



SET UP MANUAL

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1 – Introduction

Here below the instruction to use the POWERJET PLUS software.

1.1 Software features

Using the software you can adjust for example:

- Engine 4-6-8 ECU strategies
- Map
- Automatic calibration
- Change-over petrol gas
- Software adjustment for lpg and cng
- Visual of lambda probe
- Rail temperature sensor
- Safety Car
- Error checking

2- Software installation

To install the software it is necessary:

Configuration PC:

- Processor 486
- 5 Mb free hard disk
- Windows XP, Windows 98 / 98SE, Windows Millenium, Windows NT, Windows 2000.
- Video resolution: 800x600 pixels
- COM port

SETUP“ **Serial Link Kit**”:

- 1 serial interface
- CD with software

To install the software:

- Insert CD-ROM
 - Double click My computer
 - Select **CD unit**
 - Find the **Software**
 - When request click execute

- Wait for the **Wizard** and follow the instructions

At the end of the installation a new voice will be present on the menu start → programs → YYY → XXX and a new directory C:\Program Files\YYY\XXX_YYY will present on the Hard Disk.

△ NOTE: *Please uninstall all old version of this software, if present, before to install it.*

△ NOTE: *In order to avoid any inconvenience during the use of the software please disable the screensaver and check the PC level battery.*

3 – Start the program

→ Connect the serial interface between PC and gas ECU.

△ **NOTE:** Connect the serial interface before to start the program.

- Click **Start**
- Click **Programs**
- Click **Powerjet**

△ **NOTE:** Before to use the program please close others open applications.

3.1 Language

To change the language select the Tools -> language



Fig. 3.1 - 1

And double click on the language

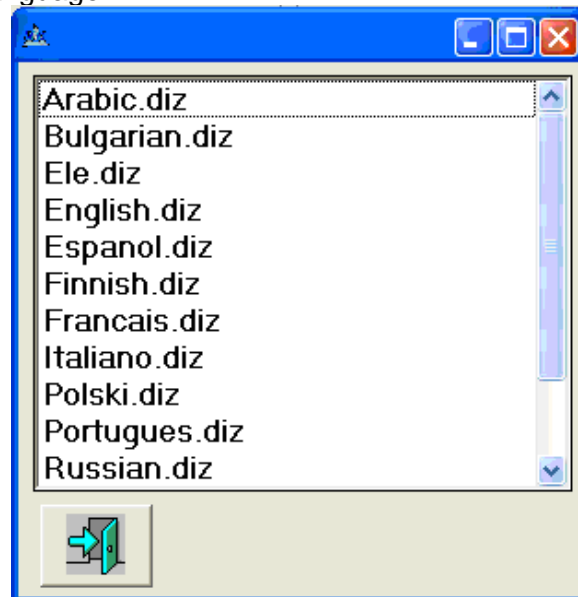


Fig. 3.1 - 2

3.2 Connection

- **Opening:** The program will search the gas ECU to show the system configuration. The following window will appear:

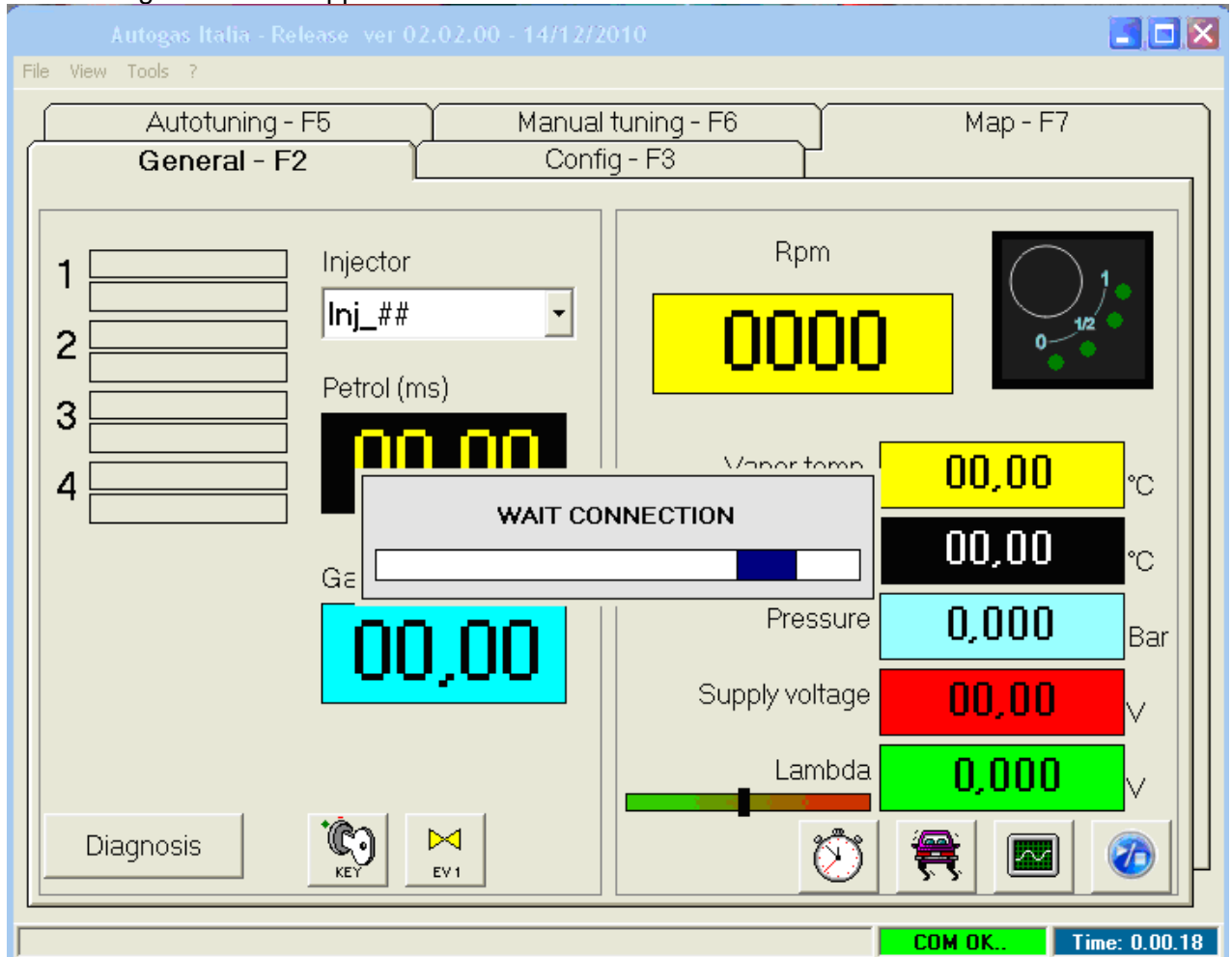


Fig. 3.2 - 1

- **Program connected:** The program it makes a test of the various parameters present in the ECU. This procedure will recognize the Hardware, Software and Firmware version checking their compatibility.
- If update is necessary a window will be automatically opened. The DIAGNOSIS screen will appear.
- **The program it cannot connect:** after few seconds the message “READING PARAMETERS” change in “COMMUNICATION ERROR”

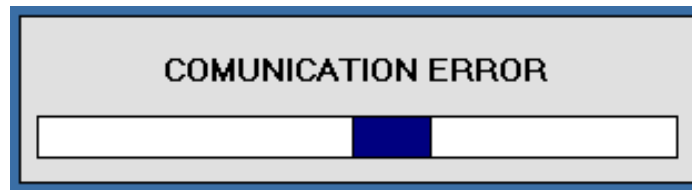


Fig. 3.2 - 2

Moreover the **VISUALISATION CONNECTION STATUS** (right side of the window) changes the colour and message:



Fig. 3.2 – 3

- **The ECU is not connected** for one of the following reason:
 1. Serial interface not connected.
 2. The ECU it is not feed.
 3. The selected COM port it is not correct. Change the COM by the relative Menu Tools → Com
 4. The Com PORT is busy. Please close all the other software and try again.

4 - General - F2

As soon as the ECU is connected the window General - F2 will be opened

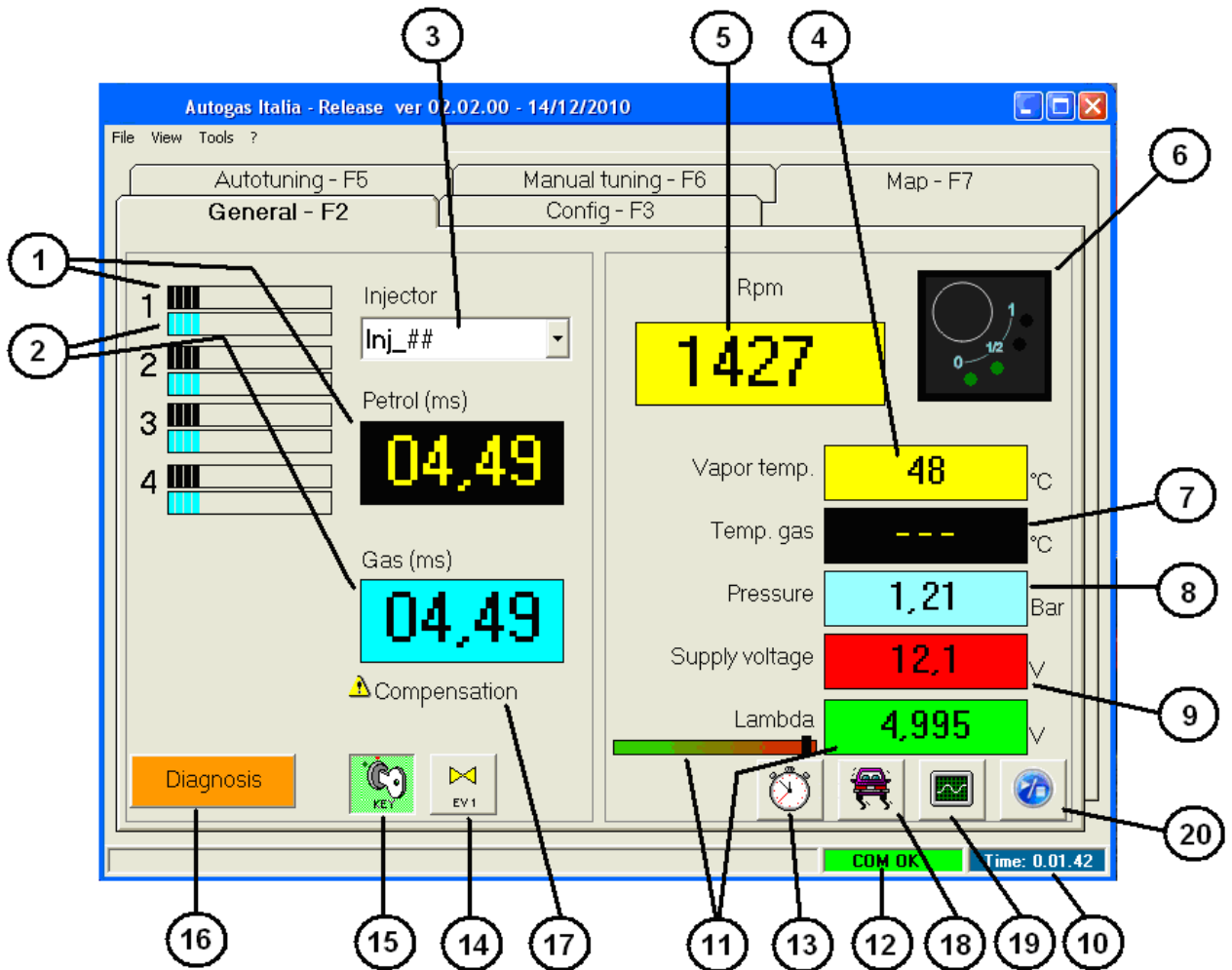


Fig. 4 - 1

1	Petrol injection time Graphic visualisation of petrol injection time.	milliseconds
2	Gas injection time Graphic visualisation of gas injection time.	milliseconds
3	Selection of the injector to display It allows to choose if in the holes 1 -.2 it must be displayed the injection time or the medium time of a single injectors	Inj_## = Injection time medium Inj_1, 2, etc. = injector
4	Temp. Vapour. (disable) Temperature in the reducer.	Degrees centigrade - 62 = Not connected

