

SALES DIVISION NETWORK TECHNICAL INFORMATION

# WORKSHOP MANUAL



# USE OF THE DIAGNOSTIC TOOL FOR THE INJECTION SYSTEM

Supersedes previous version

Version2

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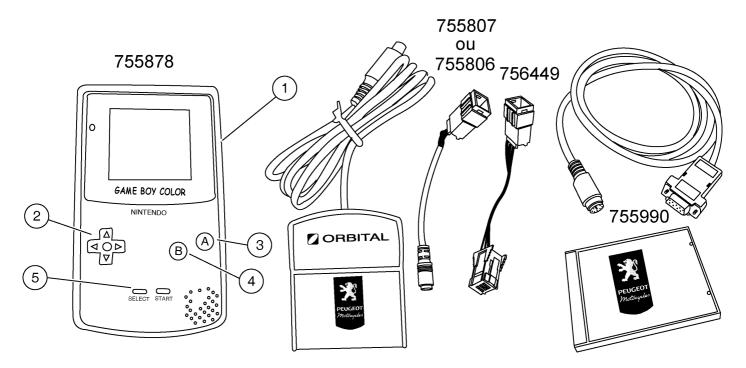
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Help	
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Tool update identification:	
1. Identification of the CD-ROM:	
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The update program is on the update kit CDROM part number 755990	
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# **PRESENTATION OF THE TOOL**

#### **Presentation of the tool**

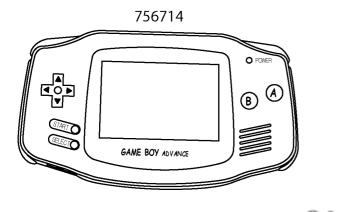
The tool is composed of:



😓 a screen, a Nintendo © Game Boy TM Color console

- 1. on-off button
- 2. arrow keys: select key
- 3. button A: enter button
- 4. button B: return button
- 5. select button: for help
- $\clubsuit$  a cartridge, containing the software for dialog between the machine and the screen
- $\clubsuit$  a cable to link the machine to the tool
- ♦ of an adapter cable for ABS/PBS brakes
- $\clubsuit$  a cable to link the tool to a PC
- ✤ a cartridge software update CD-ROM

This tool was developed jointly with Orbital © Using an ECU dialog protocol, this tool dialogs with the injection system

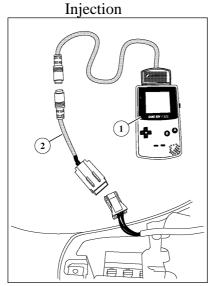


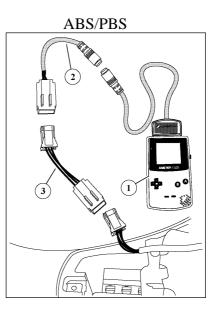
This tool also works with the Nintendo © Game Boy advance <sup>TM</sup> console Dialog is faster with this console.

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# PRESENTATION OF THE TOOL

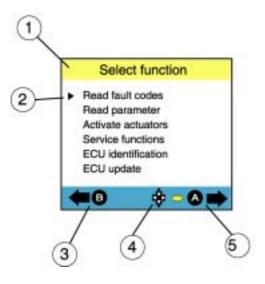
#### Connections:



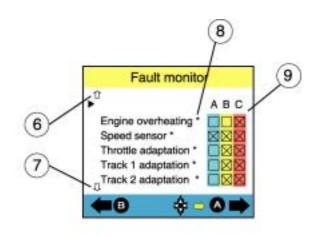


- 1. diagnostic tool
- 2. standard interface cable for testing injection system
- 3. additional interface cable for testing braking system

Presentation of screens:



- 1. Screen header
- 2. Line selected arrow
- 3. Press B to see previous screen
- 4. Use the arrow keys to select
- 5. Press A to see next screen



- 6. Means there is a previous page
- 7. Means there is a next page
- 8. Means you can scroll down to another screen by pressing A
- 9. Boxes show fault level

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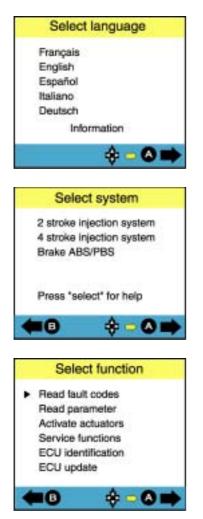
# PRESENTATION OF THE TOOL

#### **Functioning**

Using the special cable, connect the tool to the machine diagnostic plug (next to the battery, black 6-pin connector with 3 wires)

In the following order:

- Turn on the ignition
- Turn on the diagnostic tool



The first screen is used to select the language

The next screen is used to select the type of system and/or type of vehicle being diagnosed

Then the screen used to select the type of operation

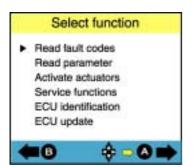
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# **READING FAULT CODES**

#### **Reading fault codes**

The ECU continually monitors all of the components connected to it, which enables it to continually diagnose the system. In case of a fault on a component, it records a code which represents the type of fault detected and the faulty component.

