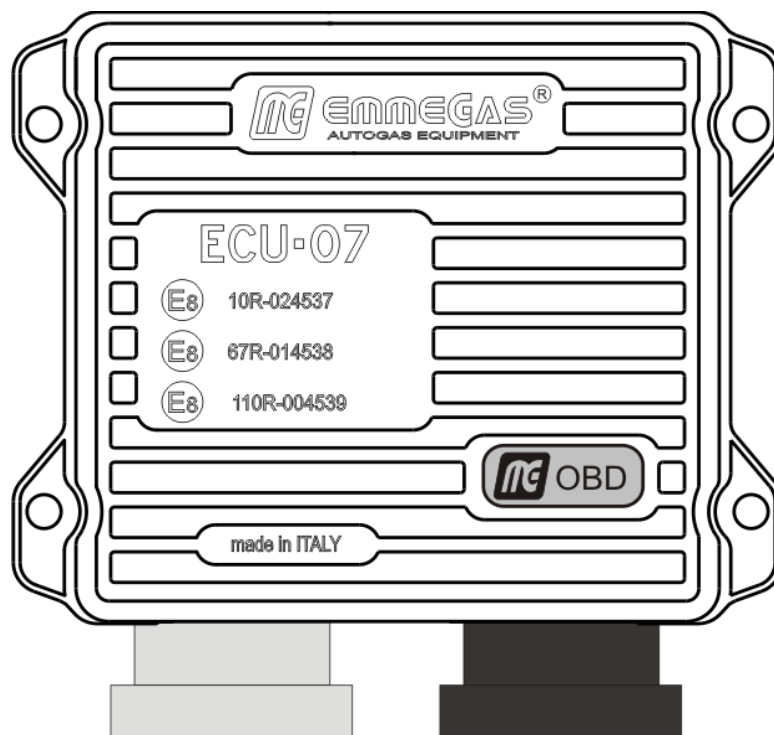


HP I 07

High Performance Injection system

EVO 2 Version



Some information about the program

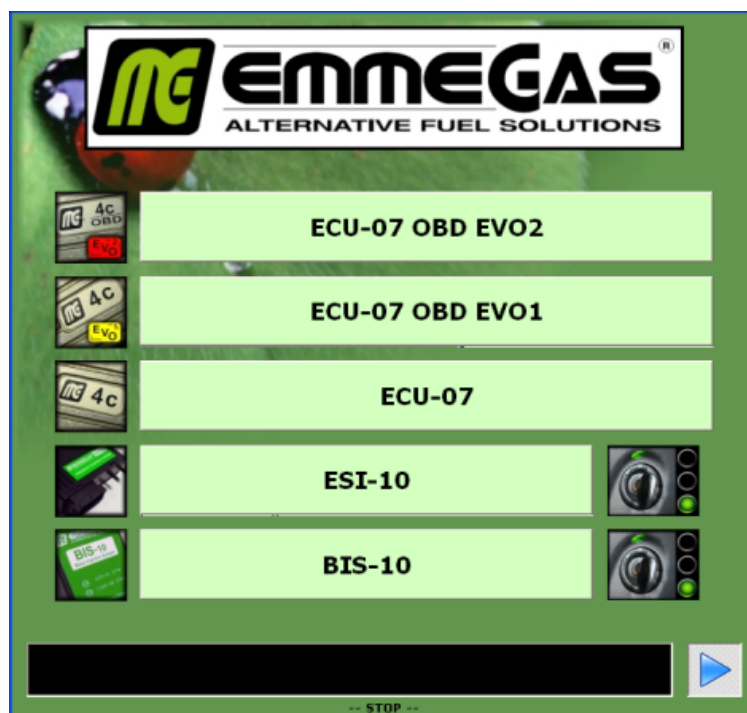
The **Emmegas Suite** is a program for the automatic recognition of the Emmegas conversion kit installed on the vehicle. In fact you just need an Emmegas Interface type USB 100 or USB 200 to allow the software to recognize the type of Emmegas Ecu installed on the vehicle.

How to connect it

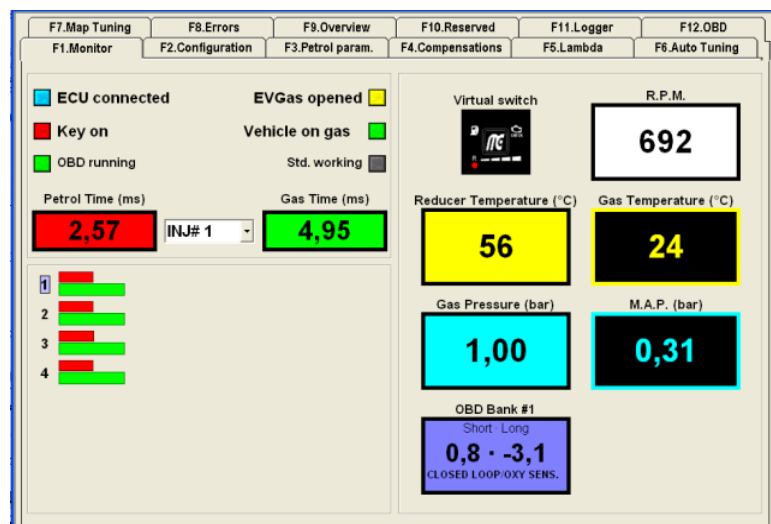
- Turn on the PC
- Connect the Emmegas Interface type USB 100 or USB 200 to the computer and to the Emmegas ECU 07.
- Start the program and wait for the connection: the program will automatically recognize the Ecu installed on the vehicle highlighting it in green
- To start the program, click on the mentioned Ecu type.

Please find herebelow the initial screen of the Suite Software displaying the automatic research mode. The possible programs are as follows:

- ECU-07 OBD EVO2
- ECU-07 OBD EVO1
- ECU-07
- ESI-10
- BIS-10



F1 MONITOR



In the page **F1.Monitor** are displayed the following info:

- **ECU connected:** it says if the Ecu is connected or disconnected.
- **Key on:** it says the key signal is on or off.
- **EV gas opened:** it says if the Lock-off valve is open or closed.
- **Vehicle on gas:** it says if the car is running on gas or petrol.
- **OBD running:** it says if the OBD connection is ON or OFF.
- **Std. Working:** it says working information about the system.

