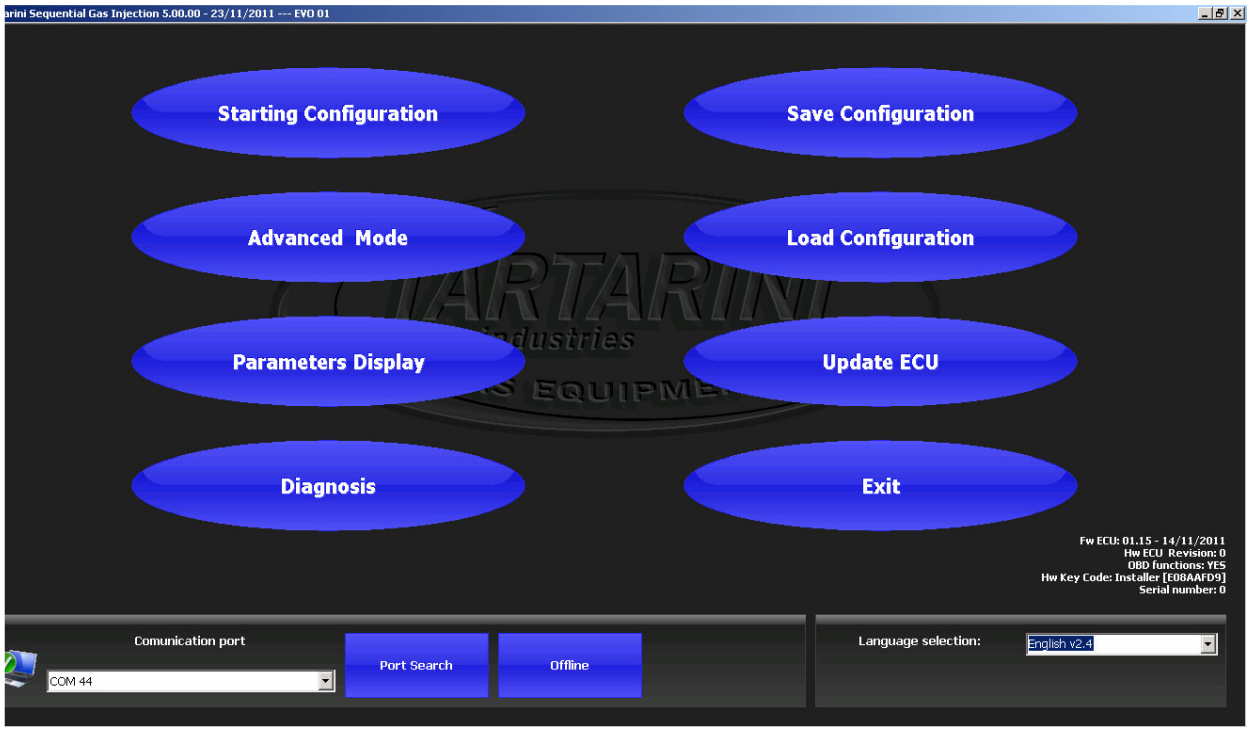
SEQUENTIAL SYSTEM TARTARINI EVO 01









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MINIMUM AND SUGGESTED FEATURES FOR THE INSTALLATION

Operation system: Windows XP or advanced (Windows Vista, Windows 7).
CPU: minimum Pentium III, suggested Pentium 4 or compatible (and superior processors).
RAM: minimum 512mb/1gb for WinXp and later versions.
HDD: Installation of the program is around 30mb. We suggest 100mb.
USB ports : Minimum 2 USB ports (in alternative 1 COM + 1 USB if you can use serial not USB).
For the connection and the use of the software it is necessary to have following parts :

- USB interface part number 4822910
- Adapter part number 4823203
- USB key for sequential EVO 01 part number 4823305

Keys expire after 1 year and they can be renewed with an updating program sent by TARTARINI AUTO S.p.A.

