2).***

**Example: Speed information fault in the electronic power assisted steering caused by the ABS.**

- ***after a repair operation, you must ensure that the system (1) is no longer faulty.***

This section describes:

the overall fault finding method,

the functions which are diagnosed,

the main new features of the vehicle.

# FAULT FINDING GENERAL INFORMATION

## General method

01

### FAULT FINDING NOTES

Once the vehicle has been selected, the tool will only allow you to access the multiplex network fault finding.

Once the network diagnostic is completed, you will have access to the fault finding functions for all the vehicle systems.

**ALWAYS REPAIR NETWORK FAULTS BEFORE DIAGNOSING THE COMPUTERS**

### TIP

Perform an automatic test on all the systems before selecting a particular function. When you select a system, an aid presents the computers contributing to the function.

### FAULT CHECKING

Certain computers (for example, injection ECUs) store parameters when a fault occurs. This allows you to recreate the fault conditions.

### CONFORMITY CHECK

Check the states, parameters and configurations using the associated methods.

**Certain operating parameters of a system come from other computers via the multiplex network.**

**Example:** the vehicle speed is transmitted by the ABS, sent to the instrument panel by wire then distributed on the multiplex network and appears in the injections or electronic power assisted steering fault finding...

**This information appears in a different colour on the fault finding tools.**



**Click on this data to run the fault finding for the computer producing it.**

### AFTER REPAIR

Switch off the ignition, and wait 30 seconds.

Switch on the ignition again and repeat an automatic test of all the computers to ensure that there is no longer a fault.

# FAULT FINDING GENERAL INFORMATION

## Diagnosed functions

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### FAULT FINDING

Warning: if you are unable to diagnose a computer, check the connection between the corresponding **track 7 and 15** of the diagnostic socket and the diagnostic track in the computer.

**Note: Track 15 is only used for the Bosch 5.3 ABS.**

Also check the computer supply and conformity.

### AIR BAG AND PRETENSIONERS

This computer can be diagnosed with the tool and is present in the multiplex network.

### ABS 5.3

This function only manages the anti-lock braking system during braking. This computer can be diagnosed with the tool but is not present in the multiplex network.

### ESP 5.7

This function manages both traction control and the electronic stability program (ESP). This computer can be diagnosed and is present in the multiplex network. It is associated with the steering wheel angle sensor (cannot be diagnosed).

### IMMOBILISER

This function is managed directly by the UCH.

**This function also includes the engine start section (UCH and Injection).**

This computer can be diagnosed with the tool and is present in the multiplex network.

### PASSENGER COMPARTMENT CONNECTION UNIT

This is the same as the passenger compartment control unit.

Fault finding for this computer is shared between several fault finding functions (UCH and engine immobiliser).

This function also includes fault-finding on the **wipers and lighting**.

This computer can be diagnosed with the tool and is present in the multiplex network.

# FAULT FINDING GENERAL INFORMATION

## Diagnosed functions

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<b><i>AUTOMATIC GEARBOX</i></b>	This computer can be diagnosed with the tool and is present in the multiplex network.
<b><i>MANUAL CLIMATE CONTROL</i></b>	On this vehicle, the heating and ventilation computer does not control the compressor (function managed by the injection computer). This computer cannot be diagnosed with the tool and is not present in the multiplex network.
<b><i>AUTOMATIC CLIMATE CONTROL</i></b>	On this vehicle, the heating and ventilation computer does not control the compressor (function managed by the injection computer). This computer can be diagnosed with the tool but is not present in the multiplex network.
<b><i>POWER ASSISTED STEERING</i></b>	This is an electronic power assisted steering function and is managed by an independent computer. This computer can be diagnosed with the tool but is not present in the multiplex network.
<b><i>LPG INJECTION</i></b>	It concerns a dedicated computer that can be diagnosed with the tool and is connected to the multiplex network. Be careful: there is also a petrol injection computer.
<b><i>XENON BULBS</i></b>	The on-board beam correction computer is used to adjust the angle of the headlights in accordance with variations of the vehicle height with respect to the front and rear axles. This computer can be diagnosed with the tool and is not present in the multiplex network.