The lower/left part of the window displays:

- The **petrol / gas times** of the selected injector.
- The **graphic representation** of the petrol/gas injectors

The right side displays:

- The **virtual switch:** the user can change from gas to petrol and viceversa just clicking on it.
- **R.P.M.:** it shows the number of revolutions of the engine.
- **Reducer Temperature (°C):** it shows the temperature of the regulator .
- **Gas Temperature (°C):** it shows the outlet gas temperature from the regulator.
- **Gas Pressure (bar):** it shows the injection pressure of the gas.
- **M.A.P. (bar):** it shows the intake manifold pressure.
- **OBD Bank #1:** it shows the value of the OBD correctors, that are short and long correctors.

F2 CONFIGURATION

In the page **F2 CONFIGURATION** are listed the following parameters:

- **Cylinders:** it shows the number of cylinders of the engine:
[1 → 2 → 3 → 4 → 5 → 6 → 7 → 8]
- **Coils:** it shows the number of coils (to be used for the correct reading of the RPM):
[1 → 2 → 3 → 4 → 5 → 6 → 7 → 8]
- **RPM Signal:** it shows the possible choices to get the RPM signal
The options are:
 - Coils/RPM signal
 - Injectors (x1)
 - Injectors (x2).

- **RPM sensibility:** intensity value of the RPM signal. It can be low or high.
- **Switch at (RPM):** it's the RPM value for the switch from petrol to gas.
- **Switch change-over:** it's the choice of the switching type from petrol to gas.
- **Temperature (°C):** temperature to be reached in order to switch to gas.
- **Forced petrol (s):** forced time during which the vehicle keeps running on petrol before switching to gas.
- **Injectors delay:** switching time to gas between one injector and the other.
- **Overlapping fuel:** overlap time between petrol and gas when the vehicle is switching
- **Start & Stop:** to be used for vehicles with Start & Stop function.
- **MultiAir:** to be used for vehicles with MultiAir engine.
- **Valvetronic:** to be used for vehicles with Valvetronic engine.
- **Fuel type,** choice of the fuel type:
 - LPG 1.1 Bar (XJ)
 - LPG 1.4 Bar (TDM)
 - CNG 2.0 Bar
- **Sensibility:** parameter used to reduce the extra injections, range from 0.1 ms to 2.4 ms.
- **Fuel Trim Bank #2:** parameter used on 6, 8 cylinders vehicles with double bank in order to align bank 2 # to bank 1 #.
- **Pressure sensor:** to be used to select the type of pressure sensor installed (MAP). By selecting the picture , you can program the following parameters:

- **Empty tank switch,** it is used to manage the automatic change to petrol when the empty tank signal is enabled .
- **Pressure (bar),** pressure value where the tank is considered empty, range from 0.1 bar to 1.2 bar.
- **Delay (s)** period of time before switching back to petrol when pressure is under that limit.

Pressure Sensor settings	
Empty tank switch	ENABLED
Pressure (bar)	0,5
Delay (s)	0,1

- **Gas sensor type,** to be used to select the gas sensor type. Select the picture  to program the following parameters :

Fuel's Type	LPG 1.1 Bar (XJ)																		
Sensitivity	0,1 (ms)																		
Fuel Trim Bank #2	0																		
Pressure sensor	025/AA-612																		
Gas sensor type	1050 (LPG)																		
Gas level setting <table border="1"> <tbody> <tr> <td>3/4 - 4/4</td> <td></td> <td>1,3</td> </tr> <tr> <td>2/4 - 3/4</td> <td></td> <td>2,33</td> </tr> <tr> <td>1/4 - 2/4</td> <td></td> <td>3,7</td> </tr> <tr> <td>R - 1/4</td> <td></td> <td>4,76</td> </tr> <tr> <td colspan="2">Default</td> <td>MIN</td> </tr> <tr> <td>---</td> <td>Fast(V): 0</td> <td>MAX</td> </tr> </tbody> </table>		3/4 - 4/4		1,3	2/4 - 3/4		2,33	1/4 - 2/4		3,7	R - 1/4		4,76	Default		MIN	---	Fast(V): 0	MAX
3/4 - 4/4		1,3																	
2/4 - 3/4		2,33																	
1/4 - 2/4		3,7																	
R - 1/4		4,76																	
Default		MIN																	
---	Fast(V): 0	MAX																	

- **Gas level setting :** in this section it is possible to modify manually the reading of the levels of the gas sensor.
- **Default :** it restores the standard limits of the selected gas sensor
- **Slow / Fast :** it shows the sensor level value in Volts.
SLOW means that the value is slowed down;
FAST means that the displayed value is in real time.

F6 AUTO TUNING

Before proceeding to the auto tuning, it is necessary to set some configuration parameters. Go to page **F2 configuration** with the **engine switched off** and select:

- The number of cylinders.
- The number of coils.
- The type of level sensor.
- The type of fuel (CNG or LPG).

Turn on the engine, let it at idle and check that the RPM value on the software is the same as the one displayed on the revolution counter of the vehicle. If not, modify the number of coils until the RPM reading is correct.

Then, in the page **F1 Monitor (with the engine switched on)** check that all values are working correctly, that is to say injectors, temperatures, pressures, and sonda lambda (oxygen sensor) if connected.

Then open the page **F8 Errors** and check that there are no errors.

Moreover, please check as follows:

- The vehicle is stationary in a flat position, hand-brake engaged.
- Changing-gear in neutral position.
- The engine is running on petrol and RPM at idle
- The regulator temperature must be at least 60° C for LPG and 50°C for the CNG. On the contrary, wait until the correct temperature is reached.

Now, it is possible to go ahead with the auto tuning.



Go to the **Auto-Tuning** page and click on **START** button to begin the Auto Tuning process.

The auto tuning starts automatically, please leave the engine at idle and do not touch the accelerator pedal during the process.

At the bottom of the display you can visualize the petrol injector timing (in red) and the gas injector timing (in green). On the right there is the correction value elaborated by the system.

At the end of the AutoTuning process, you'll see a message according to the final result of the process saying as follows:



- If the Auto Tuning has been completed successfully
- If the injector nozzles are correct.