SUPPORTED OBD CONNECTIONS

Please refer to following table for OBD connections:

OBD connection type	***Software name***	*Connection nr SCAN TOOL*	*OBD plug pin - wire colour*
ISO9141	**ISOKL 9141**	1	GREEN => 7 YELLOW => connect to PIN 15 if available
KWP-2000 Slow Init	**ISOKL 5BAUD**	3	GREEN => 7 YELLOW => connect to PIN 15 if available
KWP-2000 Fast Init	**ISOKL FAST**	2	GREEN => 7 YELLOW => connect to PIN 15 if available
CAN Standard 50 kbps	**CAN STD50**	- - -	CONNECTION TO OBD NOT POSSIBLE
CAN Standard 250 kbps	**CAN STD250**	6	GREEN/YELLOW => 6 GREEN/GREY => 14
CAN Standard 500 kbps	**CAN STD500**	8	GREEN/YELLOW => 6 GREEN/GREY => 14
CAN Extended 250 kbps	**CAN EXT250**	7	GREEN/YELLOW => 6 GREEN/GREY => 14
CAN Extended 500 kbps	**CAN EXT500**	9	GREEN/YELLOW => 6 GREEN/GREY => 14

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IT IS POSSIBLE TO ACCESS THE "ADVANCED MODE" ONLY ONCE YOU HAVE COMPLETED THE STARTING CONFIGURATION

PRESS "STARTING CONFIGURATION" BUTTON TO CONFIGURATE THE GAS ECU

IT IS POSSIBLE TO SAVE A CONFIGURATION ONLY ONCE YOU HAVE COMPLETED THE AUTOCALIBRATION

IT ALLOWS THE UPLOAD OF AN ALREADY EXISTING CONFIGURATION LISTED IN THE SOFTWARE DATABASE

ACCESS TO COCKPIT DISPLAYING ALL PARAMETERS CONTROLLED BY THE ECU

IT ALLOWS TO DISPLAY ANY HIDDEN OR STORED ERROR IN THE GAS SYSTEM. IT INCLUDES ALSO THE SYSTEM EMPTYING FUNCTION AND RESET OF THE TIMER



UPDATE THE GAS ECU WITH A NEW FIRMWARE

BEFORE REMOVING USB CABLE IT IS SUGGESTED TO CLOSE /EXIT THE SOFTWARE

CONNECTION STATUS



FOR THE CORRECT FUNCTIONING OF THE ENTIRE SYSTEM IT IS ALWAYS MANDATORY TO UPDATE THE ECU WITH THE MOST RECENT FIRMWARE VERSION AVAILABLE. THE LATEST FIRMWARE IS INCLUDED IN THE SOFTWARE.