## Diagnosed functions

<b>DIESEL INJECTION</b>	This function manages the engine and the cruise control and speed limiter functions. This computer can be diagnosed with the tool and is present in the multiplex network.
<b>PETROL INJECTION</b>	This function manages the engine and the cruise control and speed limiter functions. This computer can be diagnosed with the tool and is present in the multiplex network.
<b>INSTRUMENT PANEL</b>	<p>This computer cannot be diagnosed with the tool but is present in the multiplex network.</p> <p><b><u>Important:</u></b> The vehicle speed signal is produced by the ABS and communicated by wire to the instrument panel. The instrument panel makes this information available on the multiplex network to the main computers (air bag, injection, UCH, etc...).</p>
<b>CENTRAL COMMUNICATION UNIT</b>	<p>This optional computer manages the radio and navigation/networking functions. This computer cannot be diagnosed with the tool but is present in the multiplex network.</p> <p><b><u>Important:</u></b> This computer has a self-test type fault finding described in the method.</p>

FUNCTION	Electronic stability programme
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FUNCTION TO SELECT ON THE DIAGNOSTIC TOOL	ABS, traction control and electronic stability programme
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COMPUTER RESPONSIBLE FOR THE FUNCTION	BOSCH 5.7 ABS/ESP	Computer using the multiplex network
Measures vehicle performance and controls braking and engine torque to correct skidding.		

COMPUTER INVOLVED IN THE FUNCTION	Petrol or diesel injection.	Computer using the multiplex network
Measures engine torque and sends it to the ABS. Processes the torque values received from the ABS.		

COMPUTER INVOLVED IN THE FUNCTION	Steering wheel angle sensor.	Computer using the multiplex network
Measures the steering wheel angle set by the driver and sends it to the ABS/ESP. <b>Important:</b> This computer cannot be diagnosed but is present in the multiplex network.		



FUNCTION	Climate control (manual or automatic)	
FUNCTION TO SELECT ON THE DIAGNOSTIC TOOL	Climate control	
COMPUTER RESPONSIBLE FOR THE FUNCTION	Climate control.	
Controls the climate control compressor, processes all the sensor outputs except the engine coolant temperature and the external air temperature.		
COMPUTER INVOLVED IN THE FUNCTION	Petrol or diesel injection.	Computer using the multiplex network
Authorises or inhibits the climate control operation. Processes requests for set-point values for the idle speed and startup of the engine cooling fan.		
COMPUTER INVOLVED IN THE FUNCTION	Radio display or Central Communication Unit.	Computer using the multiplex network
Sends the external air temperature received from the radio display or the Central Communication Unit to the climate control unit.		

FAULT FINDING GENERAL INFORMATION

New Functions

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FUNCTION	Cruise control/speed limiter
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FUNCTION TO SELECT ON THE DIAGNOSTIC TOOL	Petrol or diesel injection
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COMPUTER RESPONSIBLE FOR THE FUNCTION	Petrol or diesel injection.	Computer using the multiplex network
Processes the driver's commands. Displays cruise control status on the instrument panel (via the multiplex network). Adjusts the speed of the vehicle according to the speed set by the driver.		

COMPUTER INVOLVED IN THE FUNCTION	ABS.	Computer using the multiplex network, or not
Supplies the vehicle speed and sends it by wire to the instrument panel.		

COMPUTER INVOLVED IN THE FUNCTION	Instrument panel.	Computer using the multiplex network
Displays the cruise control speed/limit speed and the status of the cruise control/speed limiter. Makes the vehicle speed available to the main computers (injection, UCH) on the multiplex network.		

FUNCTION	On-Board Diagnostics (emission control)	
FUNCTION TO SELECT ON THE DIAGNOSTIC TOOL	Petrol or diesel injection	
COMPUTER RESPONSIBLE FOR THE FUNCTION	Injection.	Computer using the multiplex network
<p>The OBD function is shared by the injection ECU and the automatic gearbox ECU. The injection ECU decides the emission control diagnostic to be sent to the diagnostic tool.</p> <p>The emission control faults associated with the automatic transmission are also accessible to the injection ECU.</p>		
COMPUTER INVOLVED IN THE FUNCTION	Automatic gearbox.	Computer using the multiplex network
Can request emission control warning light to come on.		

FAULT FINDING GENERAL INFORMATION

New Functions

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FUNCTION	LPG
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FUNCTION TO SELECT ON THE DIAGNOSTIC TOOL	LPG injection
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COMPUTER RESPONSIBLE FOR THE FUNCTION	LPG injection.	Computer using the multiplex network
Controls its injectors and pressure relief valve. Measures the LPG level and sends it to the instrument panel.		

COMPUTER INVOLVED IN THE FUNCTION	Petrol injection.	Computer using the multiplex network
Measures the pressures (manifold), the air temperature and flow values, and sends them to the LPG computer. Warning: there is a dedicated link between the petrol injection and LPG injection ECUs for transmission of the Top Dead Centre information.		

COMPUTER INVOLVED IN THE FUNCTION	Instrument panel.	Computer using the multiplex network
Displays the LPG level and the change to LPG fuel combustion.		