Click on the button "OK" to go ahead or click on "Cancel" to repeat the Auto Tuning.

Some applications, such as Lambda emulation and OBD correctors are disabled during the auto tuning and the re-activated at the end of the process.

At the end of the calibration, check that the regulator **pressure** (at idle) is between the following ranges:

Lpg : 1,1 ÷ 1,2 bar

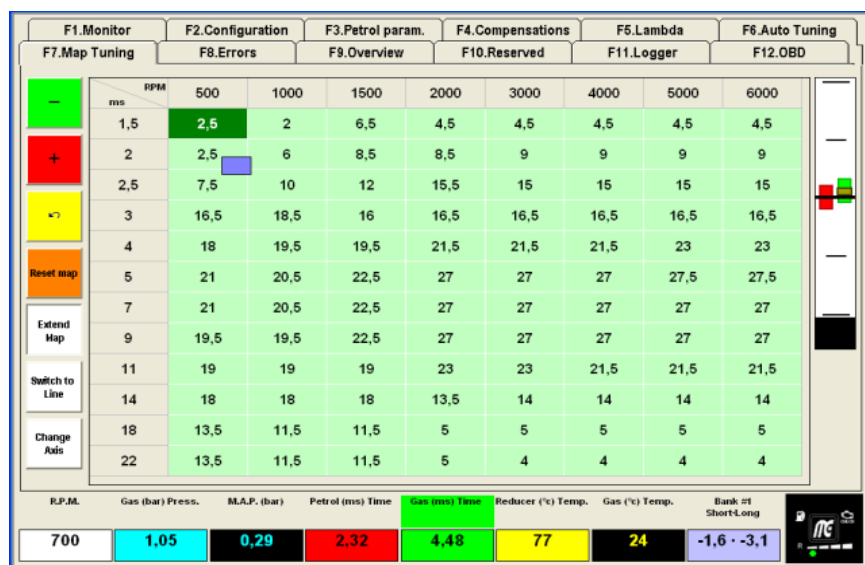
Cng : 1,8 ÷ 1,9 bar

If it is not, adjust the regulator pressure by using the relevant adjustment screw that you can find on the cover of the regulator.

ATTENTION: for a better calibration of the vehicle, please consider that it is not enough to rely just on the auto tuning process. It is better to use also the “scan tool” device to ensure a good setting.

F7 MAP TUNING

To change the values of the map click on the desired area and press the button + to increase the value or – to decrease it.



Moreover, you can click on the value you need to modify and then press “enter” if you want to replace the value by mode **Linear** / **Absolute** / **Percentage**:

- **Linear** (+/- 100) : to add / subtract to the value indicated to the one selected on the map.
- **Percentage** (+/- 50) : to add / subtract the percentage indicated to the value selected on the map.
- **Absolute** (+/- 127) : it replaces directly the written value instead of the one in the box.

LATERAL BUTTONS



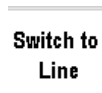
The “**UNDO**” button is used to cancel the last change that has been made.



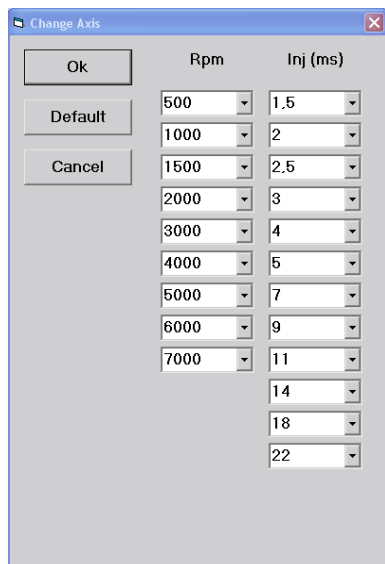
The “**Reset Map**” button brings back the map to the default values.



The “**Extend Map**” button is used to change the display of the map with more boxes.



The “**Switch to Line**” button is used to visualize the map in line mode.

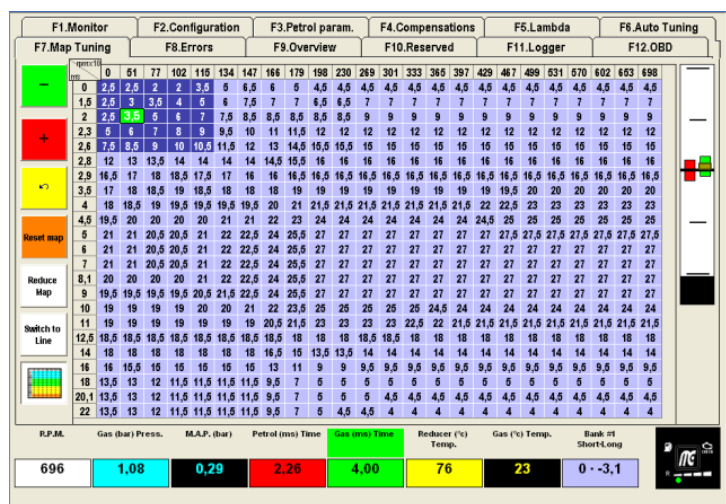


Change Axis dialog box. It contains three buttons: Ok, Default, and Cancel. Below them are two columns of dropdown menus. The first column is labeled 'Rpm' and has values: 500, 1000, 1500, 2000, 3000, 4000, 5000, 6000, 7000. The second column is labeled 'Inj (ms)' and has values: 1.5, 2, 2.5, 3, 4, 5, 7, 9, 11, 14, 18, 22.

Change
Axis

The “**Change Axis**” button is used to change in the map the axis of the RPM engine and of the petrol injection time (ms).