5	R.p.m. RPM display	RPM
6	Switch software It exactly repeats the function of the switch. With a click on switch on.	- - -
7	Gas temperature Temperature of the rail injectors	Degrees centigrade - 62 = Not connected
8	Pressure It displays the reducer pressure (only if dedicated pressure sensor is connected).	Bar, '- - -' = Not connected or function disable
9	Battery Battery tension	Volt
10	Time of connection It display the time spent from the last connection between PC and ecu	hours:minutes:seconds
11	Lambda (not necessary to connect) Graphic Visualization of the sonda lambda volt tension. The visualization is filtered.	Green = Poor Red = Rich
12	Communication status It show the status between ECU and PC	Green=connection OK Red = No connection
13	Maintenance service alert Button to open the page for the maintenance setting	- - -
14	EV1 Opening of the solenoid valve 1 (front solenoid valve)	Button down =Open Button up =Close
15	KEY It show the key contact	Button down =Open Button up =Close
16	Diagnosis If enable, it means that there are errors recorded in the ECU.	Disable = No errors
17	Compensation enabled Show compensation if they are active	- - -
18	Nozzle selector Open the page for the calculation nozzles	- - -
19	View Open the datalogger page	- - -
20	Recording function Button to activate the record function	- - -

4.1 MAINTENANCE SERVICE ALERT



Click the “watch button”: the following window will appear:

Service ✕

Enable

First service km (h) Check Ok

Scheduled maintenance (5000:20000 km) km (km) h (h)

Number of correct checks

Scheduled maintenance (km) (h)

Overused (km) (h)

Time petrol (h) **Time gas** (h)

Enable the maintenance program selecting : “**Enable**” and complete by writing the kilometres (driving) foreseen before every check then click “**Ok**”.

The driver will be informed by “beep” as soon as driven the scheduled kilometres.

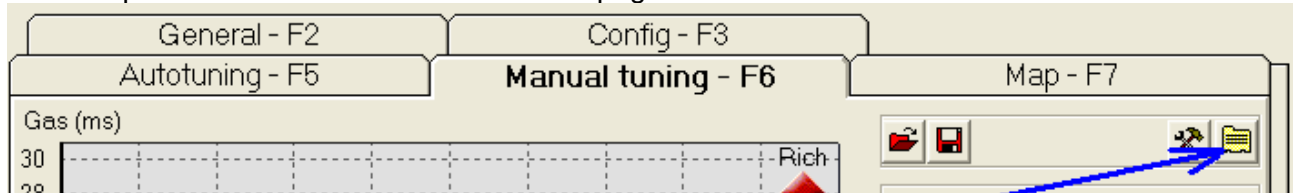
Please note that the first checking is after 1000 km and it cannot be modified.

4.2 COMPENSATION

In case that one of the functions of compensation is active, appear the symbol

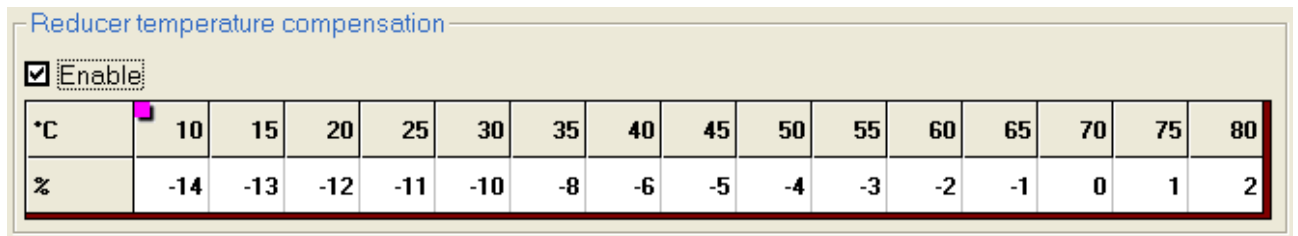


The compensation are on manual calibration page



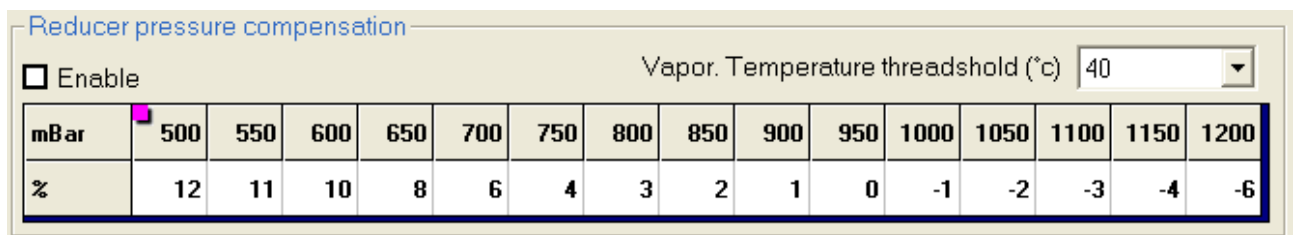
Water temperature compensation

When the temperature change (top row) corresponding a different adjustment (bottom row) of the gas injectors opening. A cursor indicates the reference box , the function must be enabled to work



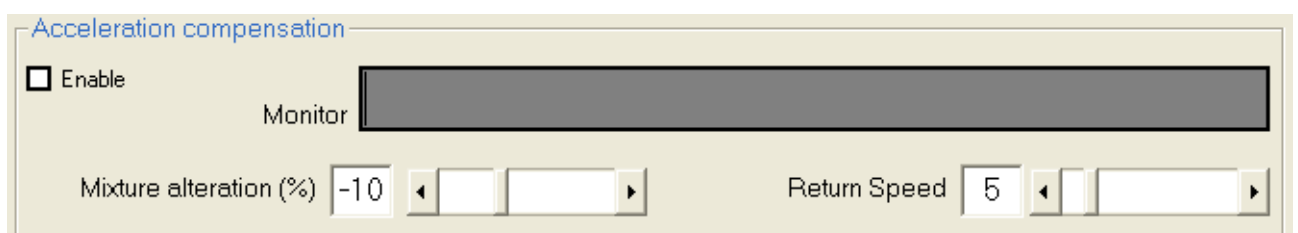
Compensation pressure gas

When the pressure change (top row) corresponding different adjustment (bottom row) of the gas injectors opening. A cursor indicates the reference box , the function must be enabled to work



Leaning during acceleration

Ability to change the mixture during acceleration. A negative value corresponds to a leaning , while a positive value indicates an enrichment. It's possible to increase or decrease the speed of the function.

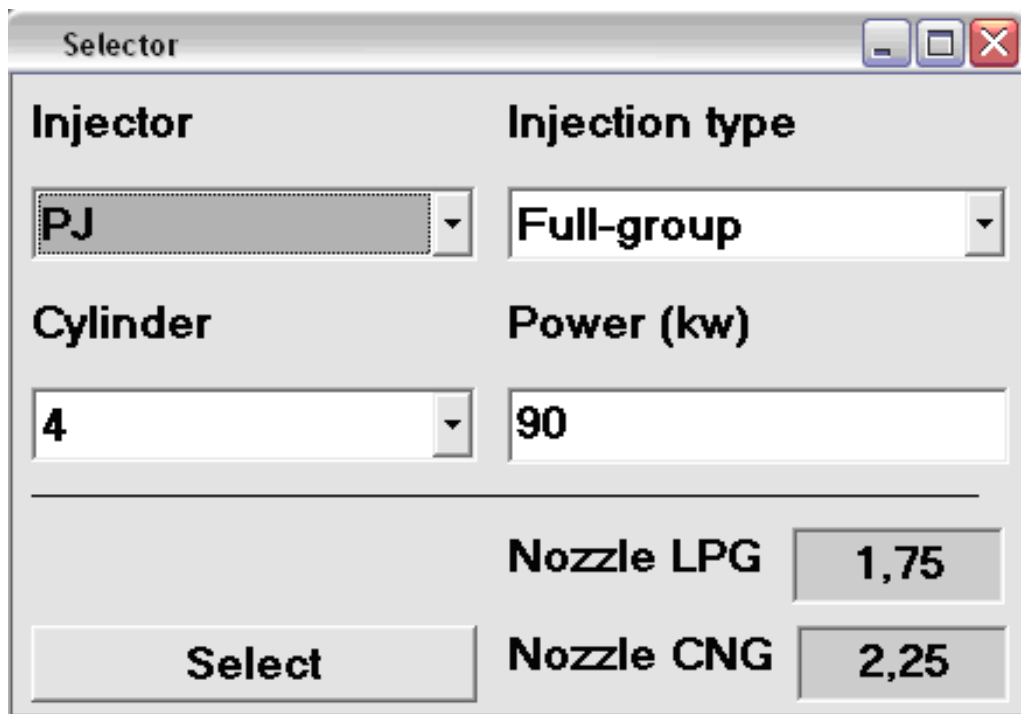


4.3 NOZZLE SELECTOR

Please, check that the nozzle previously fitted on the manifold are the right one's suitable to the converted engine.