<u>Note:</u> only an electrical problem can be detected by the ECU, under no circumstance can it detect seizure of a mechanical component



#### Injection :

Fault monito	r
•	ABC
Engine overheating *	
Speed sensor *	
Throttle adaptation *	
Track 1 adaptation *	
Track 2 adaptation *	
<b>40 4</b>	A =>

#### Brake ABS/PBS :

Fault monitor	
0	AB
ECU fault *	
ECU power supply*	
PIN code fault*	
Speed sens. signal. *	
Speed sensor*	
I.	
<b>#</b> B <b>*</b> -	•

After selecting "read fault codes" and confirming with button A, the list of faults in the system memory is shown. Only the faults memorised are shown

Cooling cicuit Press A to clear	1 Engine temperature has exceeded the maximum acceptable limit check: temperature sensor,	success
1 1000 A W WBGI	Press A to clear	

- There is an asterisk after each fault for which there is an additional screen available showing further information on the fault (fault description)
- On the same screen, when a fault has been repaired, press button A to clear the fault from the memory. A new screen tells you that the fault is cleared
- <u>Note:</u> if the fault is permanent and cannot be cleared, the fault must be rectified

#### **Injection faults all types:**

#### <u>Engine overheating:</u>

Appears when the engine has exceeded the maximum temperature value memorised in the ECU Check: the engine temperature sensor electrical circuit and the cooling circuit

#### Engine speed sensor:

Appears when there is an electrical problem on the speed sensor circuit Check: the speed sensor electrical circuit

# **READING FAULT CODES**

#### Throttle adaptation:

Appears when the throttle potentiometer min max values are different from the values memorised by the ECU

Initialise throttle valve potentiometer. This operation must be carried out after changing the throttle unit

#### **Battery voltage:**

Appears when the battery voltage is outside the normal voltage range of 8 to 15 volts Below 8 volts, the system cannot function. Charge the battery If the voltage is over 15 volts, the system alerts the rider by lighting the diagnostic light Check: the voltage regulator, the battery charging circuit

#### Petrol injector:

Appears when there is an electrical problem on the petrol injector power supply circuit Check: the petrol injector electrical circuit

#### Ignition:

Appears when there is an electrical problem on the ignition coil power supply circuit Check: the ignition coil electrical circuit

#### Petrol pump:

Appears when there is an electrical problem on the petrol pump power supply circuit Check: the petrol pump electrical circuit

#### Overspeed:

Appears when the engine exceeds the maximum permitted engine speed Check: machine conformity

#### Abnormal idle:

Appears when the engine starting speed exceeds the normal speed, in this case the engine is stopped Check: machine conformity, no air leaks, leaks on fuel system

#### Temperature sensor:

Appears when an electrical problem occurs on the temperature sensor circuit Check: the temperature sensor electrical circuit

#### Engine temperature gauge:

Appears when an electrical problem occurs on the temperature gauge circuit Check: the temperature gauge electrical circuit

#### Warning LED:

Appears when an electrical problem occurs on the warning led circuit Check: the warning led electrical circuit

#### Altitude sensor: (2-stroke option)

Appears when an electrical problem occurs on the altitude sensor power supply circuit Check: the altitude sensor electrical circuit

#### Sensor power supply:

Appears when the power supply to the sensors is outside the normal range of 4.95 to 5.05 volts (level 1) Check: the harness between the ECU and the sensors (potentiometer, altitude corrector), the voltage on the ECU output circuit disconnected (4.95 to 5.05 volts)

#### **4-stroke injection specific faults:**

#### Throttle track 1 adaptation:

Appears when the throttle potentiometer track 1 min max values are different from the values memorised by the ECU

Initialise throttle valve potentiometer

#### *Throttle track 2 adaptation:*

Appears when the throttle potentiometer track 2 min max values are different from the values memorised by the ECU

Initialise throttle valve potentiometer

#### Throttle track 1 fault:

Appears when the voltage on potentiometer 1 is not within the normal range (0.5 to 4.5 volts) The potentiometer 5 volts power supply is provided by the ECU, and the ECU expects a return voltage of between 0.5 and 4.5 volts depending on the throttle valve position

Check: the 5 volts power supply from the ECU, the potentiometer resistance values, the throttle unit electrical circuit

#### Throttle track 2 fault:

Appears when the voltage on potentiometer 2 is not within the normal range (0.5 to 4.5 volts) The potentiometer 5 volts power supply is provided by the ECU, and the ECU expects a return voltage of

between 4.5 and 0.5 volts depending on the throttle valve position

Check: the 5 volts power supply from the ECU, the potentiometer resistance values, the throttle unit electrical circuit

#### Potentiometer fault:

Appears when the voltages on the potentiometers are outside the normal range Check: the 5 volts power supply from the ECU, the potentiometer resistance values, the throttle unit electrical circuit

#### Oil pump:

Appears when there is an electrical problem on the oil pump power supply circuit Check: the oil pump electrical circuit

#### <u>Air injector:</u>

Appears when there is an electrical problem on the air injector power supply circuit Check: the air injector electrical circuit

#### 4-stroke injection specific faults:

#### Potentiometer speed fault

Occurs when the voltage varies suddenly and abnormally such as a loss of potentiometer cursor contact. Check: the potentiometer harness, if not change the potentiometer.