EXTENDED MAP

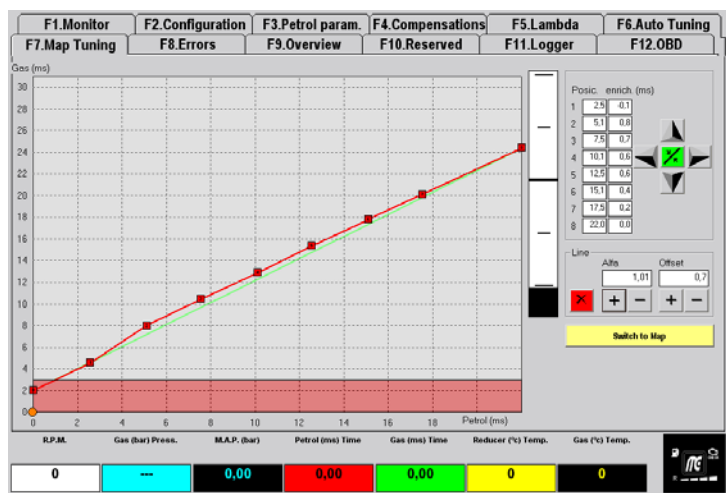


By clicking on the button “**Extend Map**”, the map changes into the extended mode.

The extended map is usually used when it is necessary to get a more precise calibration of the system.

Even in this case you have to select the desired area in order to change the values of the map.

SWITCH TO LINE



By clicking on the button “**switch to line**” the map changes in line mode.

This is an alternative way to calibrate the system, different from the map previously explained

On the line there are 9 red points that change colour when selected. When you need to adjust the calibration, use the arrows shown on the picture in order to move the points on the line.

ATTENTION :

Although it is possible to change from map to the line and viceversa we cannot assure an identical carburetion in both cases



Clicking this button after selecting one of the points in the line you can enrich the carburetion in this point.



Clicking this button after selecting one of the points in the line you can lean the carburetion in this point.



Clicking this button after selecting one of the points in the line you can move it to the left



Clicking this button after selecting one of the points in the line you can move it to the right



Clicking this button you can realign the points of the line.



Clicking this button you can bring back the line to default values.



Pressing the buttons + and – of the ALFA function, you can move the whole line. However, the first square (number 0). remains blocked.

F4 COMPENSATIONS

F7.Map Tuning	F8.Errors	F9.Overview	F10.Reserved	F11.Logger	F12.OBD																																
F1.Monitor	F2.Configuration	F3.Petrol param.	F4.Compensations	F5.Lambda	F6.Auto Tuning																																
Reducer temperature compensation ☒ Enabled <table border="1"> <tr> <td>°C</td> <td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td><td>40</td><td>45</td><td>50</td><td>55</td><td>60</td><td>65</td><td>70</td><td>75</td><td>80</td> </tr> <tr> <td>%</td> <td>-10</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-4</td><td>-3</td><td>-3</td><td>-2</td><td>-2</td><td>-1</td><td>0</td><td>0</td> </tr> </table>						°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	%	-10	-9	-8	-7	-6	-5	-4	-4	-3	-3	-2	-2	-1	0	0
°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80																						
%	-10	-9	-8	-7	-6	-5	-4	-4	-3	-3	-2	-2	-1	0	0																						
Gas temperature compensation ☒ Enabled <table border="1"> <tr> <td>°C</td> <td>0</td><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td><td>40</td><td>45</td><td>50</td><td>55</td><td>60</td><td>65</td><td>70</td> </tr> <tr> <td>%</td> <td>-13</td><td>-12</td><td>-10</td><td>-8</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> </table>						°C	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	%	-13	-12	-10	-8	-6	-5	-4	-3	-2	-1	0	1	2	3	4
°C	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70																						
%	-13	-12	-10	-8	-6	-5	-4	-3	-2	-1	0	1	2	3	4																						
Acceleration Leaning / Enrichment ☐ Enabled Mixture alteration: -10 % Return Speed: 5 Select a cell and press (-) or (+) keys to change values. Press shift to increase by 10 unit.																																					
R.P.M.	Gas (bar) Press.	M.A.P. (bar)	Petrol (ms) Time	Gas (ms) Time	Reducer (%) Temp.	Gas (%) Temp.																															
0	---	0,00	0,00	0,00	0	0																															

The compensation tables are automatic corrections of the Ecu and consider the regulator and gas temperature.

In the first line you can read the temperature values of reference. In the second line (white) you find the correction values, expressed by percentages and referred to the temperatures above indicated.

You can change the correction values clicking on them (they will become yellow) and pushing the + or – button on your keyboard, in order to increase/decrease the value of a unit.

Moreover, you can enable or disable the compensation table by flagging “**enabled**”.

F5 LAMBDA

F7.Map Tuning	F8.Errors	F9.Overview	F10.Reserved	F11.Logger	F12.OBD	
F1.Monitor	F2.Configuration	F3.Petrol param.	F4.Compensations	F5.Lambda	F6.Auto Tuning	
Sensor type: DISABLED Lambda emulation: DISABLED Lambda sensor #1: Not connected Lambda sensor #2: Not connected						
R.P.M.	Gas (bar) Press.	M.A.P. (bar)	Petrol (ms) Time	Gas (ms) Time	Reducer (%) Temp.	Gas (%) Temp.
0	---	0,00	0,00	0,00	0	0

You can select the following parameters :

-Sensor Type :it allows you to select the type of lambda sensor on the vehicle and also its functioning when the vehicle is running on gas or petrol.

-Lambda Sensor #1 : if connected (see wiring diagram), this function allows the visualization of lambda sensor #1.

Lambda Sensor #2 : if connected (see wiring diagram), this function allows the visualization of Lambda sensor #2.

NOTE : if both lambda sensors are connected, you can see both on the display.

-Lambda Emulation : you can send specific emulation signals to the Petrol Ecu. This function must be used only in specific applications and according to Emmegas instructions.

NOTE : Lambda Emulation” option can only function if lambda **sensor #1** or lambda **sensor #2** have been activated, otherwise this function is not active

F8 ERRORS

F1.Monitor		F2.Configuration		F3.Petrol param.		F4.Compensations		F5.Lambda		F6.Auto Tuning	
F7.Map Tuning		F8.Errors		F9.Overview		F10.Reserved		F11.Logger		F12.OBD	
#	Device name	Present	Stored								
00	Gas injector #1	---	---								
01	Gas injector #2										
02	Gas injector #3										
03	Gas injector #4										
04	Gas injector #5										
05	Gas injector #6										
06	Gas injector #7										
07	Gas injector #8										
08	Gas pressure										
09	MAP pressure										
10	Reducer temperature										
11	Gas injector temperature										
15	Supply voltage										
17	EVGas #1										
18	EVGas #2										
20	Petrol injector error										
21	Gas trim (OBD)										

Service Erase Errors Show Freeze Frame

Gas Pressure (bar): 0.00 ☒ / ☐ Error signal (Yes/No) ☒ / ☐ Switch to petrol (Yes/No)

Errors :it contains a list of all errors and it is specified if they are present (occured during the current session) or memorized (occured at least in a past session)

Erase errors: it cancels the errors table

Gas pressure (Bar): It shows the gas pressure even during the operation on petrol.

