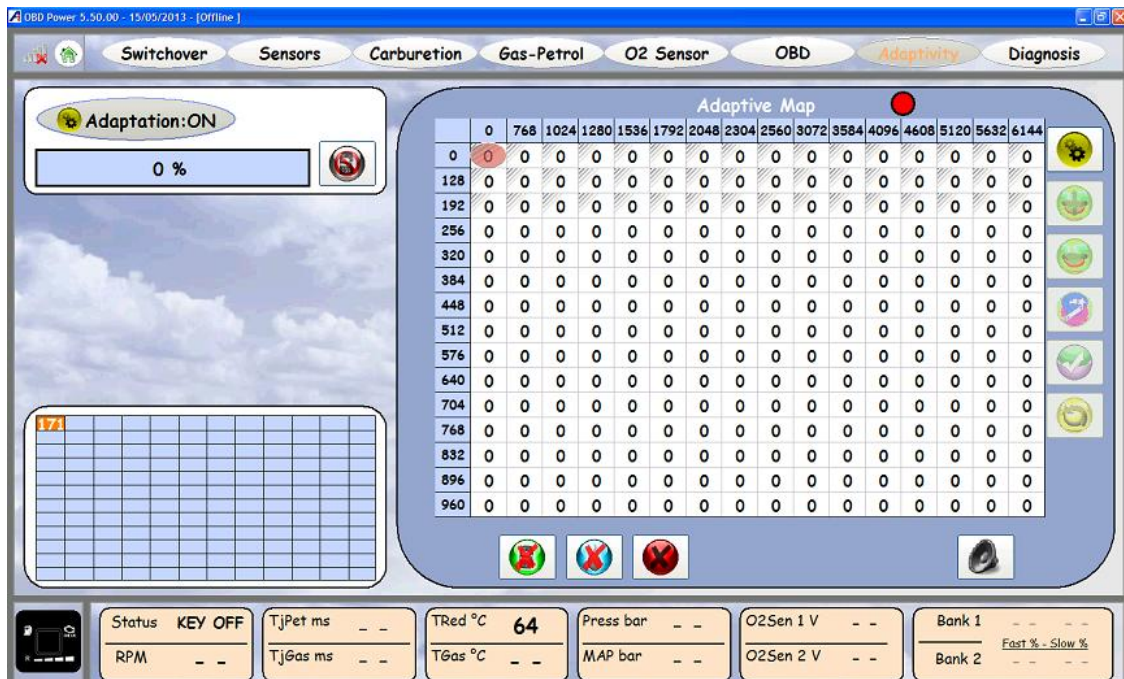


POWERJET PJ+ Software Manual Integration

- . Adaptivity
- . Gas injectors diagnosis
- . Historical of connections
between computer and gas
central Unit



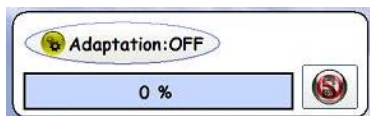
ADAPTIVITY



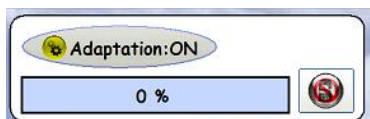
The page adaptivity is present in the system OBD that in system Power Jet.

This function is a further possibility to adapt the carburetion map in the case it is impossible to connect the original car OBD system or this is not present.

The adaptivity function allows to optimize the fuel mixture obtained in automatic calibration, traveling with the car on the road, before using petrol and CNG later.



Adaptation OFF. This automatic adapter system is locked, doesn't work. To activate press the button



Adaptation ON. The system is active. It obtains in automatic way the operating characteristics of the vehicle traveling on petrol then on CNG.