IT SHOWS THE CONNECTED COM PORT

IT SEARCHES THE COM PORT

IT ALLOWS TO EXPLORE THE SOFTWARE EVEN WITHOUT CONNECTING TO GAS ECU

LANGUAGE SELECTION

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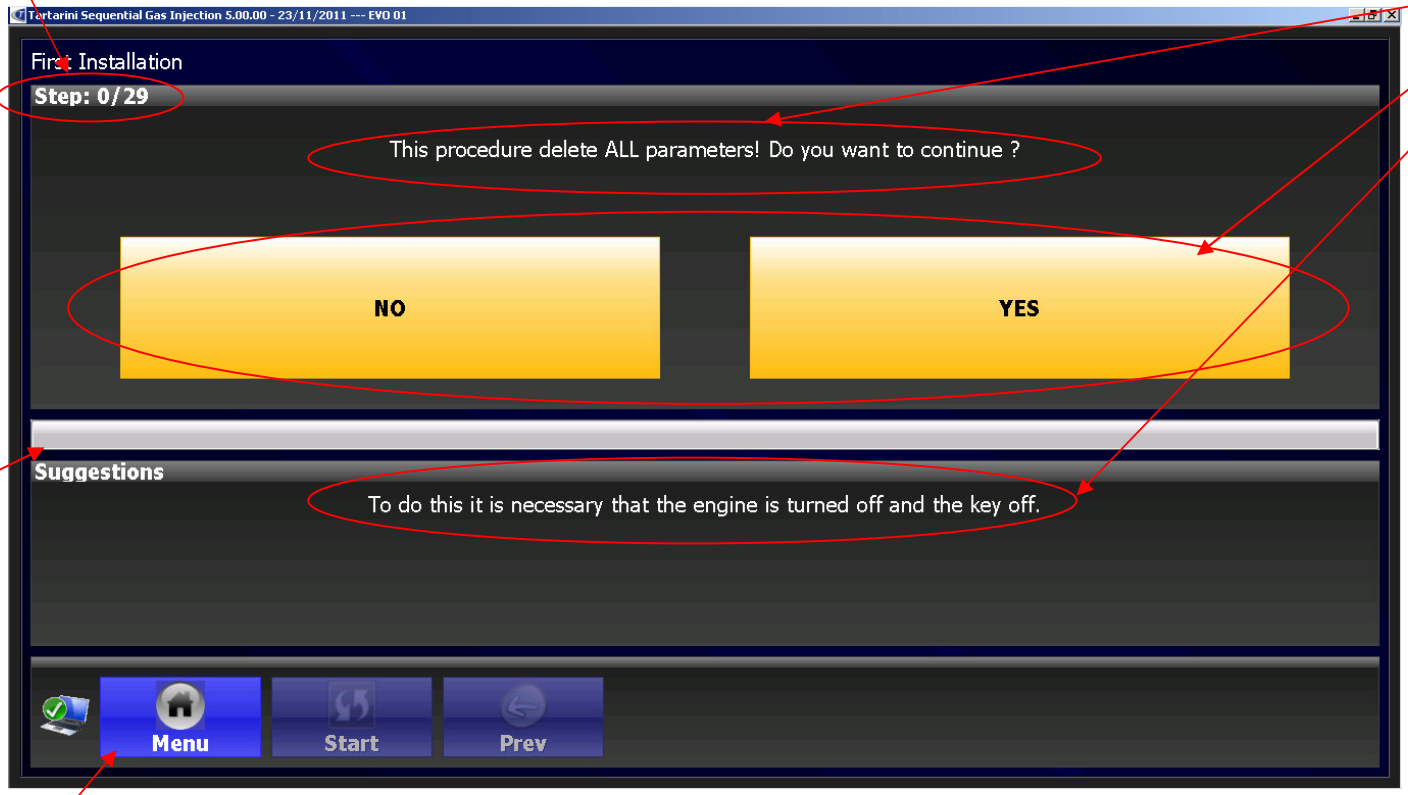
IT DISPLAYS THE CONFIGURATION STEP NUMBER

THE SCREEN IS DIVIDED IN THREE SECTIONS :

