



THE TOOL COMPANY

CITROËN/PEUGEOT FAULT CODE READER

■ STOCK No.68079

■ PART No.FCR-CIT/PEUG

• INSTRUCTIONS •

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS TOOL.



GENERAL INFORMATION

This manual has been compiled by Draper Tools and is an integrated part of the product with which it is enclosed and should be kept with it for future references.

This manual describes the purpose for which the product has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the tool itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product.

Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.



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GUARANTEE

Draper Tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for a period of 12 months from the date of purchase except where tools are hired out when the guarantee period is ninety days from the date of purchase.

Should the machine develop any fault, please return the complete tool to your nearest authorized warranty repair agent or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England. Telephone: (023) 8026 6355.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the 12 month period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

Draper Tools Limited.



SPECIFICATION

The Draper Tools policy of continuous improvement determines the right to change specification without notice.

Stock No.
68079

Part No.
FCR-CIT/PEUG

Vehicle
Citroën & Peugeot (petrol engines)

SUITABLE FOR:

Petrol vehicles with engine management/injection systems

| CITROËN | | PEUGEOT | |
|---------------|-------|---------------|-------|
| AX | 1991> | 106 | 1991> |
| BX | 1990> | 205 | 1988> |
| XM | 1989> | 306 | 1993> |
| XANTIA | 1993> | 309 | 1988> |
| ZX | 1991> | 405 | 1987> |
| | | 605 | 1990> |

SYSTEM TYPES:

Magneti, Marelli, G5 single & multipoint, G6/G6.11/8P & AP, Fenix 1B/3B & 4, Mono-Jetronic, Mono-Motronic MA3.0, Motronic M1.3/MP3.1/MP3.2/ML4.1, MP5.1/5.1.1.



SAFETY WARNING

Please read the following instructions carefully, failure to do so could lead to personal injury or damage to the vehicle.

1. Avoid a dangerous environment. Do not expose the fault code reader to rain, ensure the work area is well lit. Always store the code reader in its case when it is not in use.
2. When using this code reader on a vehicle it may involve carrying out tests with the engine running and the following points should be followed to avoid injury.
 - a) Wear proper clothing - do not wear loose clothing, neckties (rings, wrist watches) which could catch in moving parts. Non slip footwear is recommended. Wear a protective hair covering to contain long hair. Roll long sleeves above the elbow.
 - b) Do not over-reach - keep proper footing and balance at all times.
3. Never leave the code reader unattended when switched ON in a testing mode or when the code reader is carrying out test procedures. Always switch the code reader and vehicle's ignition off.
4. Always switch the engine off before leaving the vehicle.
5. Ensure the code reader is secure before starting any testing.
6. Check that all cables are kept clear of hot/moving parts.
7. Only run the engine in a well-ventilated non confined area. Do not inhale exhaust gases, as they are dangerous and can be fatal.
8. If working on a vehicle that requires jacking up, ensure the vehicle is well supported with suitable axle stands on a level surface and that the wheels are chocked.
9. When starting the vehicle ensure it is in neutral with the handbrake applied. Automatics, ensure the gearbox is in neutral/park and the parking brake is applied.



OPERATION AND USE

INTRODUCTION:

The engine control unit (ECU) fitted to the majority of Citroën/Peugeot vehicles are Bosch type. These include Motronic versions 1.3, 3.1, 3.2, 4.1 and 5.1. Mono-Jetronic A2.2 and Mono-Motronic MA3.0. Also Fenix 1B, 3B, 4 and 4B, Magneti-Marelli G5, G6 and 8P.

NOTE: Vehicles fitted with the early versions of Motronic 1.3 and 4.1 may use an aux, air valve which is not controlled by the ECU. The Mono-Jetronic systems only regulate fuel and idle functions.

Each ECU system has a self test facility which continuously measures the signals from certain sensors and actuators around the engine. It compares the reading to a group of pre-set values, and determines if a fault is present. This fault will then remain logged in the memory, ready to be examined and corrected.

In Citroën/Peugeot systems the control module produces a 2 digit fault code for retrieval with the fault code reader.

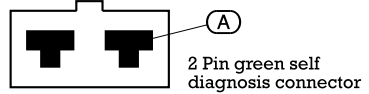
The 2 pin self diagnosis connector is green and is located in the engine bay, on the inner wing near the battery, ECU or the expansion tank for the cooling system. With some vehicles the connector can be found inside the relay box which is located on the inner wing.

NOTE: It is possible to introduce new faults into the ECU when carrying out certain tests. Care must be taken that these do not mislead during diagnosis. Clear all codes after testing is completed.

OPERATION AND USE

READING FAULT CODES:

1. Ensure the vehicle ignition is in the 'OFF' position. Switch the fault code reader to the 'o' position. Securely connect the fault code reader to the self diagnosis connector.
2. Insert the flat connector into (A) and attach the crocodile clip to a suitable earth or the battery negative terminal.
3. Switch ignition 'ON', but do not start the engine.
4. Switch the fault code reader to the '-' position for 3 seconds and then switch it back to the 'o' position. After 5 seconds the fault code 12 will be transmitted. The 12 indicates the initiation of diagnosis and the start of the test. After approximately 5 seconds repeat the previous step for further codes. After all the fault codes have been transmitted, the code 11 will be shown to indicate the end of the test. If the sequence is 12 and then 11 it means there are no fault codes stored.
5. To finish the test, switch off the vehicles ignition and disconnect the fault code reader.
6. If any fault codes are present refer to page 6 for the diagnosis table.