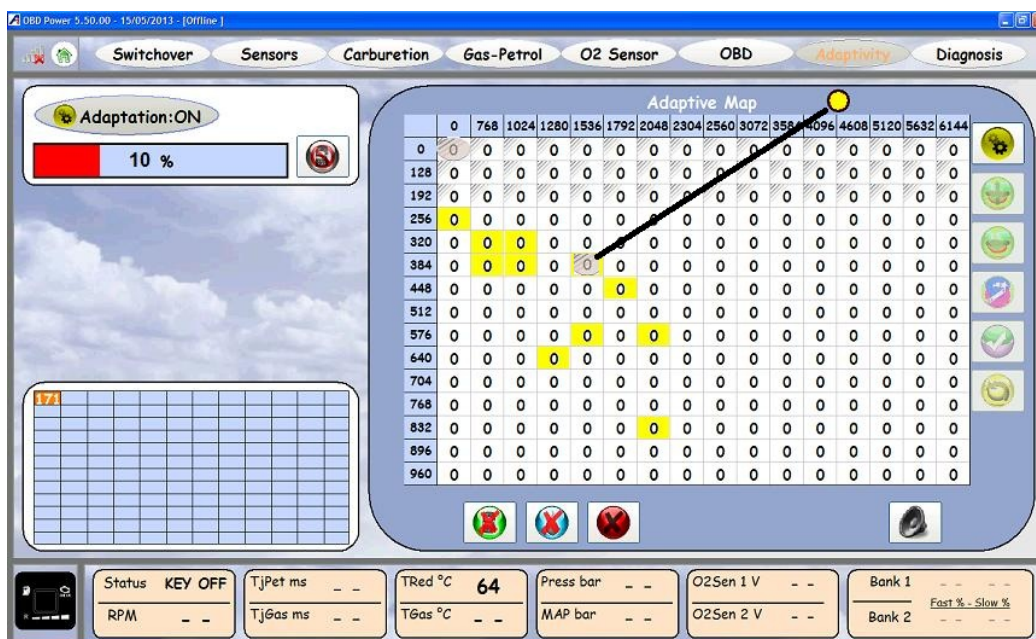
Job procedure

Select Adaptation ON

Switch the vehicle into petrol

Running in petrol in the different conditions of use of vehicle

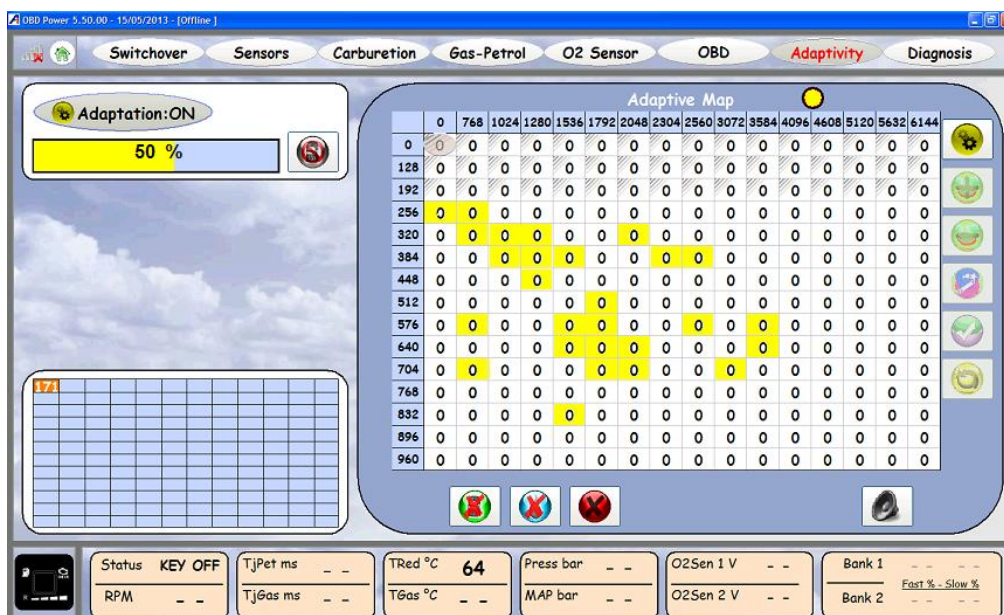
The squares inner adaptive map become gradually yellow. Also the marked point becomes yellow.