F1.Monitor		F2.Configuration		F3.Petrol param.		F4.Compensations		F5.Lambda		F6.Auto Tuning	
F7.Map Tuning		F8.Errors		F9.Overview		F10.Reserved		F11.Logger		F12.OBD	
Signal name	Value										
Gas inj time	---										
Petrol inj time	---										
Time between 2 injections Petrol	---										
Correction time	---										
Rpm period	---										
Absolut collector pressure	---										
Collector - Reducer pressure	---										
Lambda sensor voltage	---										
Lambda 2 sensor voltage	---										
Level gas visualized on switching	---										
Level gas read	---										
Reducer temperature	---										
Injectors gas temperature	---										
Hardware temperature	---										
battery voltage	---										
Current Absorbed	---										
buzzer switch status	---										

Service Erase Errors Back to Error Page

Gas Pressure (bar): 0.00 ☒ / ☐ Error signal (Yes/No) ☒ / ☐ Switch to petrol (Yes/No)

Show Freeze Frame : by clicking on Freeze Frame, you can see a new window that shows the frozen condition of the vehicle when the error occurred.

Service

Working time to gas (h) 0:00 Cancel

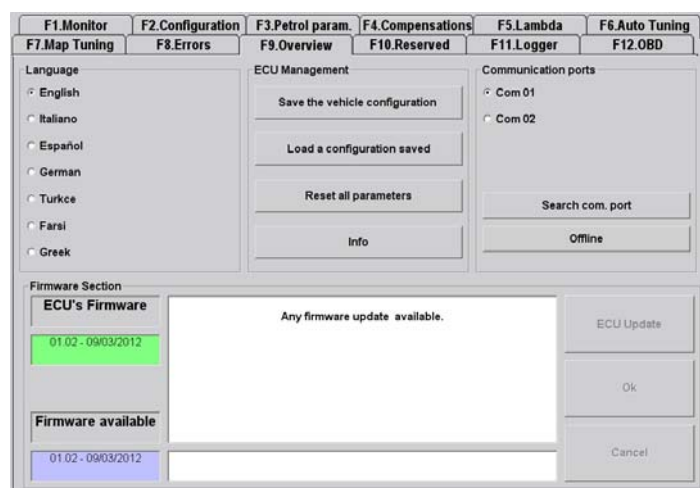
Working time to petrol (h) 0:00 Cancel

Service time (h) DISABLED ▾

Scheduled service to (h:mm) -- Cancel

Service: by clicking on Service, you can see a new window that allows you to set a programmed service of the gas system.

F9 OVERVIEW



In **F9 Overview** you can find the following features:

-**Language** : you can select the desired language.
 -**ECU Management** : you can proceed with the following options:

- **Save the vehicle configuration**: it let you save the present configuration. .
- **Load a configuration saved**: you can upload on the Ecu a configuration previously saved
- **Reset all parameters**, all values will be reset to the default ones

In **Firmware Section** you can find the following functions:

-**ECU's firmware**: it shows the version and the date of the Ecu's firmware;

-**Firmware available**: it shows the version and the date of the firmware available for the Ecu updating.

In the section **Communication ports**, you can:

- Select the port **used** for the communication
- Manually search for the communication port (**Search com.port**)
- Work in **offline** mode.

In the central area it is indicated if the firmware of the Ecu needs an updating. If it is so, on the right side there are the buttons to proceed with the Ecu updating.

NOTE: during the updating, all programs started on the Pc must be closed down. Moreover, please do not touch any buttons, don't disconnect any wires nor do any operation. If an interruption occurs, the Ecu will lock and all data will be lost. Then, do the updating again to unlock it.

By clicking on the button "**Info**", you open the following page about the Ecu info:

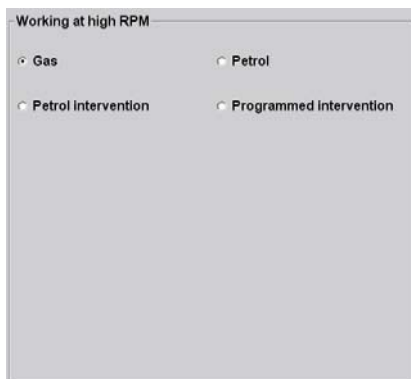


- **S/N Lot** : Ecu serial number .
- **Lot** : lot of production.
- **Week** : week of production.
- **Year** : year of production.
- **Client** : customer code.
- **SL** : internal manufacturer code.
- **Cylinder** : number of cylinder
- Hardware configuration**: internal manufacturer code.
- **Software user** : software release installed on the Pc
- **ECU firmware** : firmware release present in the Ecu
- **Firmware available**: firmware release available.

- **Working time gas/ petrol(h)** : working time of the ECU on gas/petrol
- **Reset working timer** : button used to clear the working time on gas/petrol

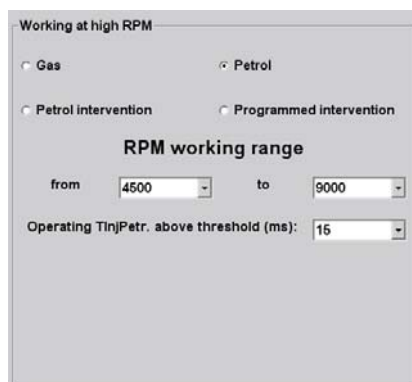
F3 PETROL PARAMETERS

➤ In **Working at high RPM** section are present the following functions:



-**Gas**: with this function the vehicle runs on gas only;

-**Petrol**: with this function the vehicle runs on petrol only.