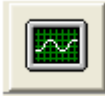
Click the "car button": The following window will appear:

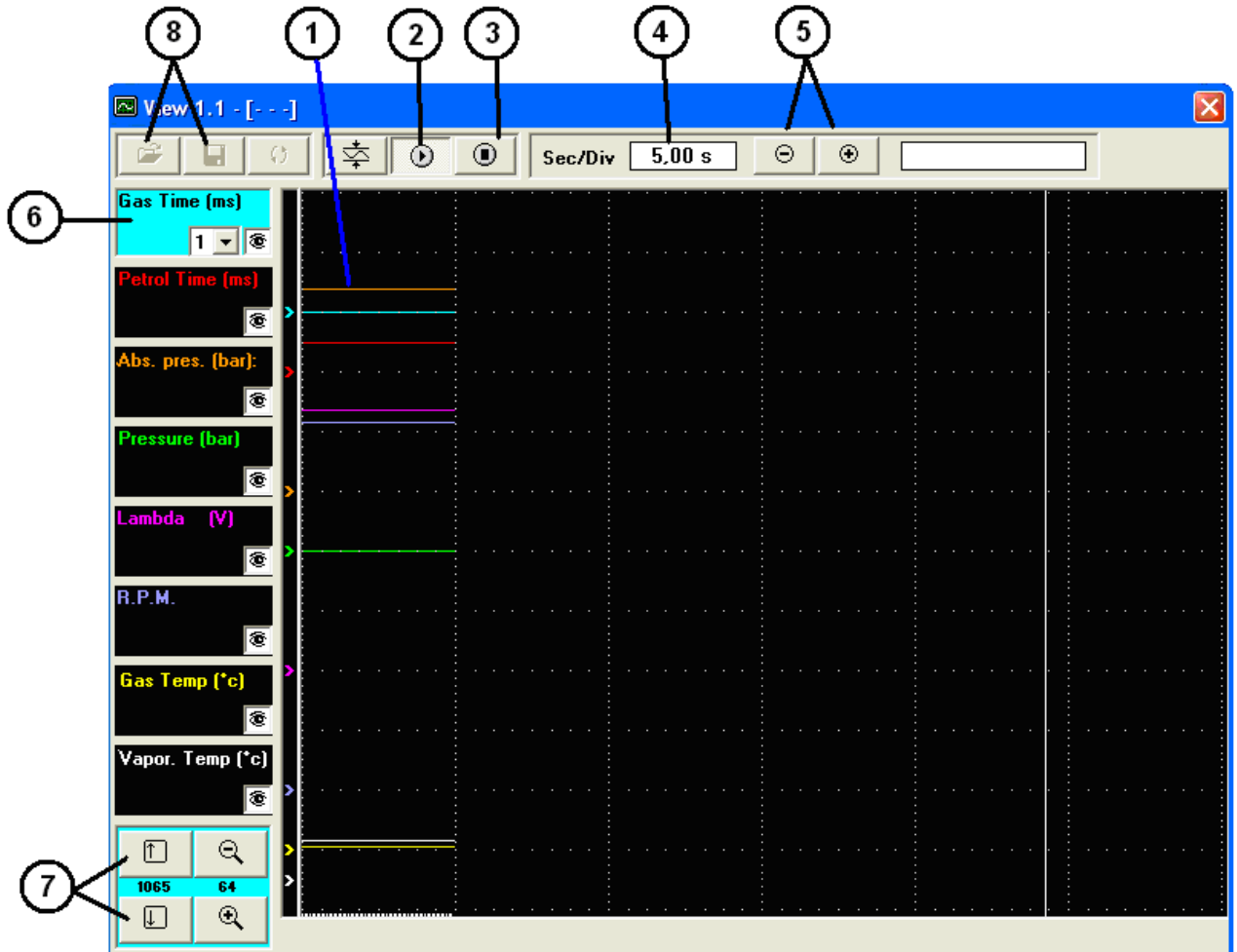
A screenshot of a software window titled "Selector". The window has a standard Windows-style title bar with minimize, maximize, and close buttons. The main content area is divided into several sections. At the top, there are two dropdown menus: "Injector" with "PJ" selected and "Injection type" with "Full-group" selected. Below these are two more dropdown menus: "Cylinder" with "4" selected and "Power (kw)" with "90" selected. At the bottom, there is a "Select" button on the left and two buttons on the right: "Nozzle LPG" with "1,75" and "Nozzle CNG" with "2,25".

Injector	Injection type
PJ	Full-group
Cylinder	Power (kw)
4	90
Select	Nozzle LPG 1,75
	Nozzle CNG 2,25

Please select and fill in the form with the required data then click "Select" button to check the nozzle size.

4.4 VIEW

Click the button  at the bottom right, the following window appears:



View real-time performance of all the signals of the gas ecu.

1	Line This line shows the performance of the sensor to which it refers, each color corresponds to a sensor, such as the blue line indicates the gas injection time.
2	Play Enable the display lines.
3	Stop Stops line display
4	Sec / div Indicate the scale on which definition is made in the second reading, the standard is 5 seconds.
5	+ / - Buttons to increase or decrease the scale of definition

6	Sensor box Box of reference for a specific line
7	Zoom Zoom in or out the window boxes.
8	Load / Save Buttons to load or save the file created. Make a short ride in the car trying to reproduce the defect, then press the button again. This will automatically open a window to save the data, data that can be sent to technical assistance for a consultation. CAUTION Do not create files more than 3 minutes otherwise it becomes difficult to send by email

4.5 Function record

Click on the button at the bottom right will show  the recording and the button will turn

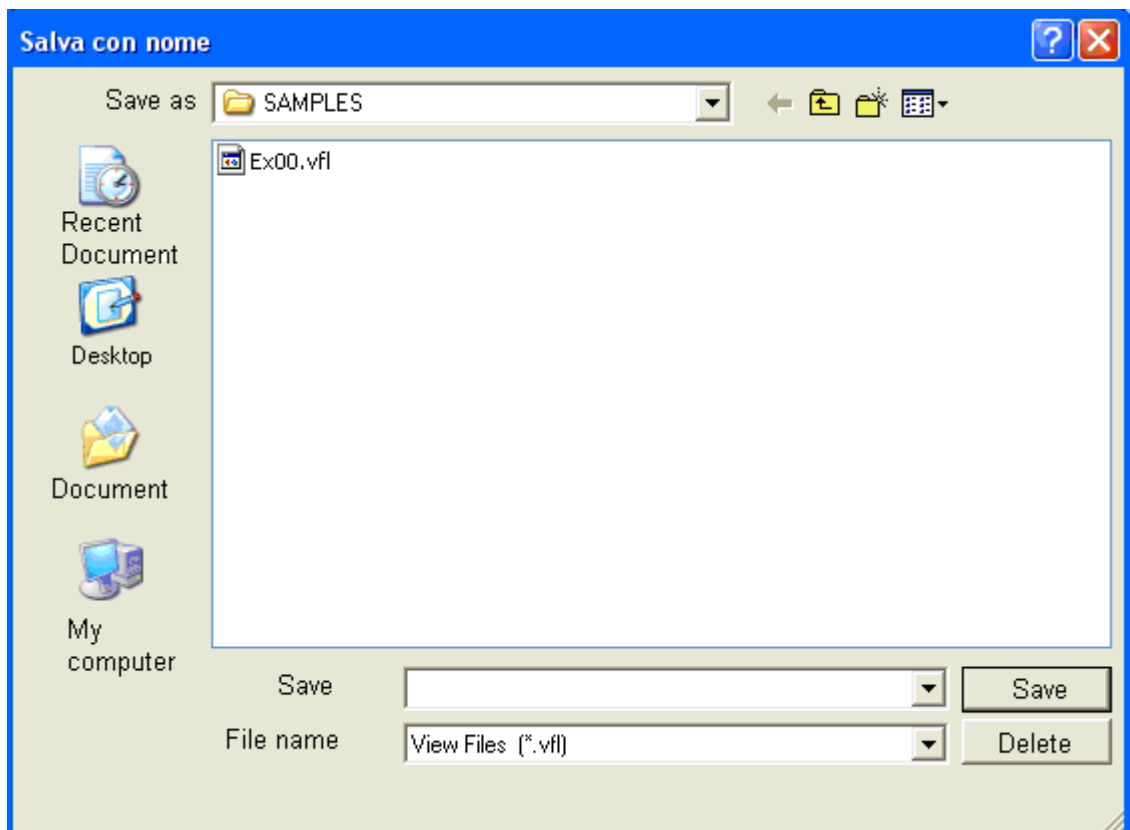
yellow flashing.



Make a short ride in the car trying to reproduce the defect, then press the button again. This will automatically open a window to save the data, data that can be sent to technical assistance for a consultation.

CAUTION

Do not create files more than 3 minutes otherwise it becomes difficult to send by email.

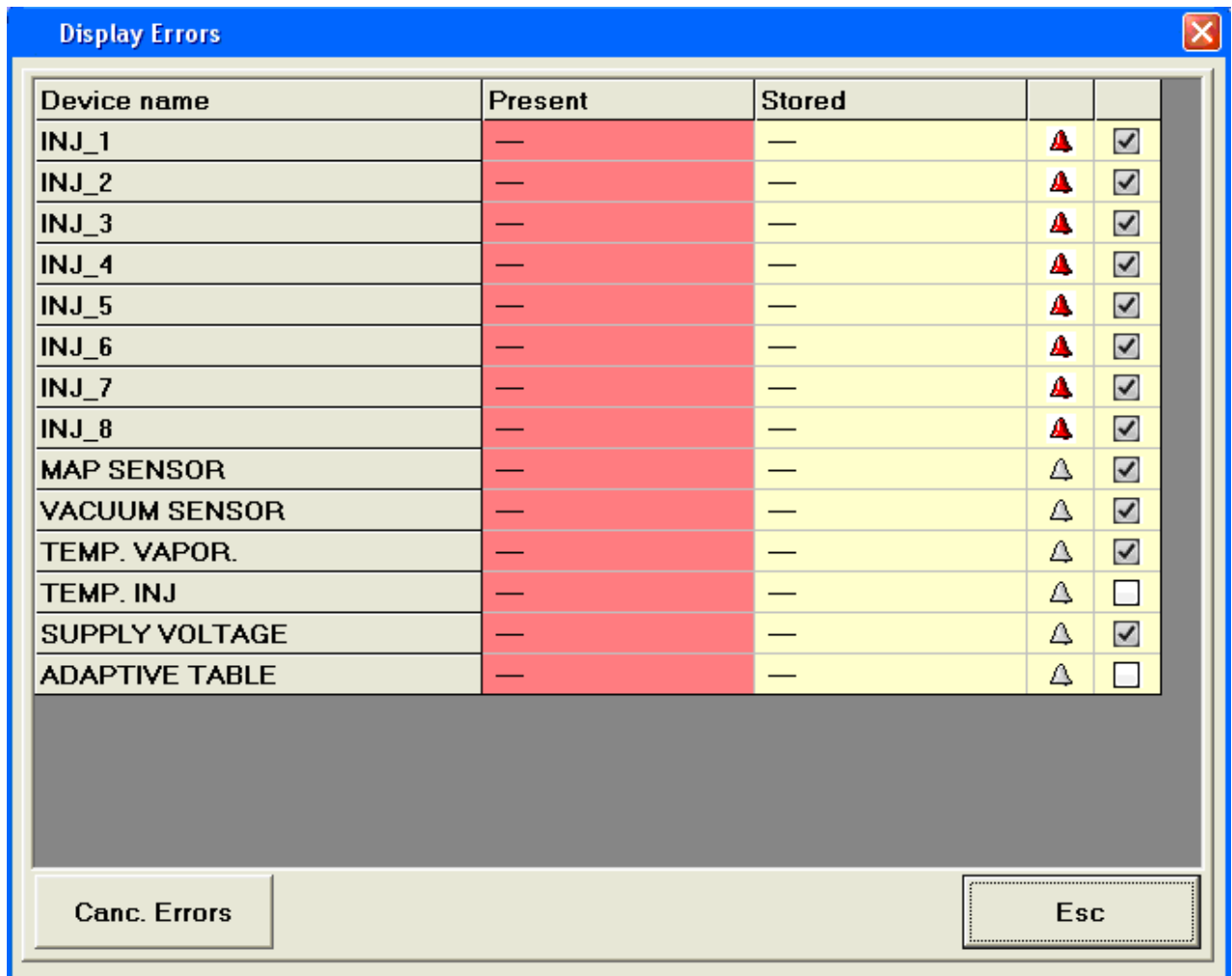


4.6 Diagnosis

During normal operation, the controller periodically monitors the operating status of some devices in the system.