# **READING FAULT CODES**

#### Potentiometer fault value:

Appears when the voltages on the potentiometers are outside the normal range

Check: the 5 volts power supply from the ECU, the potentiometer resistance values, the throttle unit electrical circuit

#### Inlet air temperature sensor fault:

Occurs when an electrical problem occurs on the inlet air temperature sensor Check: the inlet air temperature sensor electrical circuit

#### Idle valve fault:

Occurs when an electrical problem occurs on the idle valve power supply circuit Check: the idle valve electrical circuit

#### Idle adaptation fault:

Occurs when the idle valve control min and max values are different from the values stored in the ECU. Check: there are no air leaks into the idle circuit or in the engine bottom end. Check the idle circuit hoes are not pinched or folded.

#### **ABS/PBS faults:**

#### ECU fault:

Occurs when an ECU internal fault is detected. In this case, note the FTE fault codes shown in a diagnostic page and change the modulator without clearing the codes in the memory. Return the modulator to Peugeot Motocycles with the diagnostic sheet.

#### ECU power supply fault:

Occurs when an electrical problem occues on the ECU power supply circuit

Check: the battery charge state and condition of the terminals, the modulator electrical circuit (the power supplies and earth), operation of the main relay.

#### PIN code fault:

Occurs when there is no match between the ECU pin code, harness and possible code for this ECU. Check: the harness PIN code (terminals 19, 20, 22), the ECU PIN code and its match with the machine, and that the ECU accepts the PIN code.

#### Speed sensor signal fault:

Occurs when the speed sensor signal is not that of the signal expected. Or when there is wheel locking due to a mechanical problem on the braking system (caliper seizure)

Check: the signal, the sensor gap, the condition of the pulse wheel, the wheel rotates freely, the condition of the front brake caliper.

#### Speed sensor fault:

Occurs when the speed sensor signal does not reach the ECU. Check: the speed sensor electrical circuit, and the speed sensor.

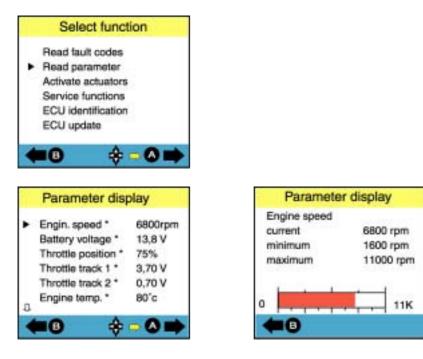
# **READING PARAMETERS**

#### **Reading the parameters**

The ECU continually has all of the engine functioning parameters, which come from outside from its sensors and interior parameters calculated on the basis of the external parameters

After selecting reading the parameters, the list of parameters available is shown

A parameter comparison form is used to compare the parameters recorded with the basic values



The list of parameters is shown, with an asterisk after each parameter for which an additional screen is available

To obtain further information on the parameter, select it with the arrow keys and press button A to see the new screen describing the parameter in detail

#### **Injection parameters all types:**

#### Engine speed:

Shows the engine speed read by the ECU Used to check, among other items: the idle speed, the changes in engine speed, the maximum engine speed

#### Battery:

Shows the battery voltage read by the ECU Used to check, among other items: the off-load battery voltage, the battery charging circuit

#### Throttle position:

Shows the percentage opening of the throttle as read by the ECU Used to check, among other items: the accelerator, throttle valve, potentiometer interaction When accelerating, the opening value should increase from 0% at idle to 100% at full throttle

# **READING PARAMETERS**

#### Engine temperature:

Gives the engine temperature read by the ECU

Used to check, among other items: the engine temperature measurement circuit, the synchronisation between the petrol injection time and the engine temperature

Before starting the engine, the temperature shown should be close to ambient temperature, after starting the engine it should move towards a higher temperature

When cold the petrol injection time at idle is longer than when hot to enable engine cold starting

#### Ignition advance:

Gives the ignition advance angle calculated by the ECU on the basis of the information received from the external sensor (engine speed sensor, throttle potentiometers, engine temperature, etc)

Used to check, among other items: that the ignition in fact receives it command signal, and that it is operated at the right moment

#### Atmospheric pressure: (2-stroke option)

Gives the atmospheric pressure read by the ECU

Used to check, among other items: the atmospheric pressure measuring circuit, the match between the pressure read and the actual pressure

At sea level, the pressure should be around 102,3 hpa, at altitude it is reduced

#### Petrol injection time:

Gives the petrol injector command signal length calculated by the ECU on the basis of the information received from the external sensor (engine speed sensor, throttle potentiometers, engine temperature, etc)

Used to check, among other items: that the injector is in fact operated, that the command signal length is compatible with the engine functioning conditions (idle, partial load, full load, cold, hot, etc.)

#### Temperature gauge:

Gives the value of the indicator command signal calculated by the ECU on the basis of engine temperature measured by the engine temperature sensor

- Used to check, among other items: the engine temperature measurement circuit, the gauge control circuit with comparison with the engine actual temperature
- With the engine cold the command signal should give approx. 0% and engine hot 80%, 100% indicating engine overheating (red sector)

#### Sensor power supply:

Gives the voltage value of the power supply to the sensors output by the ECU

Used to check, among other items: there is power supply to the sensors by the ECU, the sensor power supply circuits

#### Engine temperature sensor voltage:

Shows the voltage variation due to the sensor in relation to temperature.