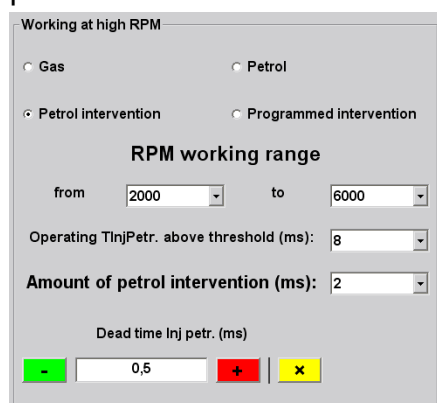


The conditions for its activation depend on the parameters **RPM working range** and **Operating TinjPetr above threshold (ms)**:

-**RPM working range**: it's the engine RPM limit to activate the function only on petrol;

-**Operating TinjPetr. above threshold (ms)**: the threshold injection time (on petrol) to activate the petrol functioning only.

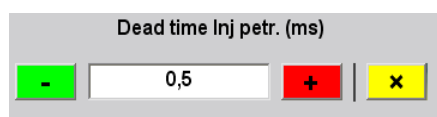
- **Petrol intervention**: this function allows the engine to run on gas and petrol at the same time. The parameters for its activation are:



-**RPM working range**: engine RPM threshold to enable or disable the function “**petrol intervention**”;

-**Operating TinjPetr. above threshold (ms)**: the threshold injection time (on petrol) to activate the function “**petrol intervention**”;

-**Amount of petrol intervention (ms)**: petrol injection time used to function on gas/petrol at the same time;



+ = Increase the petrol inj. dead time

- = Decrease the petrol inj. dead time.

x = Return to the default value (0,5 ms).

When you use the **petrol intervention** function, the amount of gas to be taken off is determined by a theoretical and mathematical calculation done by the Ecu.

This parameter was introduced to compensate the reaction time of the petrol injector.

Please note that the carburetion obtained by the Auto Tuning and mapping is modified by petrol intervention. We suggest to check with the OBD tester and eventually modify the **petrol dead injector time**, so that the carburetion will be perfect also with **petrol intervention**.

-Programmed intervention: it's a function that allows to use - according to the gas injections number -small quantities of petrol in order to keep the engine valves lubricated. The possible options are (**Interv. Setting**):

-Low frequency : programmed petrol intervention at low frequency.

-Medium frequency : programmed petrol intervention at medium frequency.

-High frequency : programmed petrol intervention at high frequency.

➤ In **Working at low RPM** section are present the following functions:

-Gas: the vehicle at idle runs only on gas

- Petrol: with this function the vehicle runs at idle below a certain RPM Threshold selected by the parameter **Operating RPM below threshold**

-Return to petrol (temporary), it temporary runs on petrol at idle and then comes back to gas automatically

➤ **Operating RPM below threshold:** below this threshold the vehicle waits before switching to petrol

- **Petrol cycles before gas return:** this is the number of cycles to activate the return to petrol (temporary). Once the cycle has terminated the vehicle returns to gas automatically

Real-time monitoring, The grey lights switch on only when the relevant functions have been selected. And change colour when the relevant function is active.

☐ Petrol on idle

☐ Prog.interv.

☐ Safety(F.Open/M.Temp)

F12 OBD

The screenshot shows the F12 OBD interface with the following sections:

- Navigation Tabs:** F1.Monitor, F2.Configuration, F3.Petrol param., F4.Compensations, F5.Lambda, F6.Auto Tuning, F7.Map Tuning, F8.Errors, F9.Overview, F10.Reserved, F11.Logger, F12.OBD.
- OBD parameters:**
 - Buttons: Connect OBD (green), Disconnect OBD (grey), Clear OBD Errors (yellow).
 - Connection type: DISCONNECTED (dropdown).
 - Operative mode: DISABLED (dropdown).
 - Trim type: Standard (dropdown).
 - Buttons: OBD mobile window, OBD data.
 - Target OBD: 0 (input), Sensibility: 5 (input), Stability (s): 2 (input).
 - Checkbox: Disable adapt. on idle.
- OBD Status:**
 - Table with columns: Bank #1, Bank #2, Status, Short fuel trim (%), Long fuel trim (%).
 - Visual fuel trim bar from -60 to 60 with an average of 0.
- OBD Corrections:**
 - Buttons: Load AUTO, Reset corrections.
 - Table with columns: Load (Low, Medium, High), Correction (0 pt).
- Bottom Status Bar:**
 - R.P.M.: 0
 - Gas (bar) Press.: ---
 - M.A.P. (bar): 0,00
 - Petrol (ms) Time: 0,00
 - Gas (ms) Time: 0,00
 - Reducer (°C) Temp.: 0
 - Gas (°C) Temp.: 0

With the OBD page you can automatically revise the carburetion during gas operation through information coming from the original OBD connection of the vehicle.

➤ OBD PARAMETERS:

-Connect / Disconnect OBD: buttons to connect or disconnect the OBD function .

Connect OBD

Disconnect OBD

-Clear OBD errors: it allows to cancel any errors present in the petrol control unit memory.

Clear OBD Errors

Connection type DISCONNECTED

Connection type ISOKL 9141

Connection type CAN STD250

ATTENTION: to get a correct communication to the OBD socket of the vehicle, it is necessary to know the correct protocol type of the vehicle, that is to say ISO or CAN. Then select in the proper box the type of connection based on the protocol.

-Operative mode:

Disabled: you can't correct the gas carburetion through the OBD signals from the Petrol Ecu.

Operative mode DISABLED

Monitor: you can't correct the gas carburetion through the OBD signals from the Petrol Ecu, but the monitor is active and you can read the status of the short and long correctors

Operative mode MONITOR

-Dynamic, you can't correct the gas carburetion through the OBD signals from the Petrol Ecu and the monitor is active so you can read the status of the short and long correctors

Operative mode **DYNAMIC**

-Trim type :

Standard: you can obtain a poor carburetion with positive correctors and rich with negative ones.

Trim type **Standard**

Reverse trim: you can obtain a rich carburetion with positive correctors and poor with negative ones.