In the case of a malfunction, the main screen shows the key F2-Diagnosis

Pressing the diagnosis opens the following window:



- Click **Canc. Errors** to eliminate all the errors.

For every row starting from the left columns:

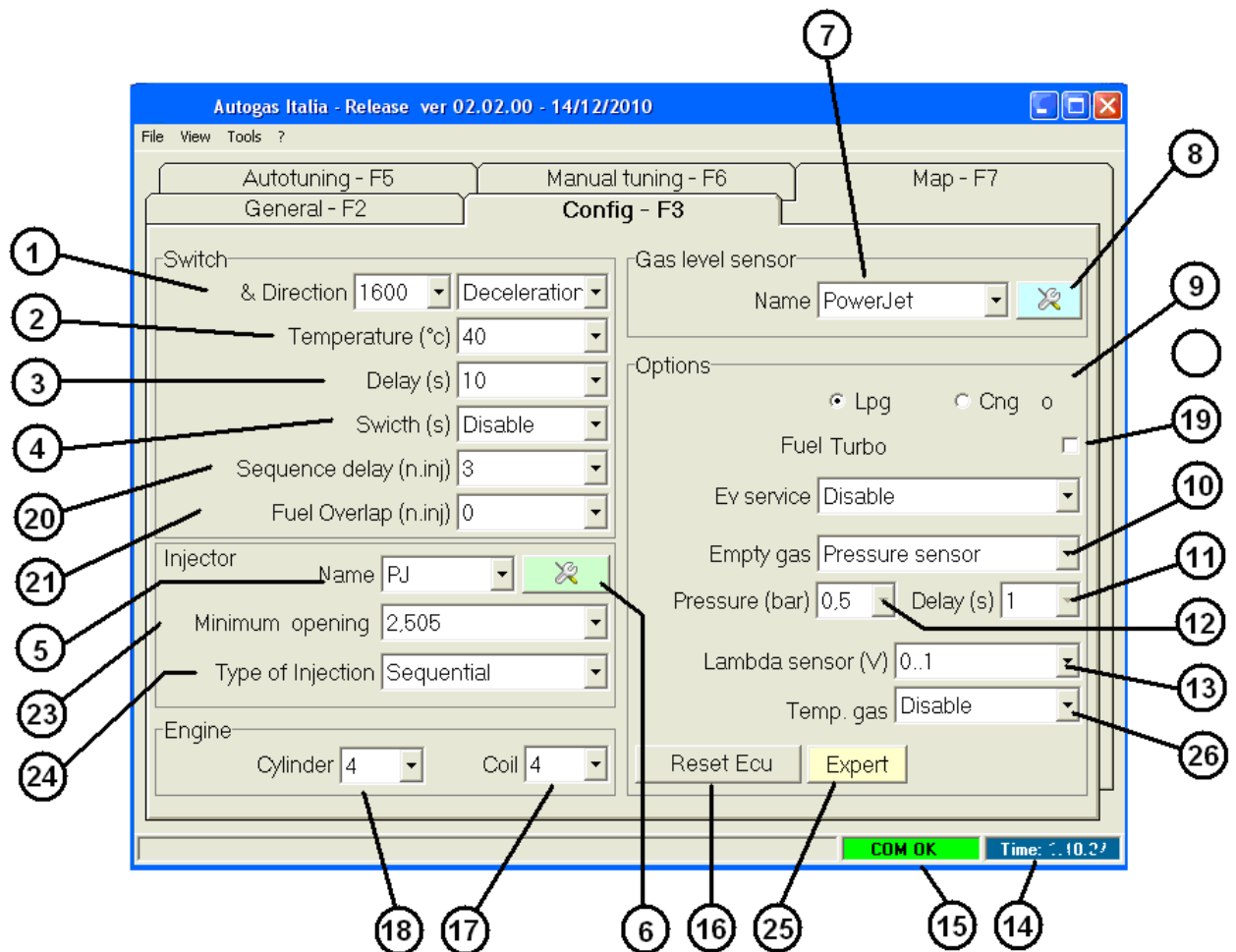
- **Column “A” -Device name-**: name of the monitored device.
- **Column “B” -Present-**: error present.
- **Column “C” -Recorded-**: error recorded.
- **Column “D” -🔔-**: buzzer enable.
- **Column “E” -☑-**: function enable.

ERRORS DATA'S			
DEVICE	DESCRIPTION	POSSIBLE ERRORS	ACTIONS
INJ FROM 1 TO 8	<i>Gas injectors</i>	<ul style="list-style-type: none"> • ---: no errors. • NOT CONNECTED: device not connected. • SHORT-CIRCUIT: device in short-circuit. 	<ul style="list-style-type: none"> - Check the injectors connections. - Replace the injector.
MAP SENSOR	<i>Reducer pressure sensor</i>	<ul style="list-style-type: none"> • ---: no errors • UP THRESHOLD: value too high • DOWN THRESHOLD: value too low. 	<ul style="list-style-type: none"> - Check the sensor connections. - Replace the sensor.
MAP SENSOR	<i>Reducer pressure sensor</i>		
VACUUM SENSOR	<i>Manifold pressure sensor</i>		
TEMPER. VAPORIZ.	<i>Reducer temperature sensor</i>		
TEMPER. INJ	<i>RAIL temperature sensor</i>		
SONDA LAMBDA	<i>Lambda sensor</i>		
TENSION BATT.	<i>Battery tension</i>		
SOLENOID VALVE REDUCER	<i>Reducer solenoid valve</i>	<ul style="list-style-type: none"> • ---: no errors. • NOT CONNECTED: device not connected. • SHORT-CIRCUIT: device in short-circuit. 	<ul style="list-style-type: none"> - Check the solenoid valve connection. - Replace the solenoid valve.
SOLENOID VALVE MULTIVALVE	<i>Solenoid valve multivalve</i>	<ul style="list-style-type: none"> • ---: no errors. • NOT CONNECTED: device not connected. • SHORT-CIRCUIT: device in short-circuit. 	

5 – Config. - F3

It allows to adjust:

- The switch on parameters
- The injectors used
- Display the RPM
- The level sensor
- Optional parameters



1	R.P.M. Allows to select the RPM number to switch on gas considering also temperature and time.	RPM
2	Temperature (°C) Allows to select the temperature degree to switch on gas.	Degrees centigrade
3	Delay (s) Time to wait before to switch on gas, reached right temperature.	Seconds
4	Force (s) The switch on gas is forced after the settled time.	Seconds

5	Type It displays the used POWERJET PLUSPLUSinjectors.	
6	Injectors configuration It allows to change the functioning of the injectors. It is possible to to add the offset time to the normal injection time.	
7	Type – gas level sensor Select the lpg level sensor.	Pre-settled: - PJ Lpg - 0..90 Ohm - 1050 - 1060 - Reserve
8	Sensor parameters adjustment It is possible to change the degree value for the level sensor.	
9	Feeding It is possible to select the type of gas to use.	LPG CNG
10	End gas It allows to enable the optional gas pressure sensor installed. This function allows to automatically switch on petrol when the gas pressure drop down the settled value for the time indicated in the hole “wait”.	Default - Disable
11	Wait (s) It allows to select the end gas time.	Default - 0,1 seconds
12	Pressure (bar) It allows to select the end gas pressure.	Default 0,5 bar
13	Lambda sensor It is possible to select the type of lambda sonde installed on the car.	Default - Disable
14	Connection time It display the time spent from the last connection between PC and ecu	Hour:Minutes:Second s
15	Communication status It show the status between ECU and PC	Green = OK Red = NOT OK
16	Default Reset all the parameters to the origin.	Reset production parameters
17 18	Cylinders and Coil Parameters used to select the number of cylinders and ignition system or coils number. The example shows an engine with 4 cylinders and 4 coils. This functions it is very important to determinate the correct RPM.	Default - 4 cylinders - 4 coils
19	Turbo Activate the map F7 car turbo mode	- - -

20	Delay sequence When changing from petrol to gas the flow is changing in an injector at a time with an interval between one and another time set.	---
21	Overlap Enable the overlap of the two fuels for the set time.	---
22	Minimum opening The set value is the minimum opening gas injectors. In the event that the fuel injection time is lower at this time, the gas injector will be forced to the minimum opening.	---
23	Type injection You can change the sequence of gas injection	---
24	Expert Enable some special features such as the return to the minimum fuel option turns out.	---
25	Gas temperature Where to connect a gas temperature sensor to activate it you must enable this feature	---

5.1 INJECTORS

It is possible to:

- Display the gas injection time.
- To select the functioning mode of the injectors
- Modify (increase/decrease) the injection time for each injector
- Modify the sensibility of gas injectors