Is used to test the engine temperature measurement circuit, correspondence between the engine actual temperature and that measured by the ECU.

Depending on the temperature, the voltage goes from 0.9 volts hot to 4.95 volts cold. The sensor is powered by the ECU with 5 volts.

# **READING PARAMETERS**

#### Petrol pump:

Shows whether the petrol pump is operated by the ECU

Used to check, among other items: that the pump is in fact operated

The petrol pump is operated by the ECU for 3 seconds when the ignition is turned on, then when the engine starts

#### Immobiliser state: (option)

Indicates in which state the immobiliser is Indicates whether the immobiliser is locked or unlocked

#### ECU locking:

Indicates whether the standard locking system is activated or not Indicates whether the standard locking system is de-activated, if it is not, the machine cannot start

#### 2-stroke injection specific parameters:

#### Potentiometer track 1

Gives the voltage read by the ECU on track 1 of the throttle potentiometer

Used to check, among other items: the throttle twist grip control, throttle valve, potentiometer track 1 interaction

When accelerating the voltage should increase from 0.5 volts min at idle to 4.5 volts max at full throttle

#### Potentiometer track 2:

Gives the voltage read by the ECU on track 2 of the throttle potentiometer

Used to check, among other items: the accelerator twist grip control, throttle valve, potentiometer track 2 interaction.

When accelerating the voltage should drop from 4.5 volts min at idle to 0.5 volts max at full throttle

#### Air injection time:

Gives the air injector command signal length calculated by the ECU on the basis of the information received from the external sensor (engine speed sensor, throttle potentiometers, engine temperature, etc)

Used to check, among other items: that the injector is in fact operated, that the command signal length is compatible with the engine functioning conditions (idle, partial load, full load, cold, hot, etc.)

#### <u>Oil pump:</u>

Indicates whether the oil pump is operated by the ECU on the basis of the parameters (load, engine speed) used to determine the engine oil requirements.

Used to check, among other items: that the pump is in fact operated

The oil pump is operated by the ECU only when the ECU determines that the engine needs oil

#### 4-stroke injection specific parameters:

#### Potentiometer voltage:

Gives the voltage read by the ECU on the throttle potentiometer Used to check, among other items: the accelerator, throttle unit, potentiometer. When accelerating the voltage should increase from 0.5 volts min at idle to 4.5 volts max at full throttle.

#### Inlet air temperature:

Shows the inlet air temperature value read by the ECU

Used to check, among other items: the air temperature measurement circuit

Before starting the engine the temperature indicated should be close to that of ambient temperature

#### Idle valve:

Shows if the idle valve is controlled by the ECU on the basis of the parameters (load, engine speed) determining the engine air requirements to maintain idle.

Used to check, among other items: that the idle valve is in fact being controlled

The idle valve is controlled by the ECU as soon as the ECU sees the speed approach idle speed The control value is expressed in engine degrees and represents the control time in terms of the engine rotation angle.

#### Air temperature sensor voltage:

Shows the voltage variation due to the sensor in relation to temperature.

Used to monitor the inlet air temperature measurement circuit, the match between the actual air temperature and the temperature measured by the ECU.

Depending on the temperature, the voltage goes from 0.9 volts hot to 4.95 volts cold. The sensor is powered by the ECU with 5 volts.

#### **ABS/PBS parameters:**

#### Vehicle speed:

Shows the vehicle speed seen by the ECU on the basis of the signal delivered by the front wheel speed sensor. This signal is used by the instrument cluster to display the vehicle speed and the distance covered.

Used to monitor the vehicle speed measurement circuit.

#### Battery:

Shows the battery voltage read by the ECU Used to check, among other items: the off-load battery voltage, the battery charging circuit

#### LH brake switch:

Shows the position of the LH brake lever switch as seen by the ECU. Used to monitor the LH brake switch circuit.

#### RH brake switch:

Shows the position of the RH brake lever switch as seen by the ECU. Used to monitor the RH brake switch circuit.

#### High pressure brake pump:

Shows if the ECU is operating the brake pump. Used to check that the pump is actually operating when it is triggered and if it is actually triggered.

#### <u>PIN code:</u>

Shows the different PIN codes handled, the harness PIN code, the ECU PIN code, and the PIN codes accepted by the ECU.

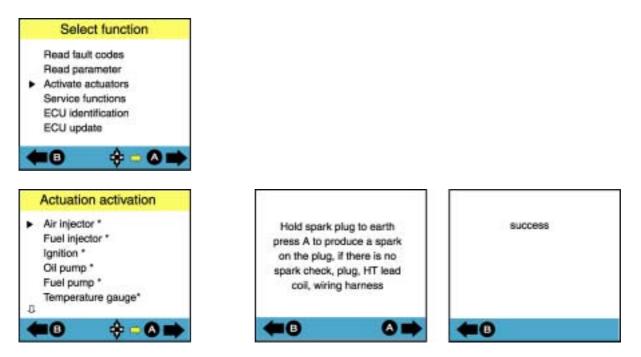
Used to check, among other things, that the harness is in conformity and in good condition, that the PIN code is that for the vehicle concerned, and that the ECU is that for the vehicle.