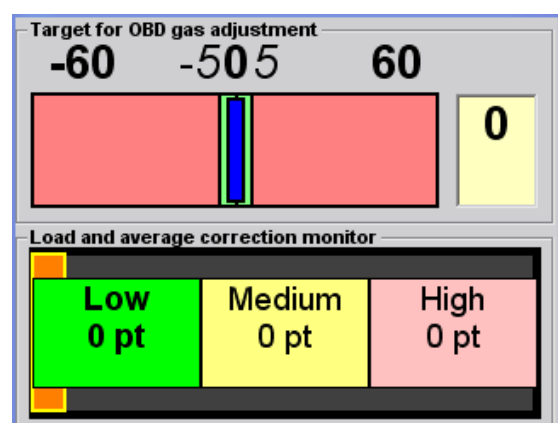
Trim type **Reverse Trim**

Fiat trim: correctors at +/- 100% present only on FIAT vehicles.

Trim type **FIAT Trim**

-OBD mobile window: click on OBD mobile window to display the following window.

OBD mobile window



-OBD data: it shows info about the OBD electric wiring

OBD data

-Sensibility: this is the range where are not activated the corrections on gas carburetion.

Sensibility **5** ?

-Stability: waiting time of the system before correcting the carburetion.

Stability (s) **2**

-Target OBD: it is used to set a correctors target different from 0 on specific vehicles.

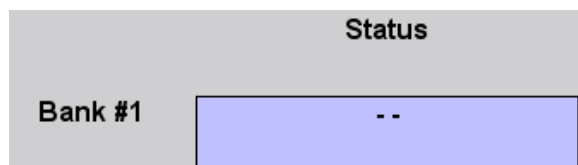
Target OBD **0** ?

-Disable adapt. on idle: with this function you can disable the OBD auto-adaptivity at idle.

☐ Disable adapt. on idle

➤ BANK STATUS

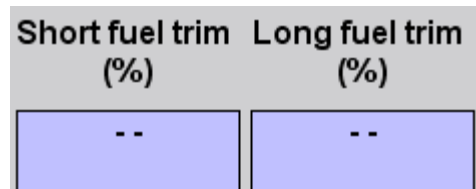
-**Bank #:** it shows the functioning status (on gas or petrol) of the sonda lambda.



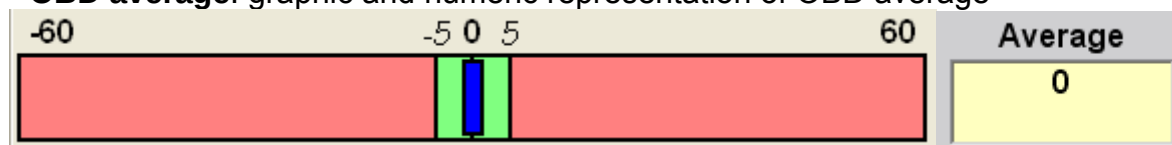
- **Open Loop:** the Sonda Lambda circuit is open, the Sonda Lambda is not operating.

- **Closed Loop:** the Sonda Lambda circuit is closed, the Sonda Lambda is operating.

-In the section **Short fuel trim** and **Long fuel trim** are showed the OBD trims parameters:



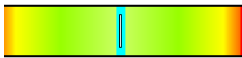
- **OBD average:** graphic and numeric representation of OBD average



➤ OBD CORRECTIONS

-**Load Auto:** leave the engine at idle on petrol and press the button AUTO. The height of the bars below will be changed according to the engine vacuum.

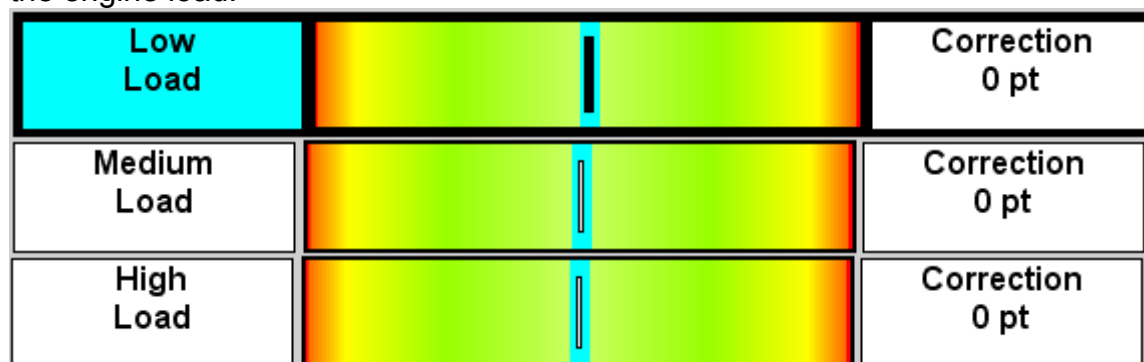
Load AUTO

- **Reset corrections:** it brings the cursor  back to central position and reset the corrections in the window "corrections"

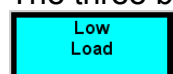
**Reset
corrections**

-**Gas correctors auto-adaptivity (low, medium, high load).**

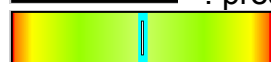
This graphic function allows to monitor the auto-adaptivity status of the gas carburetion according to the engine load.



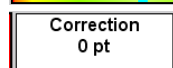
The three bars are divided as follows and shows:



: present engine load



: the correction value through a diagram

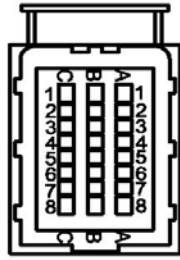


: the correction numerical value

H I07- OBD EVO2

Wiring connections guide

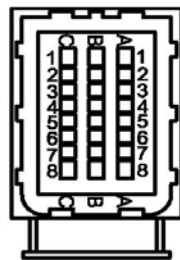
BLACK CONNECTOR ECU07 4 / 6 CIL.