DESCRIPTION

CHOICE

SUGGESTION

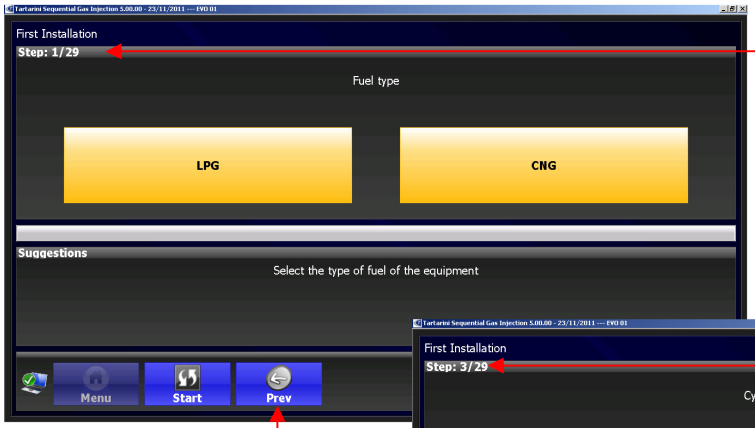


PROGRESS BAR

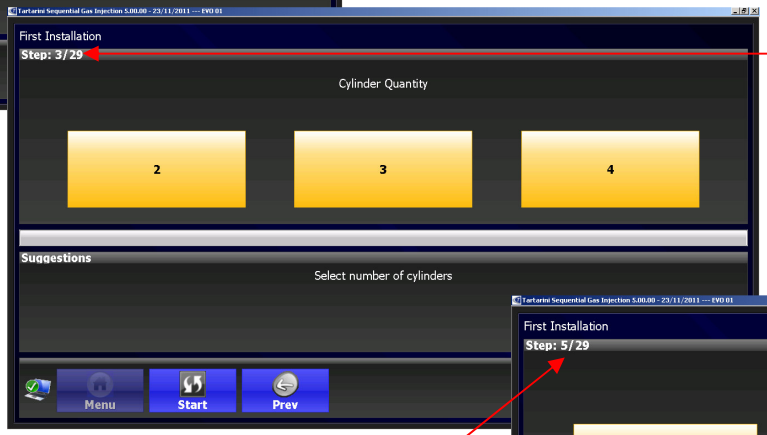
LEADS BACK TO MAIN MENU

"NO" LEADS BACK TO THE MENU STARTING PAGE.
"YES" RESETS ECU AND THE NEW CONFIGURATION CAN BE STARTED.

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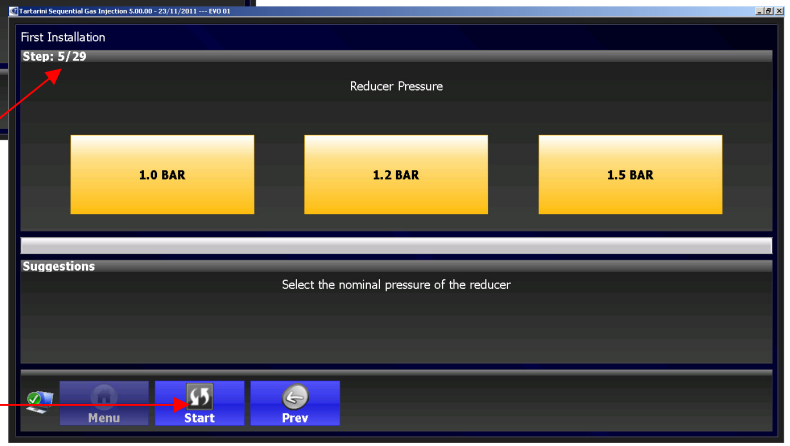