# **ACTIVATION OF ACTUATORS**

#### Activation of actuators

As the ECU controls all of the system actuators (injectors, pumps, coil, etc.) it may therefore operate them if requested to do so by the diagnostic tool

After selecting actuator activation, the list of actuators is displayed



An asterisk after an actuator means that there is an additional screen available

- To operate the actuator press button A, the diagnostic tool asks the ECU to operate the actuator to cause it to function, and in this way it is possible to check the electrical functioning of the actuator as well as its mechanical functioning, either visually (ignition), or by sound (injectors, pumps, etc.)
- The next screen means that the ECU has succeeded in operating the component, but this does not mean to say that the component has actually functioned

#### **Injection actuators all types:**

#### Ignition:

After removing the spark plug, hold it in contact with the engine casing, press button A to see if there is a spark on the plug

#### Petrol injector:

Pressing button A commands opening of the petrol injector, and the noise due to the mechanical opening of the injector can be heard and enables diagnostic of its functioning (electrical and mechanical)

#### Petrol pump:

Pressing button A commands functioning of the petrol pump, the noise due to rotation of the pump can be heard and enables diagnostic of its functioning (electrical and mechanical)

# **ACTIVATION OF ACTUATORS**

#### Warning LED:

Pressing button A turns on the warning LED

Note: when there is no functioning fault on the LED, it stays on permanently when the ignition is on

#### Temperature gauge:

Pressing button A commands movement of the temperature gauge needle from 0% to 100%, therefore the needle should go from min to max reading

#### 2-stroke injection specific actuators:

#### Air injector:

Pressing button A commands opening of the air injector, and the noise due to the mechanical opening of the injector can be heard and enables diagnostic of its functioning (electrical and mechanical)

<u>Oil pump:</u>

Pressing button A commands functioning of the oil pump, the noise due to rotation of the pump can be heard and enables diagnostic of its functioning (electrical and mechanical)

#### Important:

the air injector must be activated before the fuel injector in order to avoid destroying the fuel regulator diaphragm.

#### **4-stroke injection specific actuators:**

#### <u>Idle valve:</u>

On pressing button A operation of the the idle valve is triggered, the noise of the valve operating can be heard and enables diagnosis of valve functioning (electrical and mechanical functioning)

#### **ABS/PBS actuators:**

#### High pressure brake pump:

When pressing button 1, operation of the pump is triggered, the noise of the pump can be heard and enables diagnosis of pump operation (electrical and mechanical operation)

#### Warning LED:

Pressing button A turns on the warning LED

<u>Note</u>: when there is no problem on led functioning, it is on permanently with the igntion on and goes off when speed reaches 5 km/h.

#### Brake light:

By pressing button A operation of the brake light is triggered, the lamp on can be seen visually and enables diagonosis of lamp functioning.

Note: when the ignition is turned on the brake pump and brake light are triggered which enables diagnosis of their functioning.

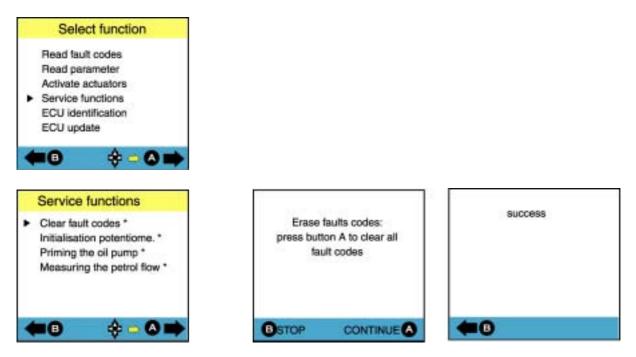
# INITIALISATION

#### **Service functions :**

In certain cases, when a part is changed, the component must be initialised

The diagnostic tool is used to initialise the components

This function is also used to bleed the oil and petrol circuits after working on them, and also for certain checks (petrol pressure, etc.)



The list of parameters is shown, with an asterisk after each parameter for which an additional screen is available

To start initialisation press button A, the diagnostic tool asks the ECU to take the new value for the component as the reference value or asks it to operate the components necessary to check them A confirmation screen is displayed

#### **Injection service function all types:**

#### Clearing faults:

Use to clear all of the faults in the memory after solving the problem The faults may be cleared separately by selecting the fault concerned **Note:** if the fault is permanent and cannot be cleared, the fault must be rectified first

#### Bleeding the oil pump:

The oil hose must be disconnected from the throttle valve unit. The oil and petrol pump are activated simultaneously to bleed the circuits. Press button A until the oil drips from the hose.

#### Throttle valve initialisation:

With the throttle grip in the rest position and the cable properly adjusted press A to enter the new values for the throttle valve unit potentiometers This operation must be carried out each time the throttle unit or ECU are changed.

# Measuring the petrol flow:

Put the end of the fuel return pipe into a graduated recipient, press A to operate the petrol pump, and measure the petrol flow

# INITIALISATION

#### 2-stroke injection specific service function:

#### Oil pump bleed:

The oil hose must be disconnected from the inlet pipe. The oil and fuel pump are activated simultaneously to bleed the circuits. Press button A until the oil drips from the hose.