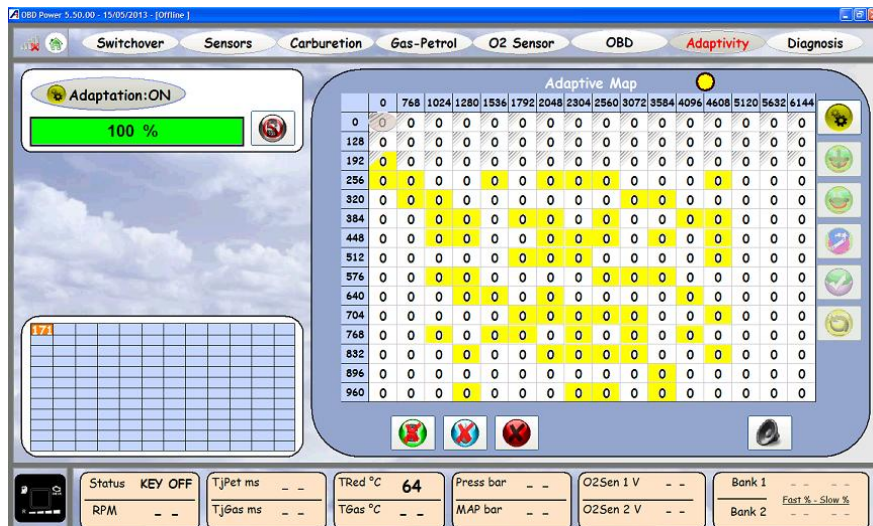
When the square change the color from white to yellow means that the system stores the function of the car in petrol.

Important: to obtain a speedy an precise configuration you have to drive in different engine running using different speed, but keep constant in the various points the accelerator pedal up to filling the cell in yellow

The slide bar located at the top right indicates the percentage of obtained samples. When the bar is red color means the samples are not enough.



Color yellow: the samples reach the sufficient number.



Color green and 100% means that the numbers of samples are enough to have a good “picture” of petrol working of vehicle.

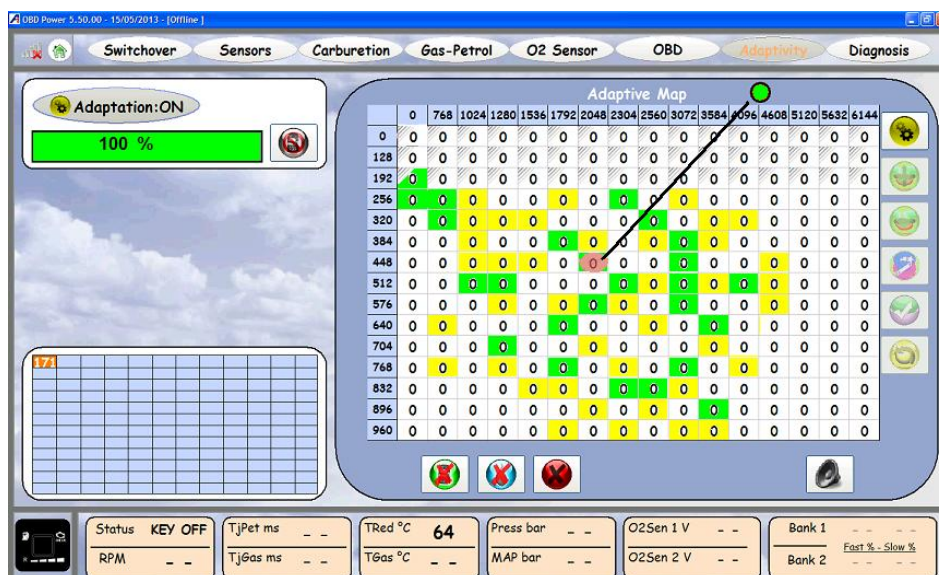
At this point we can decide to leave active the petrol function adjusting or to block the obtained acquisition.

1. If the decision is to leave always active the petrol sampling, it is not necessary to operate on the system. All the times that the vehicle runs in petrol way, will be created new boxes or modified the values of the existing ones where necessary.