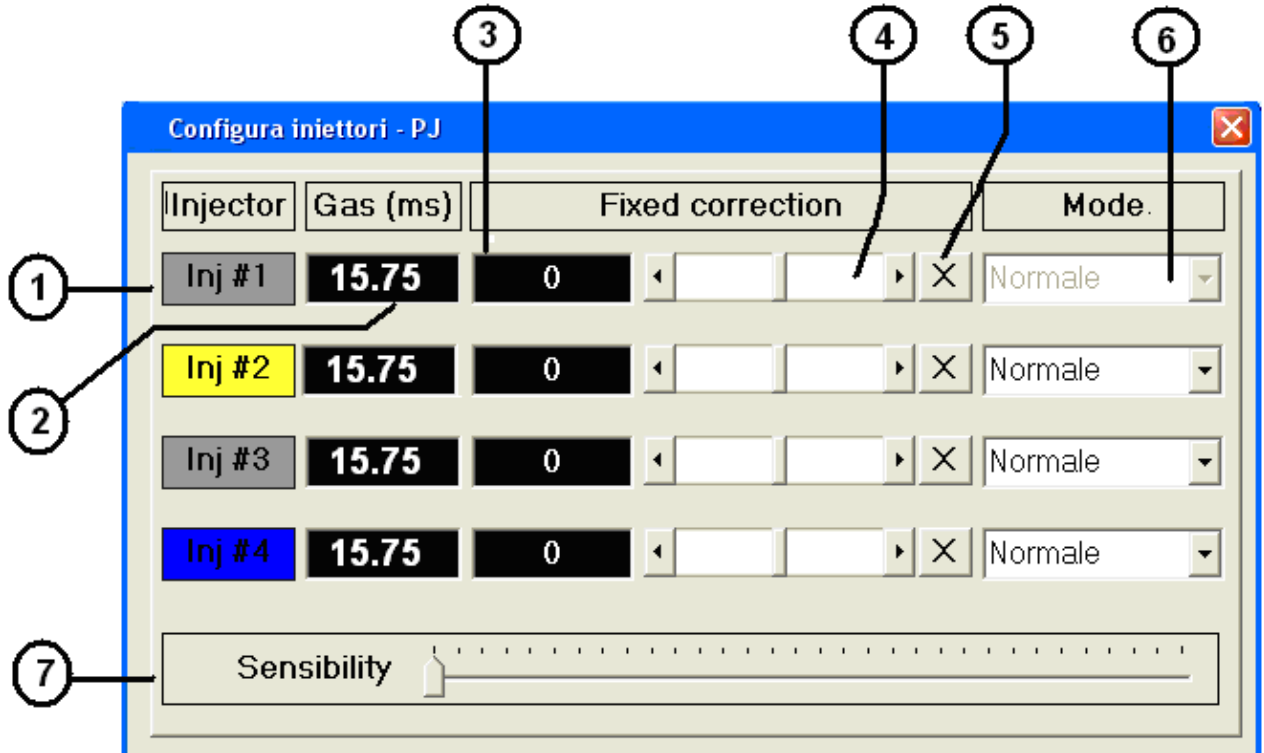


Fig. 5.1 - 1

1	Injector It displays the injector number. The colour that appears it is the same colour of the cylinder wiring.	----
2	Gas It display the gas injection time.	If 0 = car feed with petrol
3	Correction fix It displays the correction of the gas injection time made by the bar.	Milliseconds
4	Fix correction adjustment It allows to modify (increase/decrease) the injection time of each single injector without to consider the relative petrol injection time. Example: to use, only if necessary, to settled different cylinder power.	from -4 to +4 ms. Default = 0
5	Reset correction It reset automatically the fix correction to "0"	...

6	<p>Enable (we suggest do not use) <i>Normal</i> = The gas injection time are realized considering the calibration time more fixed correction. <i>Bypass</i> = gas injection time = petrol injection time. The calibration time and corrections are not considered <i>Disable</i> = it allows to disable the gas injectors.</p>	<p>Normal (Default) <i>Bypass</i> <i>Disable</i></p>
7	<p>Sensitivity Enable a filter on the extra injected, the lower values of the selected filtered.</p>	<p>---</p>

5.2 Level

It is possible to modify the lpg level sensor step

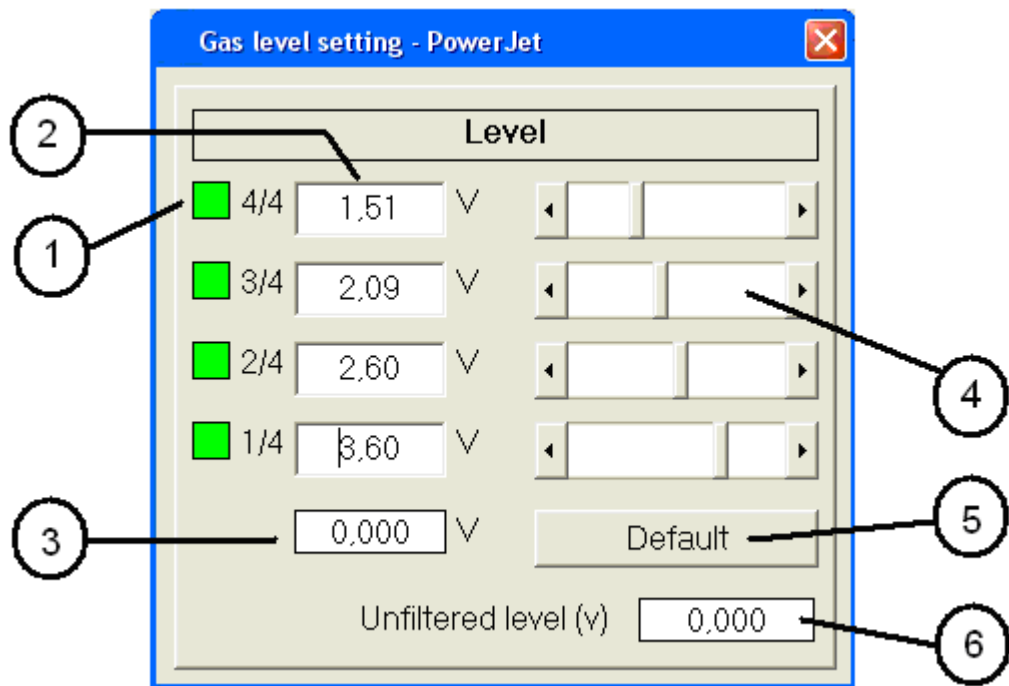
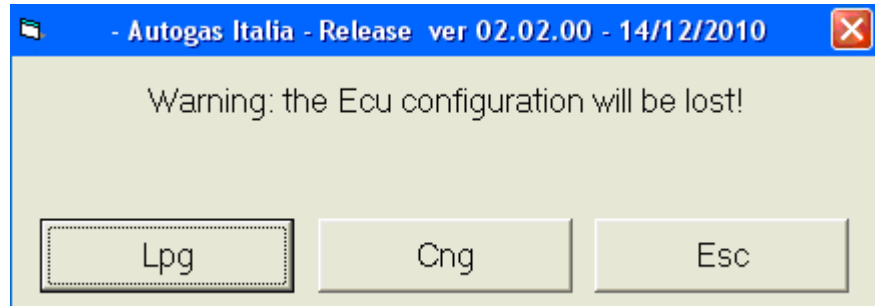


Fig. 5.2 - 1

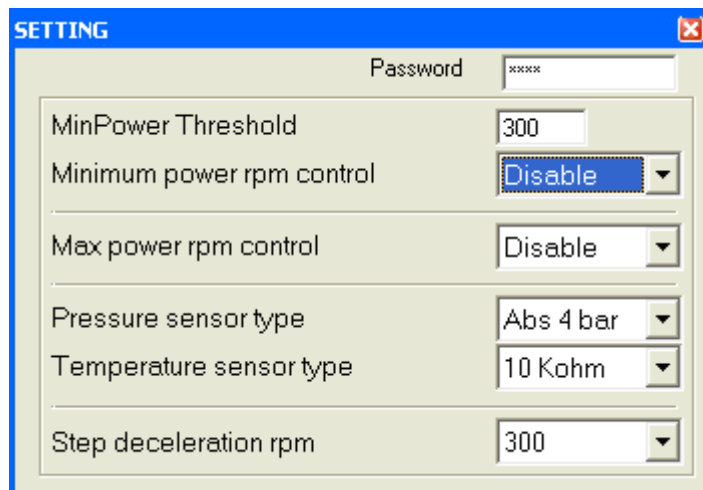
1	It displays the reached level.	Green: level reached. Grey: level not reached
2	Value settled.	from 0 to 5 Volt
3	Value in real time of the level sensor, used to check. It is possible to change the limit.	Volt
4	Point to move the levels	----
5	Reset to default level.	----

5.3 Reset



Enable reset and restore the original parameters of default, click on LPG if you want to configure standard LPG, CNG if you want the methane standard configuration

5.4 Expert



Activate some special features:

Min power Threshold: filter function on the activation of minimum power control, with a value of 300 should be a variation of 300 rpm because the function is active.

Minimum power control: when activated, the car switchover to gasoline every time it comes down to rpm settled.

Max power control: the car switchover to gasoline every time it comes up to rpm settled.

Pressure Sensor type: Select a specific map sensor installed

Temperature Sensor: Select a specific temperature sensor installed

Step deceleration rpm : filter function on the activation of max power control, with a value of 300 should be a variation of 300 rpm because the function is active.

6 - Autotuning - F5

Before to start it is necessary to verify the following:

- **Drive** the vehicle on **PETROL** for 2-3 KM in order to reach the **working temperature**. **DO NOT HEAT THE CAR** with the vehicle still.
- **Stop** the car and turn off the service, both electrics and mechanics. For example, do not move the steering wheel, turn off the venting and A/C, do not light the lighter, etc.
- Do not heats the engine with a long stop on idle: if necessary, **drive for 2 minutes** on petrol to reach normal temperature value.

The procedure will be automatically stopped when:

1. The engine turns off.
2. The key is turn off;

To start the calibration:

- Select the Calibration folder – F5
- Click Yes
- Follow the instructions on the screen