FUEL TYPE :
SELECT THE FUEL TYPE



CYLINDER QUANTITY
SELECT QUANTITY OF CYLINDERS OF THE ENGINE

RETURN TO PREVIOUS STEP

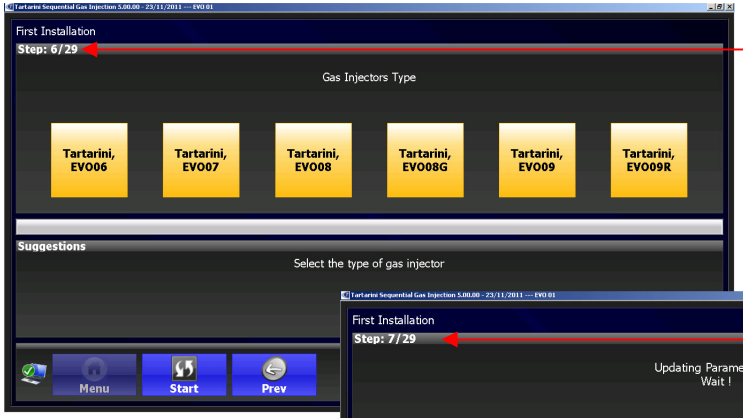


REDUCER PRESSURE
SELECT THE NOMINAL PRESSURE OF THE REDUCER

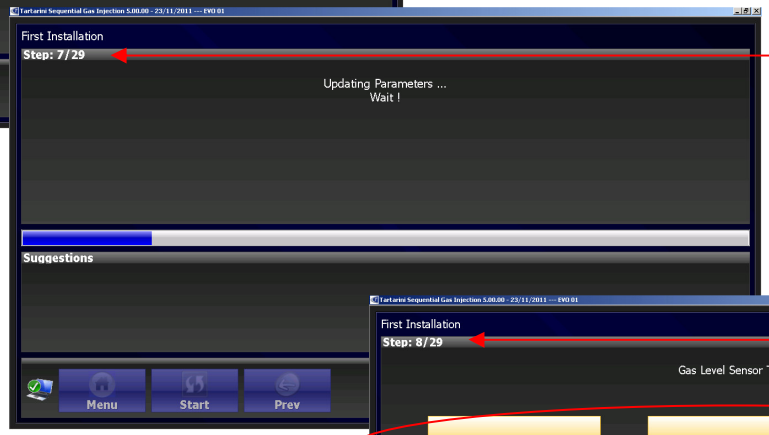
NOTE : FOR CNG CONVERSION THIS STEP IS NOT FORESEEN

LEADS BACK TO THE STARTING PAGE

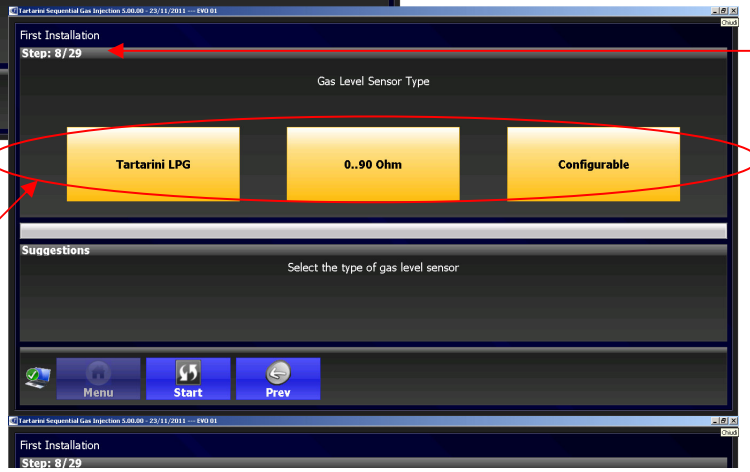
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GAS INJECTORS TYPE
SELECT THE TYPE OF GAS INJECTORS INSTALLED



PARAMETERS LOADING



SELECT THE TYPE OF GAS LEVEL SENSOR INSTALLED.