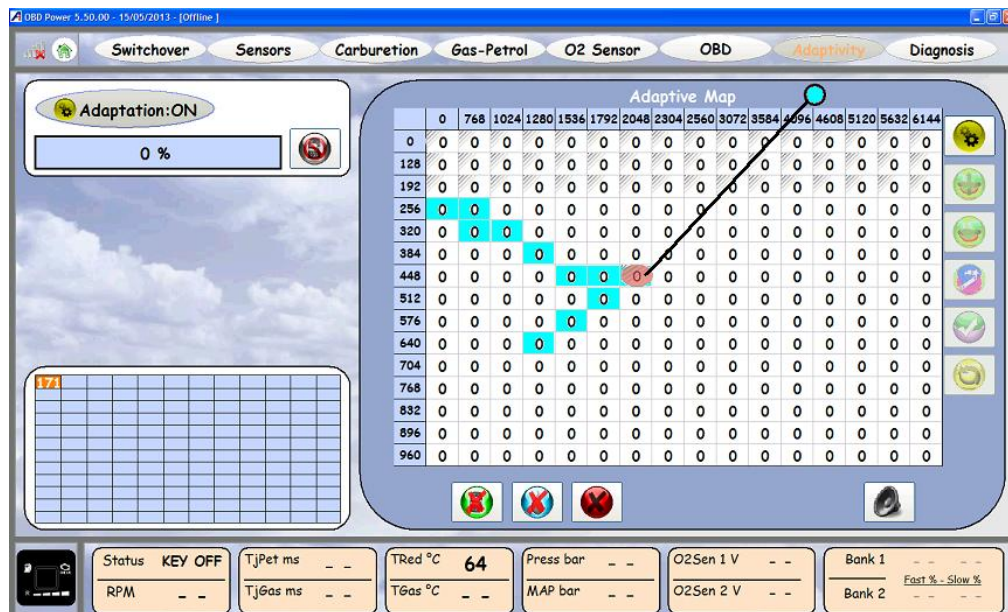


2. If you decide to block the set up press the button **Freeze Petrol Samples** Any other acquisitions in petrol way will be done up to the button will be unlocked.

Switch to gas and start to run. The system stores the operating and paint the cells from yellow to green. When the cells are green the system has stored both the petrol function and the gas function.



Also the top right point becomes green if the cursor is on the green square, otherwise becomes the same color of the square on which is the cursor .



When the cells are color light-blue the system has memorized only the gas function.

The right column of Adaptive Map shown the load engine. If you accelerate, the cursor moves down.

The line on the top of Adaptive Map shown the number of RPM engine.

When the value at the internal of the cells is 0, the system doesn't change the carburetion. When the value at the internal of cell is positive (for example 10) the system becomes rich, proportional to the number, on the carburetion map. When the value is negative the system makes a slim of carburetion. The enrich or the slim of the carburetion will be done on the basis of the map obtained in self-carburetion. The self-setting carburetion map can be modified only with a manual operation.

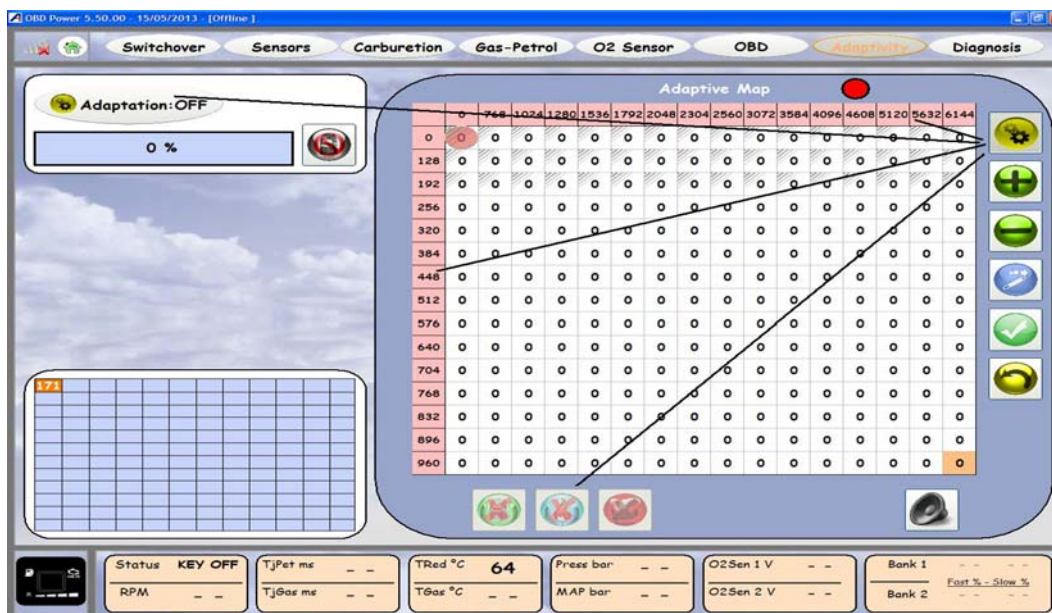
 Delete the samples by petrol (yellow cell)