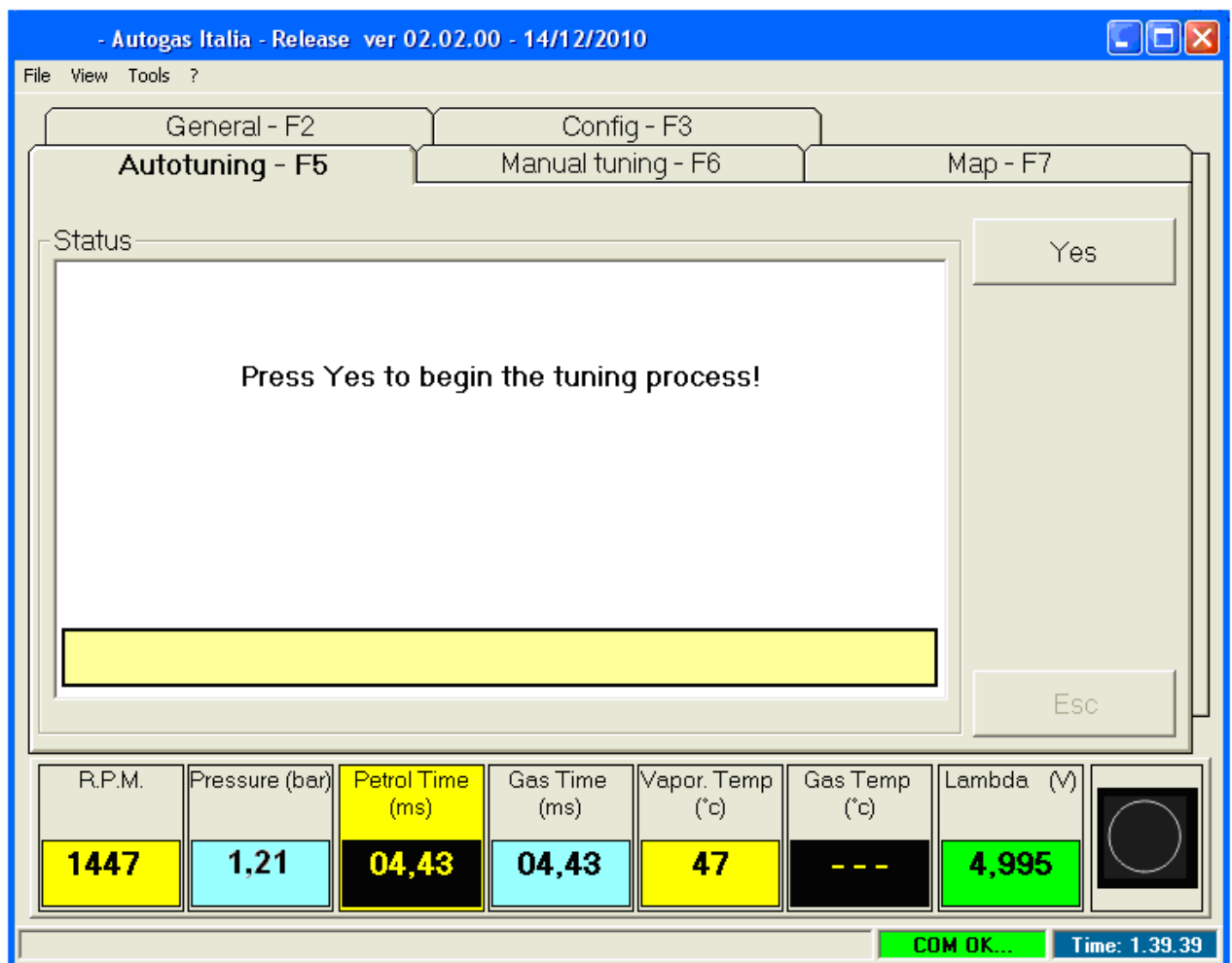


Fig. 6 - 1

7 – Manual Tuning - F6

Here it is possible to adjust manually the calibration of the system.

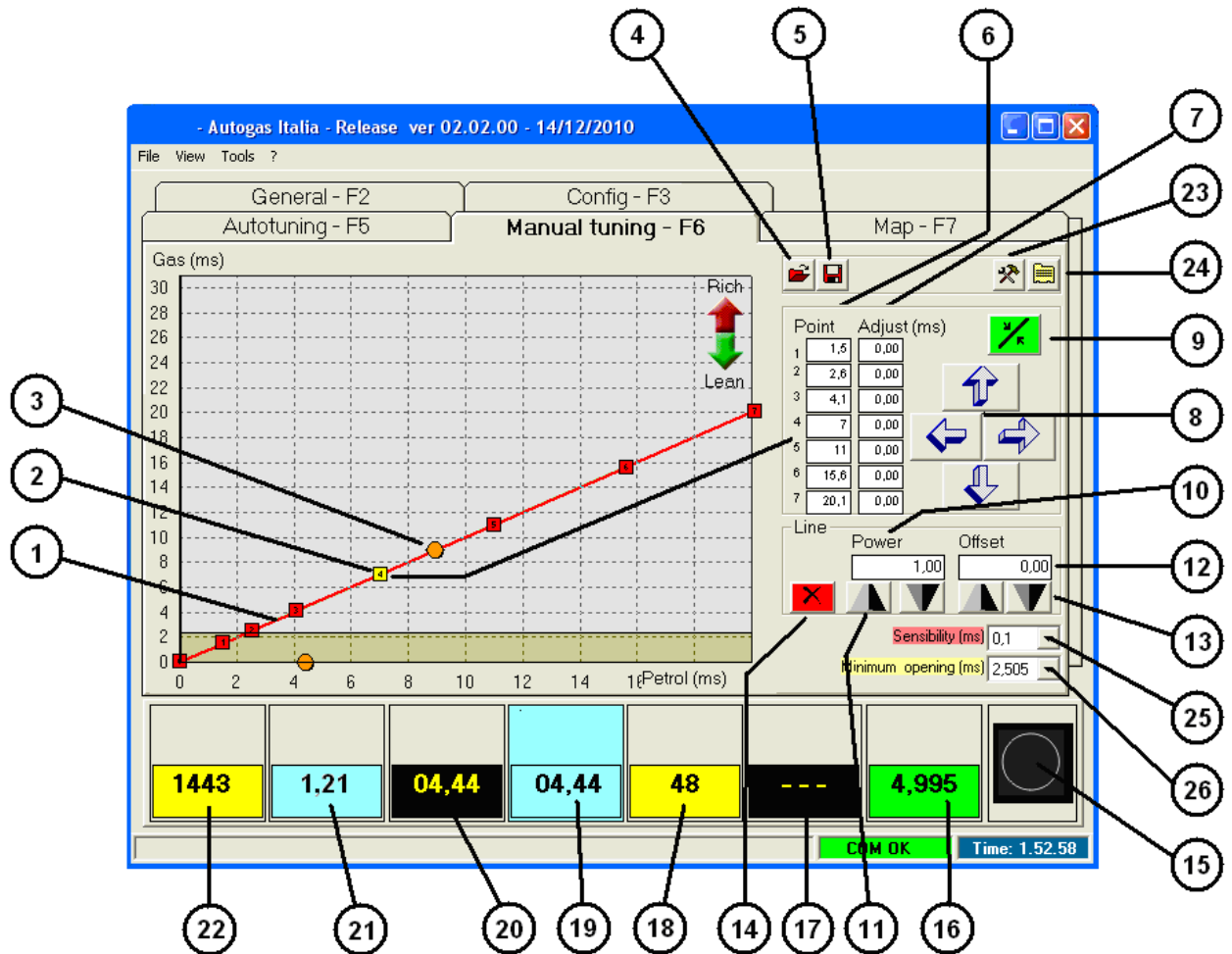


Fig. 7 - 1

1	Calibration line Relations between petrol injection time (horizontal axis) and gas injection time (vertical axis).
2	Calibration point It found a point on the calibration line for a fine car calibration.
3	Working point It displays the point where we are during the driving. It is displayed only with engine start and in real time. If the engine stops the point will be at the axis intersection.
4	Open It allows to load a saved file.
5	Save It save the calibration line together all the calibration parameters in a file *.var. By the SAVE button you can create a folder with all the calibrations that they could be used later for further calibration.

6	<p>Calibration points The calibration line could be splitted in 5 parts delimited in 6 points. 5 of these parts could be moved as preferred. The parts on the horizontal axis could be modify increasing/decreasing the sector. Click on the box to select the point you want to modify. The yellow colour shows that the selected point it could be moved.</p>	
7	<p>Correction of the calibration point This column show the corrections made to the calibration points. Click the box to select the point you want to modify. The yellow colour shows that the selected point it could be moved.</p>	
8	<p>Positioning of the calibration point These buttons allows to modify the position of the points The arrows right – left allows the horizontal moving, so to modify the petrol injection time. The arrows high – down allows a vertical moving, increasing or decreasing the gas injection time.</p>	
9	<p>Reset Green button, it reset all the settled modification on the single points. All the points will return on the green reference line.</p>	
10 11	<p>Power It shows the actual alpha value, it means the slope of the line. The arrows allows to modify the alpha value (see chap. 7.1)</p>	1 = default
12 13	<p>Offset increaser decrease all the line It shows the actual offset value in the calibration line. The arrows allows to modify the offset value (see chap. 7.1)</p>	0 = default
14	<p>Reset line It reset all the modifications. The line comes back to the default position.</p>	Default Offset= 0, Alfa = 1
15	<p>Software switch It exactly replies the functions of the real electronic switch. It is active to select the switch of fuel.</p>	
16	<p>Lambda tension Numeric volt visualization of the lambda tension. The visualization is slow because is filtered.</p>	volt
17	<p>Gas temperature Temperature of the rail injectors.</p>	'- 62' = Not connected
18	<p>Reducer temperature (optional) Temperature of the reducer</p>	'- 62' = Not connected
19	<p>Gas time It display by numbers and graphics the gas inject. time.</p>	Milliseconds
20	<p>Petrol time It display by numbers and graphics the petrol injection time.</p>	Milliseconds
21	<p>Pressure It display the pressure regulator (only when connected the optional pressure sensor)</p>	'---' = Not connected or end gas function not activated

22	R.P.M. It display the RPM	RPM
23	Comparator Button to access the comparator injection time	- - -
24	Compensation Button to access the page of compensation	- - -
25	Sensitivity Enable a filter on the extra injected, the lower values of the selected filtered.	- - -
26	Minimum opening The set value is the minimum opening gas injectors. In the event that the fuel injection time is lower at this time, the gas injector will be forced to the minimum opening.	- - -

7.1 Calibration line - offset & power

In order to use these instruments it is necessary to understand the working philosophy of the gas injectors.

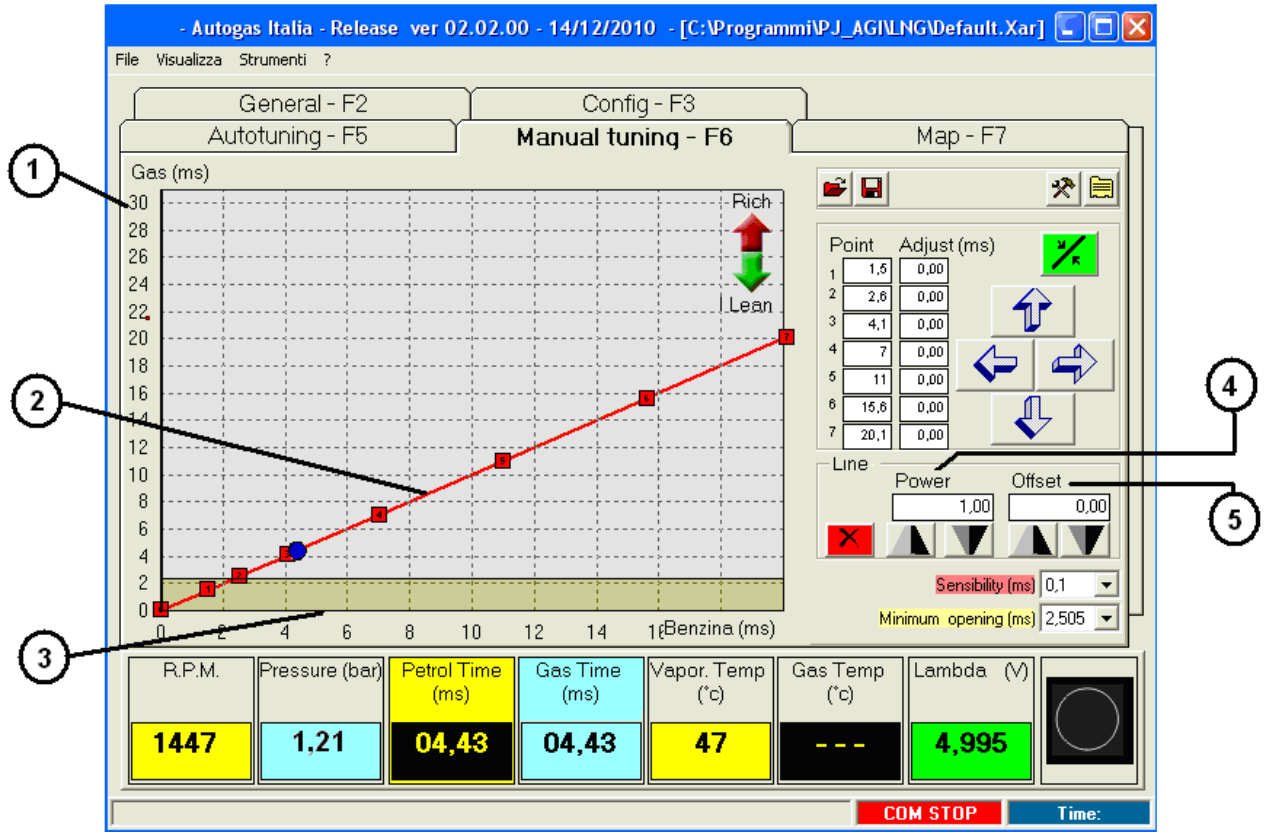


Fig. 7 - 2

The calibration line (Point 2) indicates the relationship between the timing of fuel injection (horizontal axis point 3) and gas injection times (vertical axis point 1).