ERASING THE FAULT CODES:

1. Once all the required repairs have been made, with the fault code reader disconnected from the vehicle switch the fault code reader to the '-' position for 10 seconds and then switch back to the 'o' again. Then reconnect the fault code reader to the vehicle as before.
2. Test to ensure all the codes are cleared.
3. Road test the vehicle and once again test to ensure no codes have been re-introduced.

COMPONENT ACTIVATION:

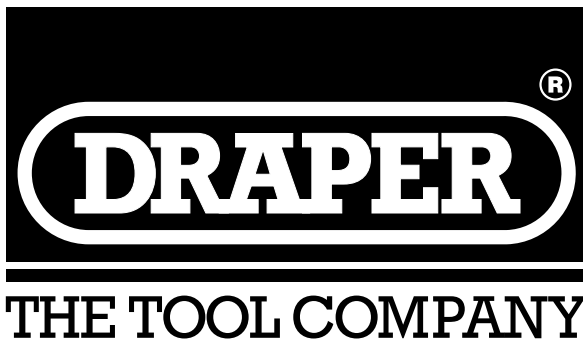
The fault code reader can perform a function test on a limited selection of components.

1. Connect the fault code reader to the 2 pin self diagnosis socket ensuring the reader is in the 'o' position. Switch the fault code reader to the '-' position for 3 seconds.
2. Switch the ignition to the 'ON' position. Do not start the engine.
3. Switch the fault code reader to the 'o' position.
4. The LED will now flash a 2 digit code to indicate which component it is activating.
81/91 Fuel pump and relay
82/92 Fuel injector
83/93 Idle speed activator
84/94 Carbon canister solenoid
85/95 A/C compressor and relay
86/96 Variable air intake solenoid (valve A)
87/97 Variable air intake solenoid (valve B)
5. To activate the next component, switch the fault code reader to the '-' position and back again to the 'o' position. The next 2 digit code will be output, and so on until the first code is repeated.
6. To finish the test, switch off the vehicles ignition and disconnect the fault code reader.

FAULT CODE TABLE

| FAULT CODE READING | CODE DESCRIPTION |
|--------------------|--|
| 11 | End of diagnosis |
| 12 | Initiation of diagnosis |
| 13x | Air temperature sensor (ATS) or ATS circuit |
| 14x | Coolant temperature sensor (CTS) or CTS circuit |
| 15 | Fuel pump relay, supply fault or fuel pump control circuit |
| 18 | Turbo coolant pump control |
| 21x | Throttle pot sensor (TPS) or TPS circuit |
| 21x | Throttle switch (TS), idle contactor TS circuit |
| 22 | Idle speed control valve (ISCV), supply fault |
| 23 | Idle speed control valve (ISCV) or ISCV circuit |
| 25x | Variable induction solenoid valve (VISV) L or circuit |
| 26x | Variable induction solenoid valve (VISV) C or circuit |
| 27x | Vehicle speed sensor (VSS) or VSS circuit |
| 31x | Throttle switch (TS), idle contact or TS circuit |
| 31 | Oxygen sensor (OS), mixture regulation or OS circuit (alternative code) |
| 32 | Mixture regulation, exhaust, inlet leak(s) or fuel pressure |
| 33x | Airflow sensor (AFS) or AFS circuit |
| 33x | Manifold absolute pressure (MAP) sensor or MAP sensor circuit (alternative code) |
| 33x | Throttle pot sensor (TPS) or TPS circuit (alternative code, Mono-Jetronic only) |
| 34 | Carbon filter solenoid valve (CFSV) or CFSV circuit |
| 35 | Throttle switch (TS), full-load contact |
| 36 | Oxygen sensor (OS) heater control or OS circuit |
| 41 | Crank angle sensor (CAS) or CAS circuit |
| 42 | Injectors or injector circuit |
| 43x/44x | Knock sensor (KS), knock regulation/detection |
| 45 | Ignition coil control (coil 1) |
| 46 | Turbo boost pressure solenoid valve (BPSV) or BPSV circuit |
| 47 | Turbo pressure regulation |
| 51x | Oxygen sensor (OS) or OS circuit |
| 52 | Mixture control, supply voltage, air or exhaust leak |
| 53x | Battery voltage, charging or battery fault |
| 54 | Electronic control module (ECM) |
| 55x | CO pot or CO pot circuit |
| 56 | Immobiliser system |
| 57/58/59 | Ignition coil 2/Ignition coil 3/Ignition coil 4 |
| 61 | Variable turbo regulation valve or circuit |
| 62x | Knock sensor (KS) 2 or KS circuit |
| 63x | Oxygen sensor (OS) or OS circuit |
| 64 | Mixture control B |
| 65x | Cylinder identification (CID) or CID circuit |
| 71 | Injector No.1 control or injector circuit |
| 72 | Injector No.2 control or injector circuit |
| 73 | Injector No.3 control or injector circuit |
| 74 | Injector No.4 control or injector circuit |
| 75 | Injector No.5 control or injector circuit |
| 76 | Injector No.6 control or injector circuit |
| 79x | Manifold absolute pressure (MAP) sensor or MAP sensor circuit |

x = Faults that typically will cause the ECM to enter LOS and use a default value in place of the sensor.



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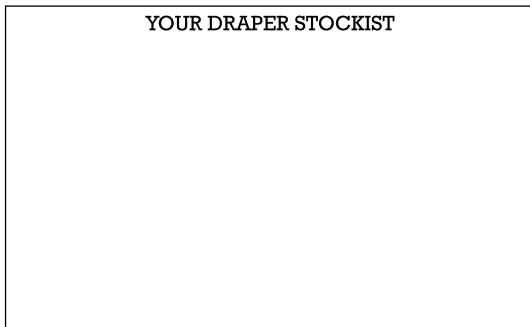
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