 Delete the samples by gas

 Delete both samples petrol and gas

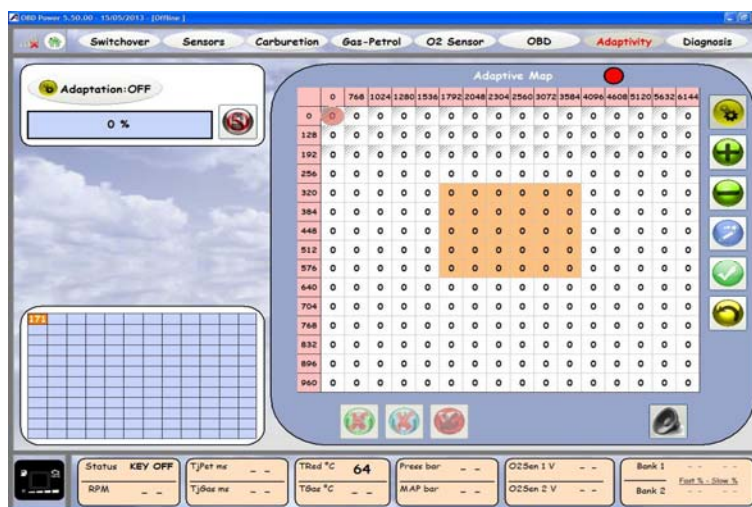
It is possible utilize “adaptive map” in manual formality. In this case we can modify manually the whole map or part of it.

The system doesn't allow to utilize contemporary the automatic and manual formality. In the case you want to overlap the two functions, the system advises with messages about the inability to perform the operation. This decision is due to avoid oppositions between automatic and manual systems.



It allows to select the manual function. When the manual function is active, line RPM and the column “load engine” become color pink, the button adaptation change from ON to OFF and the deletion buttons of the samples will be disabled.

It is possible modify the whole map or a part of it selecting with the mouse the part on which you want to intervene. To do this it is necessary to proceed like previously described on “set up manual” on carburetion page. Once marked the area to change (cells become blue) it is possible to enrich or slim the carburetion.





Increase map values of selected cells

This button enrich the carburation. At the internal of selected cells the numerical value increases of one unit for every “click” of mouse: Maximum value reachable 30.



Decrease map values of selected cells

This button slim the carburation. At the internal of selected cells the numerical value decreases of one unit for every “click” of mouse: Maximum value reachable -30.



Automatic interpolation

This button connects between them parts of the map having numerical values far between them. Interpolation of the cells.



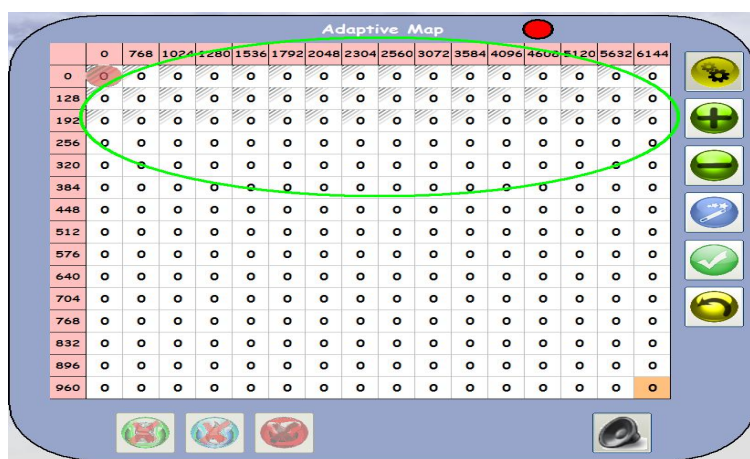
Write adaptation map in ECU

This button confirm our operation. Once done a manual modification of adaptive map it is necessary to press the button to memorize the intervention. To simplify the description: this button corresponds to “enter” key of a usual computer keyboard. If you don’t confirm, when engine turn-off the modified configuration will be lost.