#### **ABS/PBS service functions:**

#### <u>Clearing faults:</u>

Use to clear all of the faults in the memory after solving the problem The faults may be cleared separately by selecting the fault concerned **Note:** if the fault is permanent and cannot be cleared, the fault must be rectified first

#### Clearing PIN code:

Used to clear the PIN code in the memory after checking that the harness conforms and is in good condition.

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# **ECU IDENTIFICATION**

#### **ECU identification**

Injection ECU identification:

This function is used to identify the ECU, its version (50 cc, 125 cc), its calibration (25 km/h, 45 km/h,...)

ECU identification is by the ECU reference number, the Software reference number and calibration reference number

Example:	Looxor 50cc 45km/h	M1EPEDRX002
	Looxor 50cc Free	E800583 M1EPEDRX002 LX5002-3-0

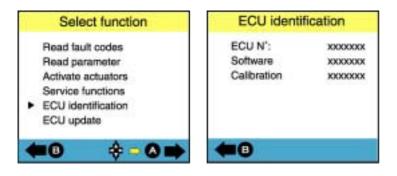
Meaning of the calibration reference:

LX5002 = Looxor 50cc version 2002

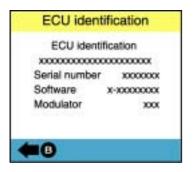
(LX = Looxor, EL = Elystar, JF = Jetforce)

1 = version 45 km/h

(0 = 25 km/h, 1 = 45 km/h, 2 = racing, 3 = free, 4 = moto standard, 5 = moto free, 6 = moto racing)0 = version index



<u>ABS/PBS ECU identification:</u> This function is used to identify the ECU.



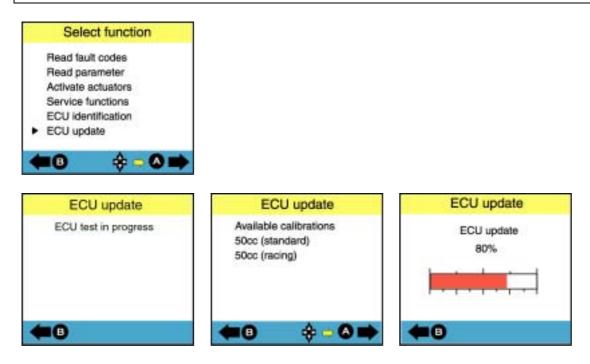
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# ECU UPDATING

#### **Injection ECU updating**

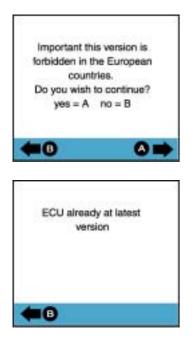
The ECU definition may change following detection of a problem or to improve its functioning, etc... This function is used to update the ECU memory and therefore upgrade it without having to replace it

Important: Before updating the ECU check the condition of the tool batteries, that the cable is properly connected to the machine and the diagnostic tool, and that the machine battery is charged



Turn off the ignition to re-initialise the ECU

Special warning screens when updating the ECU:

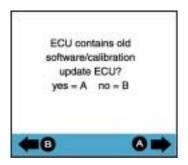


Appears when attempting to load a calibration forbidden in Europe and only when using an export cartridge

<u>Note:</u> on the Elystar 125 cc - 150 cc this screen is displayed following an ECU calibration identification error not to be taken into account

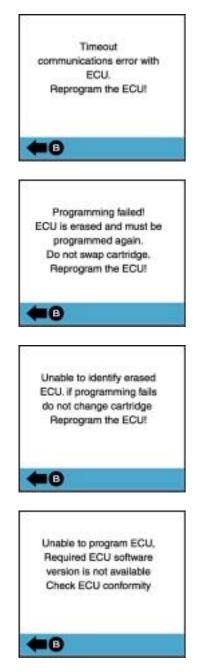
Appears when the ECU has the same calibration version as the diagnostic tool. Check that the tool has the latest program updateA new program may be loaded into the diagnostic tool by connecting it to a PC computer and by loading the new program supplied by PMTC, using the special software supplied with the cartridge (see relevant chapter)

# ECU UPDATING



#### Appears when the ECU needs to be updated

In case of error or incident warnings when updating the ECU:



This message is displayed if programming has begun and the communication is cut before the ECU data are modified. The new software/calibration has not been loaded. Recommence the update procedure

This message is displayed if programming has begun and the communication is cut whereas the ECU data have been modified. The new software/calibration has not been loaded correctly **Do not disconnect the diagnostic tool and do not disconnect the cartridge** (the cartridge memorises the ECU number and is capable of restoring the data correctly) Recommence the update procedure

This message is displayed if the ECU has been erased but not reprogrammed.