4 / 6 CYLINDERS

PIN	FUNCTION	COLOR	SEZ. (mm2)
A1	FRONT SV GAS	BLUE	1.00
A2	REAR SV GAS	BLUE	1.00
A3	PRESSURE	WHITE	0.50
A4	VACUUM	BROWN	0.50
A5	WATER TEMP	PINK	0.50
A6	GAS TEMP	PINK/BLACK	0.50
A8	LAMBDA - IN1	VIOLET	0.50
A8	+12V BATTERY	RED	0.50
A8	+12V BATTERY	RED/BLACK	1.00
B1	+V LEVEL	GREEN	0.50
B2	RPM	BROWN	0.50
B3	+SV	RED	0.50
B3	+SWITCH	RED	0.35
B4	SWITCH	WHITE	0.35
B5	LAMBDA - IN2	VIOLET/BLACK	0.50
B6	LAMBDA - OUT1	GREY	0.50
B8	+WKEY CN	RED	1.00
C2	RECEPTION	BLUE	0.50
C3	TRANSMISSION	WHITE	0.50
C4	LEVEL	WHITE	0.50
C5	LEV OUT	GREEN	0.35
C6	LAMBDA - OUT2	GREY/BLACK	0.50
C7	GND	BLACK	1.00
C8	GND	BLACK	0.35
C8	GND	BLACK	0.50
C8	GND	BLACK	1.00
ONLY FOR ECU-07 WITH OBD			
A7	CONNECTION OBD	GREEN/BLACK	0.75
B7	CONNECTION OBD	GREEN	0.75

GREY CONNECTOR ECU07 4 / 6 CIL.



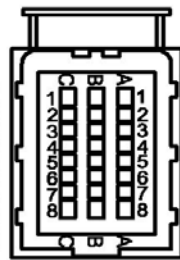
4 CYLINDERS ONLY

PIN	FUNCTION	COLOR	SEZ. (mm2)
A1	OUT_G3	VIOLET	0.75
A8	SERVICEWIRE	BLUE/BLACK	0.75
B1	OUT_G4	BLUE	0.75
B4	INJ ECU 1	GREY/BLACK	0.50
B5	INJ ECU 4	BLUE/BLACK	0.50
B6	INJ ECU 3	VIOLET/BLACK	0.50
B7	INJ ECU 2	YELLOW/BLACK	0.50
B8	+VX_CN	RED/BLACK	0.75
C1	OUT_G2	YELLOW	0.75
C4	INJ B1	GREY	0.50
C5	INJ B2	YELLOW	0.50
C6	INJ B3	VIOLET	0.50
C7	INJ B4	BLUE	0.50
C8	OUT_G1	GREY	0.75

6 CYLINDERS ONLY

PIN	FUNCTION	COLOR	SEZ. (mm2)
A1	OUT_G3	VIOLET	0.75
A4	INJ ECU 8	RED/BLACK	0.50
A5	INJ B6	RED	0.50
A6	OUT_G6	GREEN	0.75
A7	OUT_G8	RED	0.75
A8	SERVICE WIRE	BLUE/BLACK	0.75
B1	OUT_G4	BLUE	0.75
B3	INJ ECU 5	GREEN/BLACK	0.50
B4	INJ ECU 1	GREY/BLACK	0.50
B5	INJ ECU 4	BLUE/BLACK	0.50
B6	INJ ECU 3	VIOLET/BLACK	0.50
B7	INJ ECU 2	YELLOW/BLACK	0.50
B8	+VX_CN	RED/BLACK	0.75
C1	OUT_G2	YELLOW	0.75
C3	INJ B5	GREEN	0.50
C4	INJ B1	GREY	0.50
C5	INJ B2	YELLOW	0.50
C6	INJ B3	VIOLET	0.50
C7	INJ B4	BLUE	0.50
C8	OUT_G1	GREY	0.75

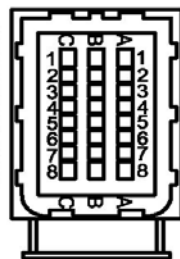
BLACK CONNECTOR ECU07 8 CIL.



8 CYLINDERS ONLY

PIN	FUNCTION	COLOR	SEZ. (mm2)
A1	FRONT SV GAS	BLUE	1.00
A2	REAR SV GAS	BLUE	1.00
A3	PRESSURE	WHITE	0.50
A4	VACUUM	BROWN	0.50
A5	WATER TEMP	PINK	0.50
A6	GAS TEMP	PINK/BLACK	0.50
A8	LAMBDA - IN1	VIOLET	0.50
A8	+12V BATTERY	RED	0.50
A8	+12V BATTERY	RED/BLACK	1.00
B1	+V LEVEL	GREEN	0.50
B2	RPM	BROWN	0.50
B3	+SV	RED	0.50
B3	+SWITCH	RED	0.35
B4	SWITCH	WHITE	0.35
B5	LAMBDA - IN2	VIOLET/BLACK	0.50
B8	+WKEY_CN	RED	1.00
C2	RECEPTION	BLUE	0.50
C3	TRANSMISSION	WHITE	0.50
C4	LEVEL	WHITE	0.50
C5	LEV OUT	GREEN	0.35
C6	GND	BLACK	0.50
C7	GND	BLACK	1.00
C8	GND	BLACK	0.35
C8	GND	BLACK	0.50
C8	GND	BLACK	1.00
ONLY FOR ECU-07 WITH OBD			
B6	OB2 LINK	GREEN/BLACK	0.75
C6	OB2 LINK	GREEN	0.75

GREY CONNECTOR ECU07 8 CIL.



8 CYLINDERS ONLY

PIN	FUNCTION	COLOR	SEZ. (mm2)
A1	OUT_G3	VIOLET	0.75
A2	OUT_G8	PINK	0.75
A3	OUT_G7	BROWN	0.75
A4	INJ ECU 6	RED/BLACK	1.00
A5	INJ B8	RED	1.00
A6	OUT_G5	GREEN	0.75
A7	OUT_G6	RED	0.75
A8	Service Wire	BLUE/BLACK	0.75
B1	OUT_G4	BLUE	0.75
B2	INJ ECU 7	BROWN/BLACK	0.50
B3	INJ ECU 5	GREEN/BLACK	0.50
B4	INJ ECU 1	GREY/BLACK	0.50
B6	INJ ECU 4	BLUE/BLACK	0.50
B6	INJ ECU 3	VIOLET/BLACK	0.50
B7	INJ ECU 2	YELLOW/BLACK	0.50
B8	+VX_CN	RED/BLACK	0.75
C1	OUT_G2	YELLOW	0.75
C2	INJ B7	BROWN	1.00
C3	INJ B5	GREEN	0.50
C4	INJ B1	GREY	0.50
C5	INJ B2	YELLOW	0.50
C6	INJ B3	VIOLET	0.50
C7	INJ B4	BLUE	0.50
C8	OUT_G1	GREY	0.75



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