Reload adaptation map from ECU

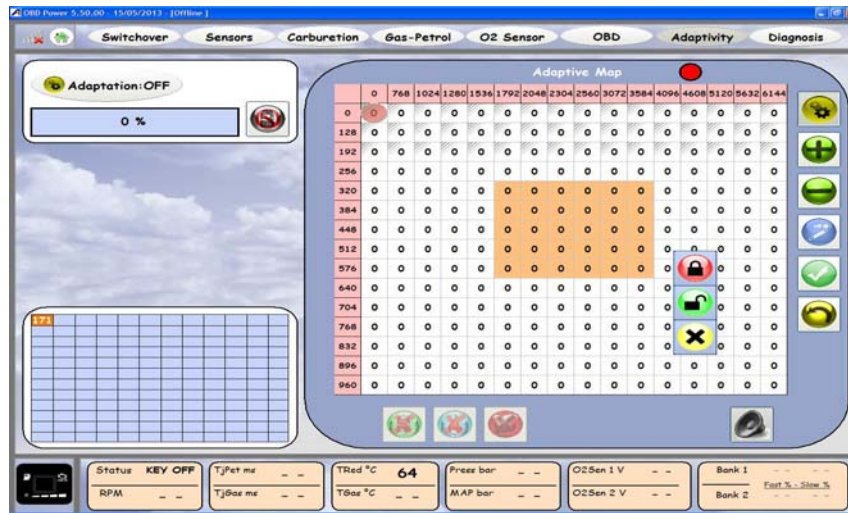
This button allows to come back to previous point of our action.



As the image shows, at the internal of adaptive map there are squares totally white and squares with transverse rows. When the cursor pass in transverse rows cells, the system doesn’t make modification in carburation. These sectors are considered provisional (passage ways cannot edit)

where is not worthwhile the implement of automatic changes of carburetion. The modifications shown on the map are automatically proposed by system because considered “standard” for all the engine types.

It is possible modify these “not working area”: select with the mouse the part you want modify. Pressing the right button of the mouse appear the following screen.



Enable adaptation process in selected cells

This button unlock the boxes: they return white.



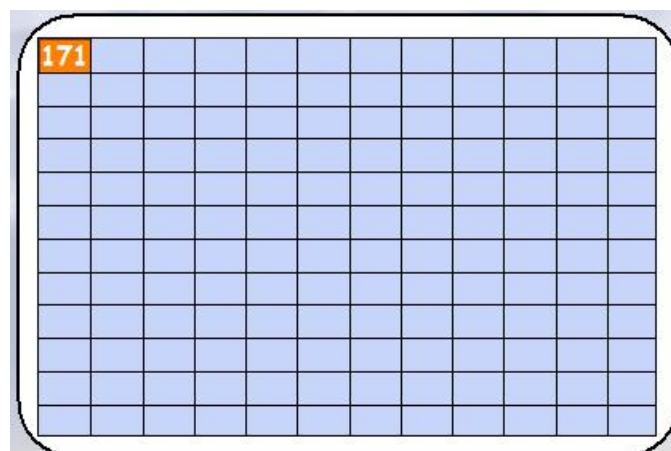
Disable adaptation process in selected cells

This button lock the boxes: they return with transverse rows



Cancel

This button closes the modify window



This map repeats the principal carburetion map. This need as an help to estimate the correspondent principal map areas where may be made a carburetion changes.



This button, if operated, beeps during the automatic function. It is operating when its color is grey.