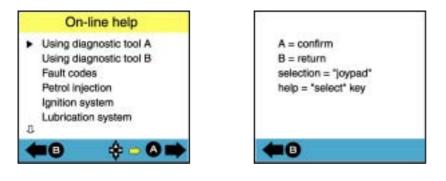
**Do not disconnect the diagnostic tool and do not disconnect the cartridge** (the cartridge memorises the ECU number and is capable of restoring the data correctly)

This message is displayed if the ECU has been incorrectly programmed, or if the program is not known to the tool

If the tool has not the program for the machine Check that the tool has the latest program update provided by PMTC

# <u>Help</u>

Help screens are available at all times, by pressing the "select" button the help list is shown, select the help required and confirm by pressing button A



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#### Updating the diagnostic tool

The diagnostic tool may be updated using a PC computer The PC minimum specifications are:

- ♦ Windows 95/98
- ♦ 8 MB of RAM
- ✤ 50 MB minimum disk space available
- ScD-ROM drive
- ♦ diskette drive
- ♦ serial port (9-pin type)

Tool update identification:



# 1. Identification of the CD-ROM:

- There are two versions of the update CD-ROM:
- the first version with which installation on the computer workstation is compulsory
- the second version (called CD-V2 in A available as from 10/2002) with which you have a choice between a permanent installation (use without the CD-ROM) and without installation (use with the CD-ROM in the drive)



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#### 2. Installing the update program:

#### Note: installation of this is not essential if you have version 2 of the CD-ROM

Installation of the software on the hard disk enables updating the cartridge without having to put the CD in the drive.

The update program is on the update kit CDROM **part number 755990** 

Open the CDROM with Windows Explorer

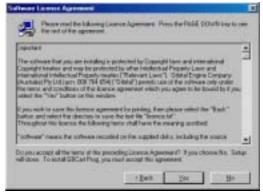
To install the program, click twice on file *GBCartprog.exe* and follow the installation program instructions.



click on NEXT







click on YES

click on Finish after ticking the box "yes, I want to restart my computer now" Leave the computer to re-start.

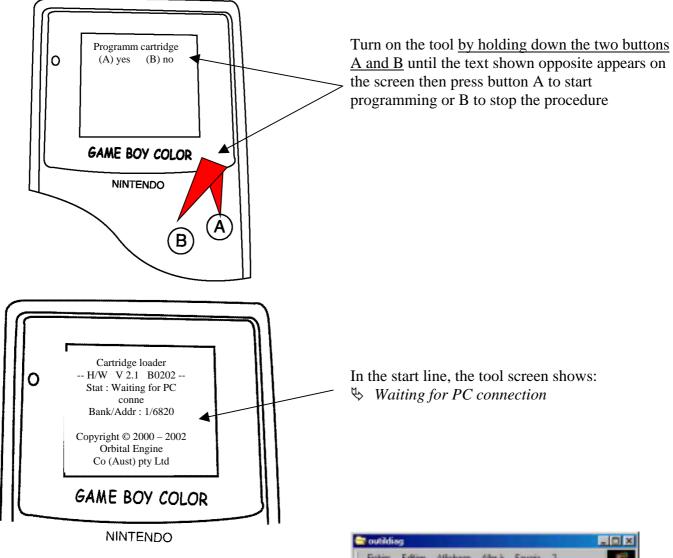
The program creates the directory *C:\Program files\Gbcart\tools\cartprog.exe* and a desktop shortcut



#### 3. <u>Updating the tool:</u>

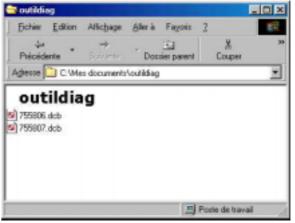
Updating is only possible if the update program is installed on the PC and if you have an update file (downloaded from Internet or on diskette) see service information "Diagnostic tool update"

- ♦ Connect the diagnostic tool to the PC with the special cable
- ♦ Check that the tool batteries are in good condition



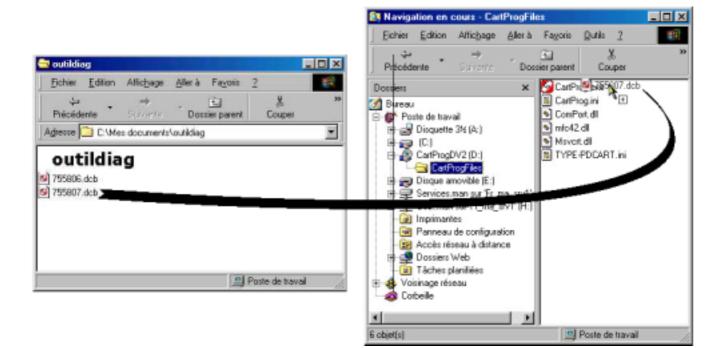
#### Software installed on the PC hard disk:

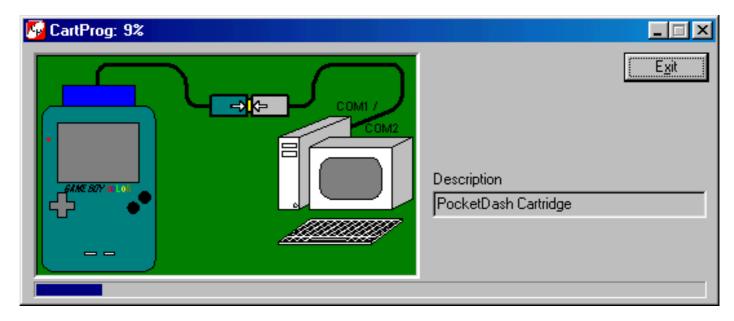
Double click on file755806.dcb or 755807.dcb, either downloaded from Internet or received on a diskette, the loading program starts automatically and the tool is updated automatically