With this line you can adjust the opening time gas injectors at the time of fuel injection.

The main parameters that determine the calibration line are **power** (point 4) and **offset**. (Point 5)

- **Offset** the source of the line indicates that the point 0 on the vertical axis.
- **Power** indicates the slope of the line.

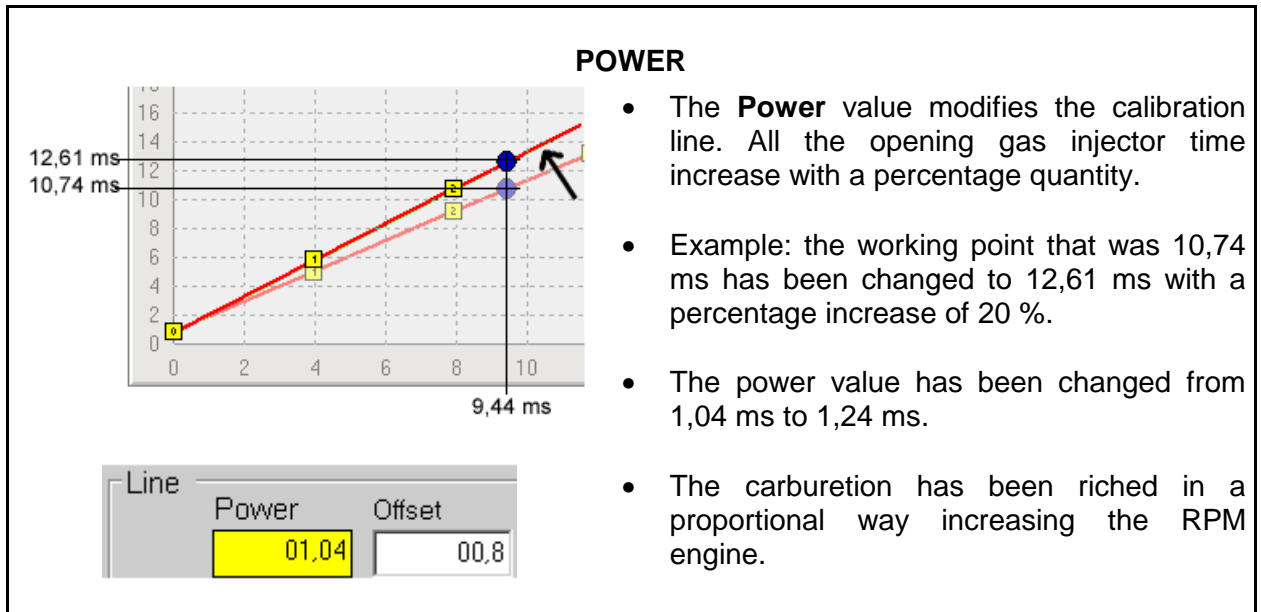
EXEMPLES:

WORKING POINT

- In the example at sight the engine is turned on feed by lpg and the system work as indicated by the blue point.
- Opening gas injection time gas = 10,74 ms
- Petrol injection time = 9,44 ms.
- The difference between the two values is 1,3 ms, it is the difference of the value offset e Power settled.

OFFSET

- Moving the **offset value** you can vertically move the calibration line increasing/decreasing the injection time with a **fixed value**.
- In the epic at sight the working point that was 10,74 ms, has been changed to 14,74 ms increasing 4 ms of offset.
- The offset value has been changed from 0,8 to 4,8
- The carburetion is **rich in all rpm conditions** , with a fixed value



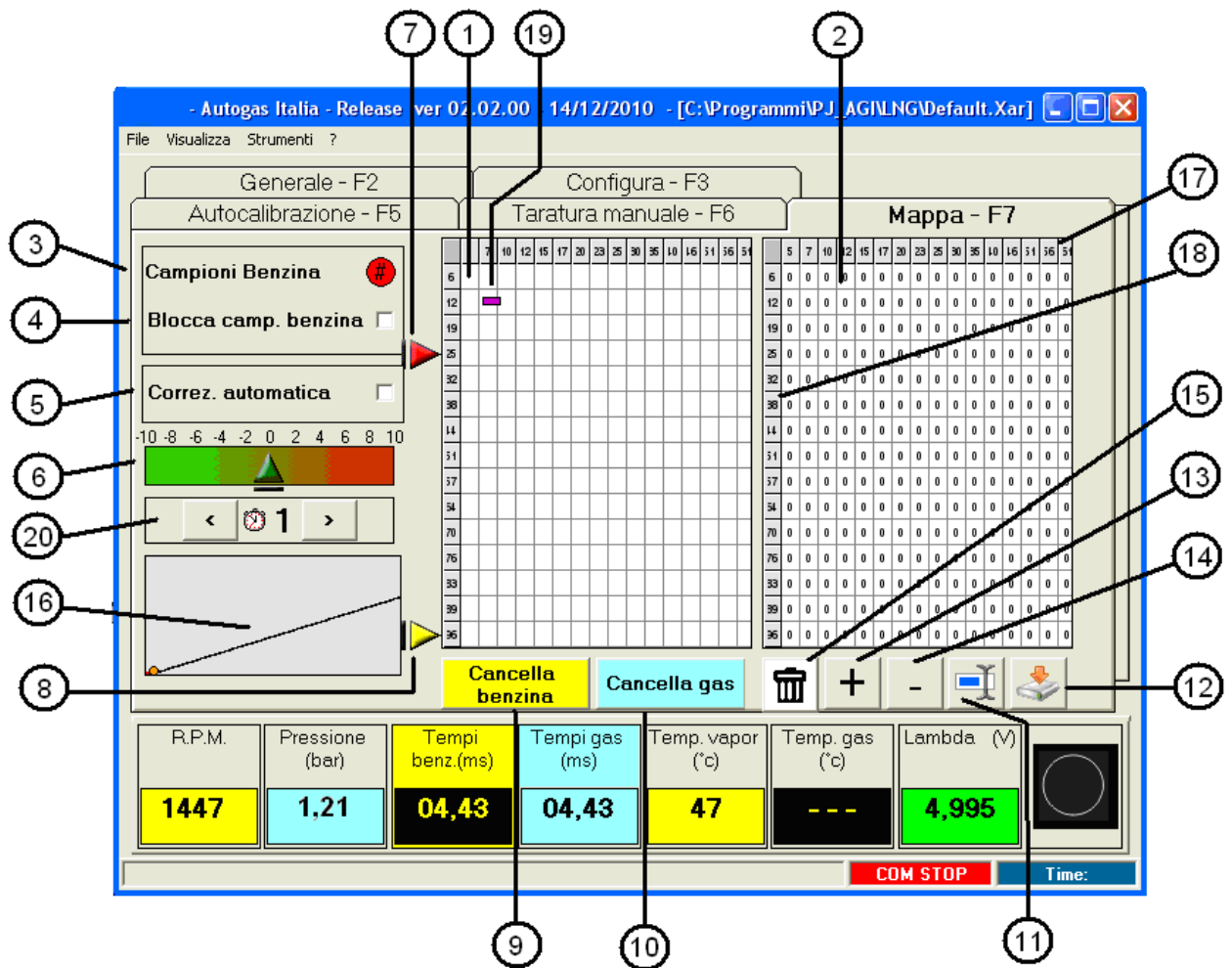
7.2 When use offset and when use alfa

Engine on idle	Engine in power	Action
CARBURATION POOR	CARBURATION POOR	INCREASE OFFSET
CARBURATION RICH	CARBURATION RICH	DECREASE OFFSET
OK	CARBURATION POOR	INCREASE POWER
OK	CARBURATION RICH	DECREASE POWER

△ NOTE:




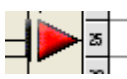

- With **offset > 4** increase the injectors size or check the right working pressure of the gas system.
- With **Power > 1,3** increase the injectors size or check the right working pressure of the gas system.
- With **Power < 0.8** decrease the injectors size.


8 - Map – F7



Map.F7 is used to optimize the car's carburations.