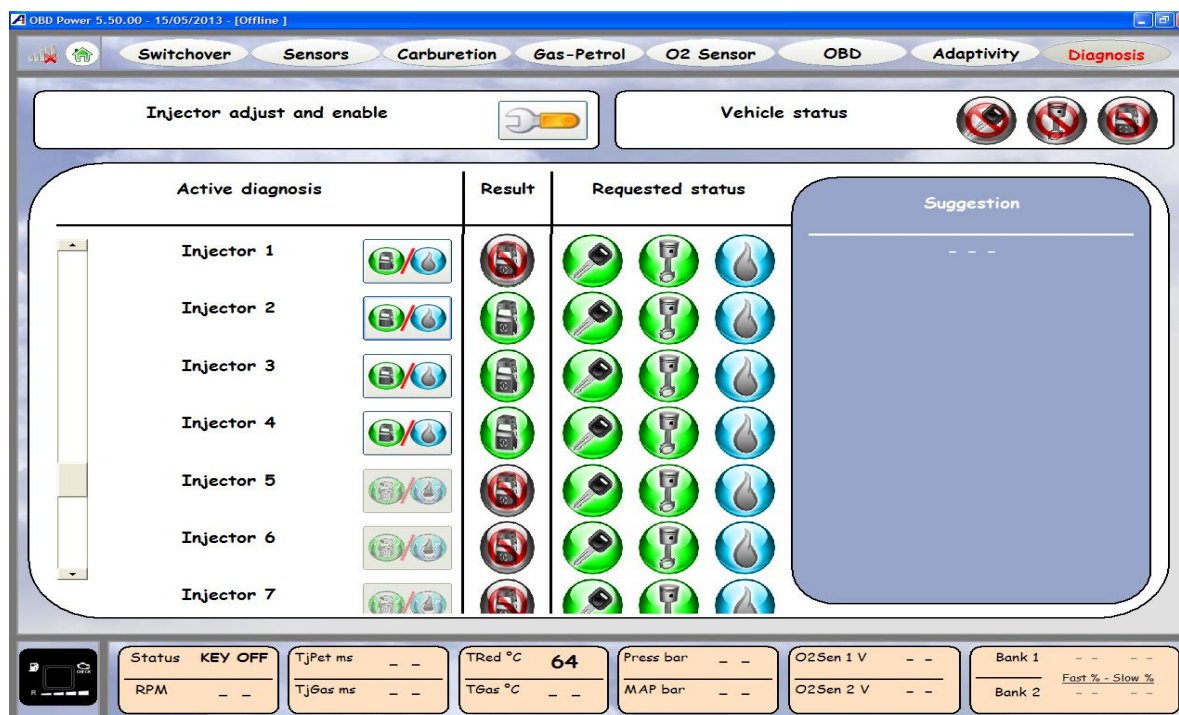
How does it work if activated: when we travel with car in petrol (during the automatic function) the sound takes a constant tone. When the tone becomes fast (for a short time) the system has taken samples in that zone of the map. When doesn't emit sounds we aren't in constant accelerator position.



If beeps is not activated the adjustment function works equally.

GAS INJECTOR DIAGNOSIS

With this part of diagnosis system is possible to check the good working of gas injectors or their correct connection.



When car works with gas at minimum press the button



the icon



becomes



Now this injector works in petrol way, while the others work in gas. If engine works in a correct way and the petrol injection times don't undergo considerable modifications (acceptable $\pm 0 - 0,400$ ms) the injector is correctly connected and works correctly.

If you switch the cylinder from gas to petrol the engine doesn't be unstable. If the engine is unstable and the petrol injection times lock or they move considerably (since all the cylinders were in gas position) probably it is wrong the linking of cylinders.

In this case the sequences petrol injectors with gas injectors have not been observed.

Check again the linking.

This function may be used to check the working of single gas injectors.

After the check remember to put again all the injectors to gas function, otherwise the system runs using petrol and gas together.

Historical of the connection between computer and gas ECU

This feature (errors page) has been inserted in order to control which computers are connected and which operations have been made. It informs about numbers of PC, connecting date, connecting time and operation done. It cannot be modified by operator.

Only completely resetting the central unit this is reset.



Last ECU changes				
ID	PC Code	Date	Time	Type
0	---	---	---	Free
1	---	---	---	Free
2	---	---	---	Free
3	---	---	---	Free
4	---	---	---	Free
5	---	---	---	Free
6	---	---	---	Free
7	---	---	---	Free

ID = number

PC Code = PC code connected

Date = date of connection

Time = connection time

Type = type of operation done