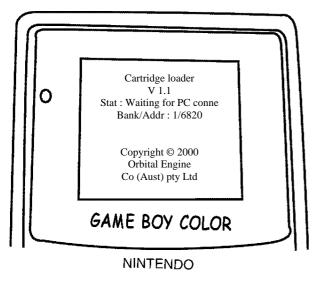
#### Software not installed on the hard disk (version 2 CD-ROM only)

- Open an explorer window containing the update file 755806.dcb or 755807.dcb, either downloaded over Internet or received on a diskette
- Solution Open a second explorer window containing the update CD-ROM Cartprogfiles directory files
- Select update file 755806.dcb or 755807.dcb and drag and drop it onto the CD-ROM Cartprog.exe program. The loading program starts automatically and the tool is updated automatically





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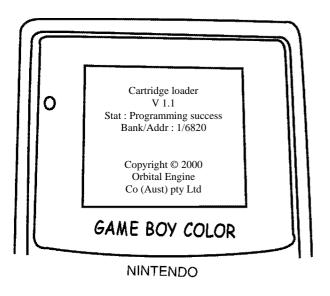


- In the start line, the tool screen shows:
- Solution Waiting for PC connection, then
- $\Leftrightarrow$  *Erase app....*, then
- ✤ Programming cart.....

Wait until loading is completed. Loading progress is shown in the loading window

Cartridge Programm	ed and a second	×
_ <b></b>	La cartouche à été programmée avec succès.	
	Cartridge has been successfully programmed.	
	La Card è stata programmata con successo.	
	La tarjeta ha sido programada con exito.	
Exit	Die Steckkarte wurde erfolgreich programmiert.	

When the update is completed (**updating the tool takes around 10 minutes**) the end screen is displayed



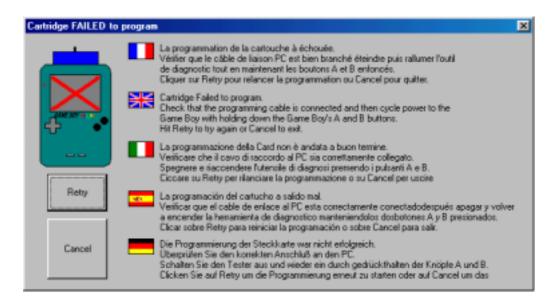
In the start line the screen display shows : *Programming successful ! please cycle power* 

- Solution Turn off the diagnostic tool and disconnect from the PC
- ✤ The diagnostic tool is now up to date

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#### 1. Update problem:

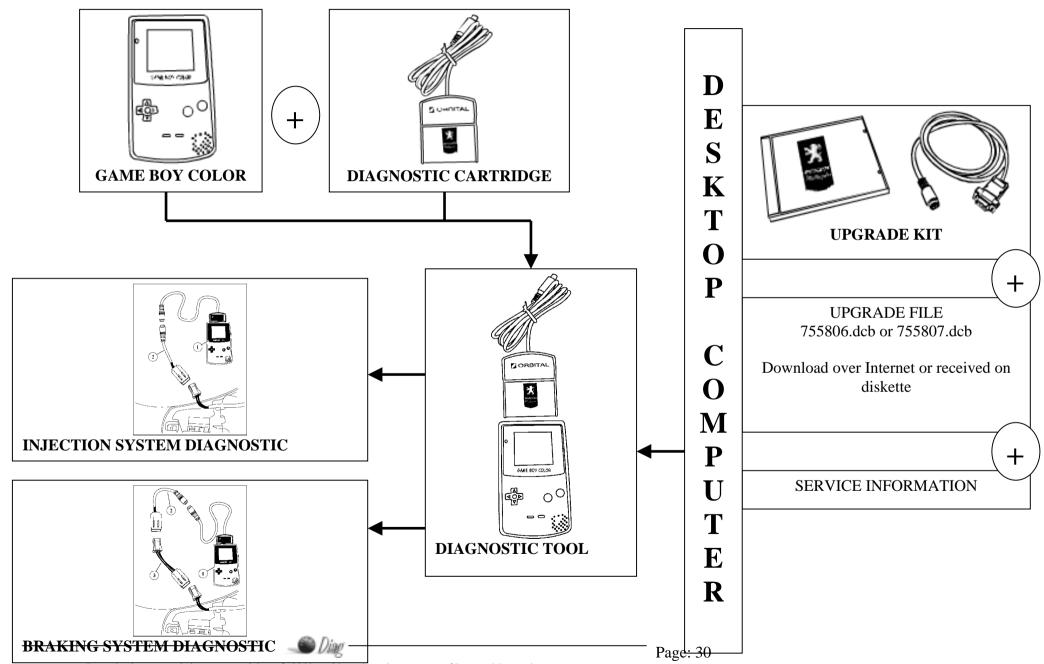
In case of a link or loading problem, a warning screen is displayed:



In this case:

- $\clubsuit$  turn off the diagnostic tool
- ⇔ check the link cable is properly connected to the PC
- $\checkmark$  repeat the procedure in chapter 2

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