<p>1</p> <p>Map samples Area sample acquisition petrol while running on petrol, and gas samples, while running on gas.</p> <p>Scan Mode samples: With Automatic Correction enabled (step 5), switch the car on petrol, until a sufficient number of gasoline samples are acquired, (see point 3). Switch the cars on gas, and make the same trip made on gasoline. The unit use a petrol and gas samples collected, make the corrections automatically. In automatic mode, the buttons 11, 12, 13, 14, 15 are inactive.</p>	<p>Boxes was</p> <p><input type="checkbox"/> no data acquired</p> <p><input checked="" type="checkbox"/> # Gasoline sample acquire</p> <p><input checked="" type="checkbox"/> -2 Gas sample acquire "rich mixture"</p> <p><input checked="" type="checkbox"/> 2 Gas sample acquire "lean mixture"</p>
--	--

<p>2</p>	<p>Manual map</p> <p>The values can be download from the map sample (point 1), using the transfer button (point 11) to be used, modified, or created directly in manual mode, for single cell or range of cells. (see point 11, 12, 13, 14, 15)</p> <p>When using f7 map in manual mode you should lock the Gasoline sampling (point 3)</p>	<p>Boxes was</p> <p><input type="checkbox"/> no data acquired</p> <p><input type="checkbox" value="#"/> Gasoline sample acquire</p> <p><input type="checkbox" value="-2"/> Gas sample acquire "rich mixture"</p> <p><input type="checkbox" value="2"/> Gas sample acquire "lean mixture"</p>
<p>3</p>	<p>Petrol sample</p> <p>When the LED is red petrol samples collected are not sufficient for proper management of fuel mixture in automatic mode.</p> <p>When the LED is green petrol samples collected are sufficient for proper management of fuel mixture in automatic mode.</p>	<p>Samples petrol </p> <p>Samples petrol </p>
<p>4</p>	<p>Stop petrol sampling</p> <p>Function enabled (selected cell), the system make the sampling and update it continuously, leaving in memory the last acquired data.</p> <p>When the feature is off (blank cell), the system locks the gasoline sampling and stop their continuous updating. Recommended when using f7 map in manual mode</p>	<p>Stop petrol sampling <input checked="" type="checkbox"/></p> <p>Stop petrol sampling <input type="checkbox"/></p>
<p>5</p>	<p>Automatic corrections</p> <p>Function enabled (selected cell), the system make correction of the fuel mixture automatically. (Section 1)</p> <p>With the feature is off (blank cell), the system switches to manual mode. (paragraph 2)</p>	<p>Automatic trim <input checked="" type="checkbox"/></p> <p>Automatic trim <input type="checkbox"/></p>
<p>6</p>	<p>Stoichiometric factor (for emissions testing)</p> <p>With this slider, you can change slightly rich or lean (depending on the type of gas used) the acquisition of stoichiometric samples. CAUTION: Use only on the advice or information specific technical support</p>	
<p>7 8</p>	<p>Pointers</p> <p>Red pointer: The lines on this pointer., which will remain white. The pointer moves with the mouse cursor. We recommend you leave the default location if not sure of the result of the move.</p> <p>Pointer Yellow:</p>	 

	The lines below this pointer will not be sampled and will remain white. The pointer moves with the mouse cursor. By default it is located on the bottom line	
9	Delete petrol sample Botton used to reset the petrol sample acquired.	
10	Delete Gas sample Botton used to reset the Gas sample acquired.	
11	Transfer In manual mode is used to download map data in map manual sampling. (point 2)	
12	Enter Save any work performed in manual mode. After performing any operation, the button flashes as a warning that 12 to permanently store the previous operation, you must confirm with button 12. At this point the flash ends and the result was stored.	
13 14	Increase - decrease (manual correction) You select all or a part of the map, pointing the mouse arrow on the first section of the area to change. The selected area becomes gray .. Pressing the left mouse button and dragging the mouse or finger on the pad, (for laptop), it determines the area to change. By clicking on the button 13 or 14 you change the value delll'area selected.	
15	Clear Click the button to reset all the map data manual correction.	
16	Map reference F6 It represents the threshold map F7 on the calibration line	
17	RPM reference engine RPM	
18	MAP Reference value of pressure in the intake manifold "bar"	
19	Place of work The cursor moves with the change of MAP and RPM. Its task is to help the operator to understand the real position on the map at any given time	 Place of work
20	Capture rate Indicates the rate of acquisition of the samples.	

ATTENTION:

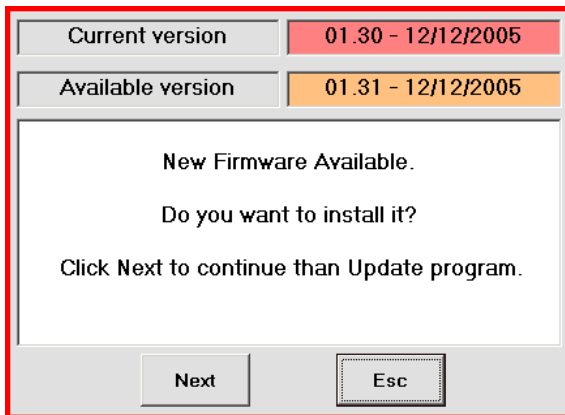
USE AND MODIFICATION OF MAP F7 DO NOT AFFECT THE CALIBRATION LINE ON F6. THE CALIBRATION LINE REMAIN UNCHANGED.

9 – UPDATE and software compatibility

When connected, a compatibility test between software and firmware could display an update software.

9.1 Automatic firmware update

If an update it is required, the following window will appear:

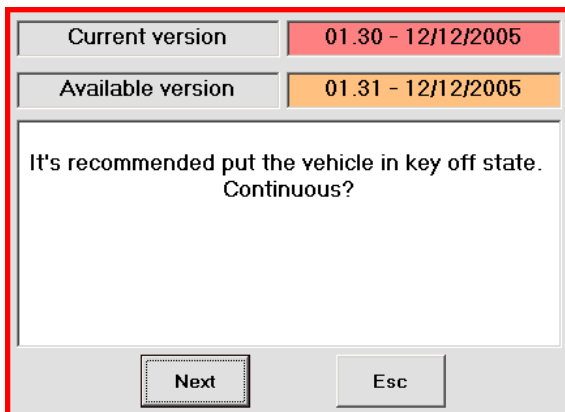


The window shows that it is necessary to update the ecu firmware.

The first row shows the version present in the ecu. The second row shows the version available.

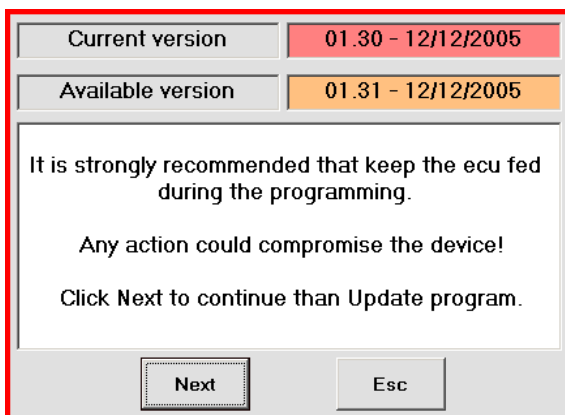
Click “**Next**” to go on.

Click “**Esc**” to stop the procedure; the programme will be closed.



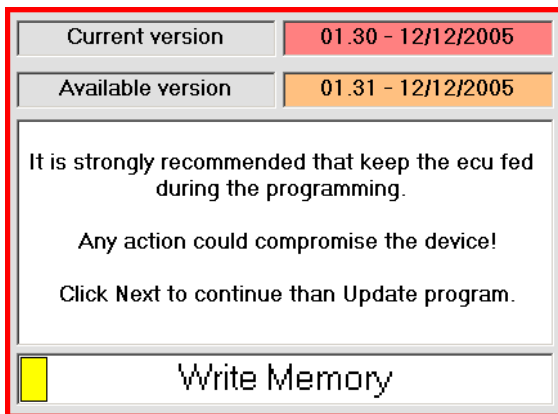
The window shows that it is not possible to complete the update because the car key is turned on. Turn off the key and click **Next** to continue.

Click “**Esc**” to stop the procedure.

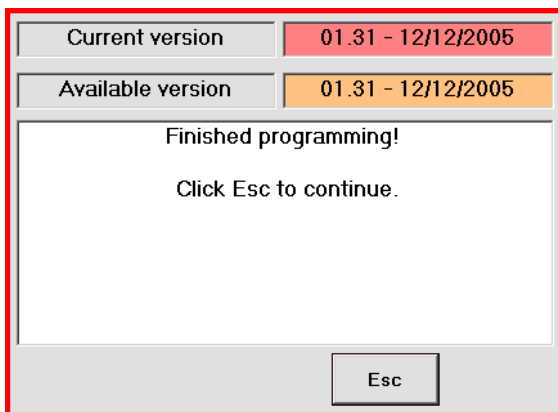


Warning message:

- **Do not disconnect the ecu during the update.**
- **Disable screensaver**
- **Check the battery level status of the PC.**

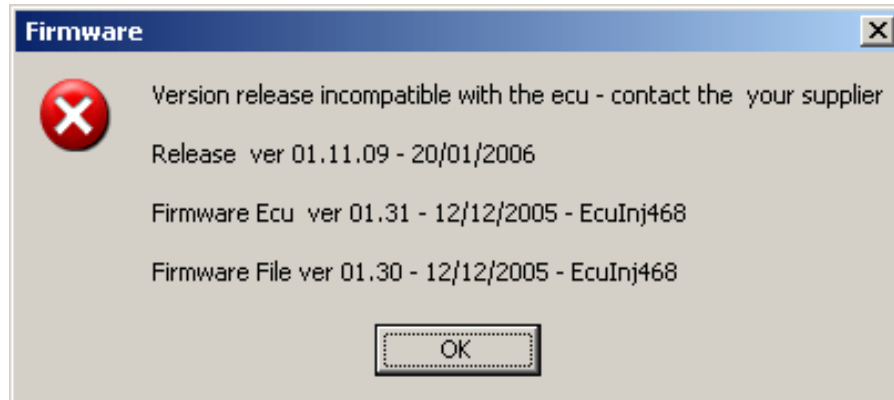


Warning message during the procedure.



Final message when procedure terminated.

9.2 Incompatibility of the firmware



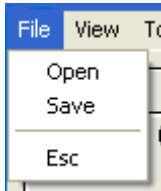
This window appears when the PC software it is not compatible with the ECU software. Contact your dealer for an updated version.

△ NOTE: It is always better to use latest version of the software available.

10 – Bar menu

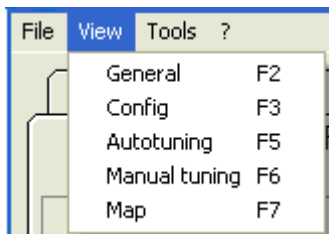
Bar menu, we found the following:

- **FILE**



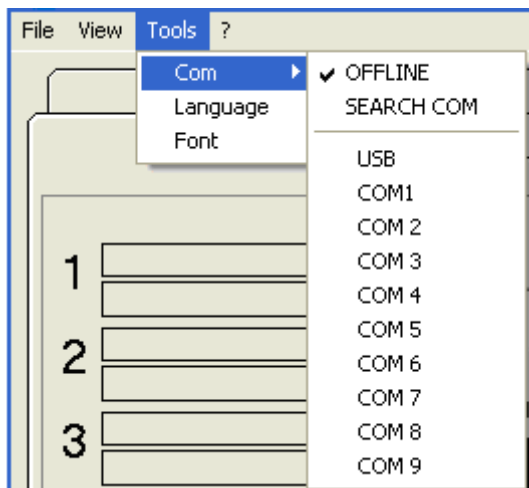
- **Open:** download a saved file.
- **Save:** it save the car configuration
- **Exit:** close the program.

- **View**



- Select the windows of the software

- **Tools**



- **Com** selects the mode and COM port.
 - **OFFLINE:** To work without to be connected to the ecu.
 - **SEARCH COM:** automatic searching COM port
 - **USB:** not available. Use adapter
 - **COM1-9** select one COM port for serial interface.
- **Language** selection of the language.

- **About**

Product Information. The window it is displayed below.

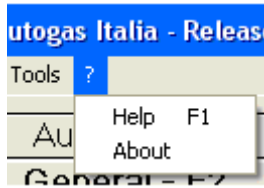


Fig. 9.4 - 1

These information needs to the technical Assistance .