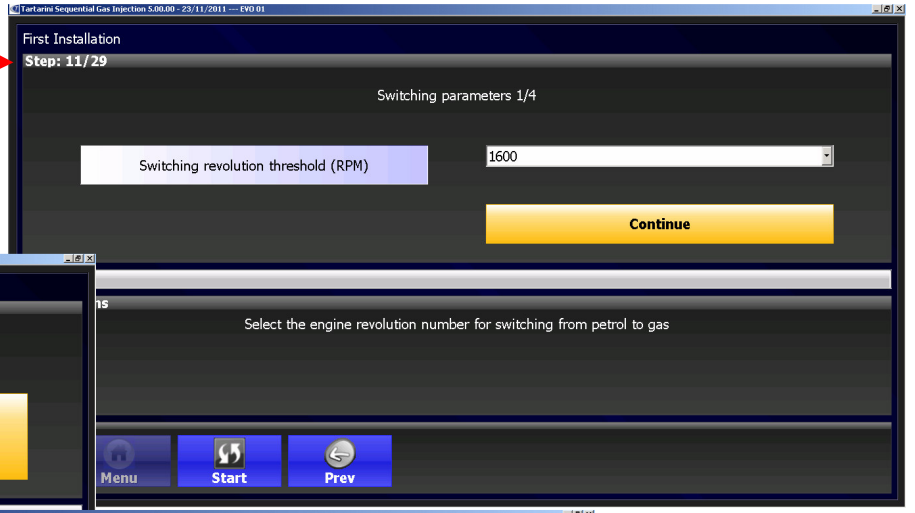
NOTE: THIS STEP IS NOT FORESEEN FOR CNG

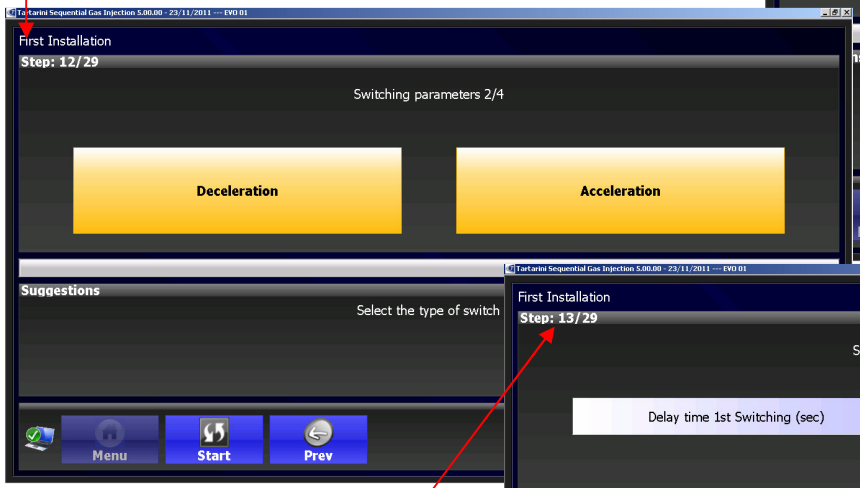
GAS LEVEL SENSOR
SELECT THE TYPE OF GAS LEVEL SENSOR INSTALLED
- Tartarini LPG should be selected for TARTARINI sensors .
- 0–90 Ohm : if you installed this type of sensor .
- Configurable : This option is for 0-90 Ohm with chance to modify the resistance reference that regulates the led lights of fuel level indication on the switch.
For a right setting of the various fuel levels, increase or reduce the values in cells of at least 20 points .

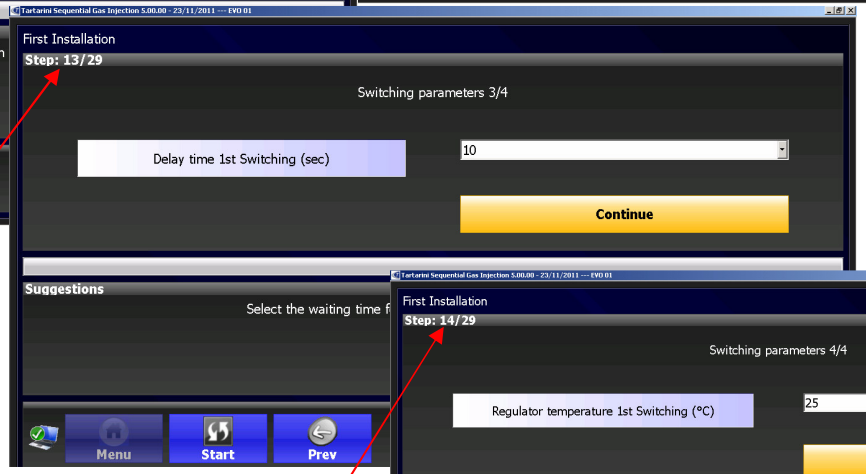
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SWITCHING PARAMETERS
SELECT THE ENGINE REVOLUTION NUMBER AT WHICH THE ENGINE SWITCHES FROM PETROL TO GAS

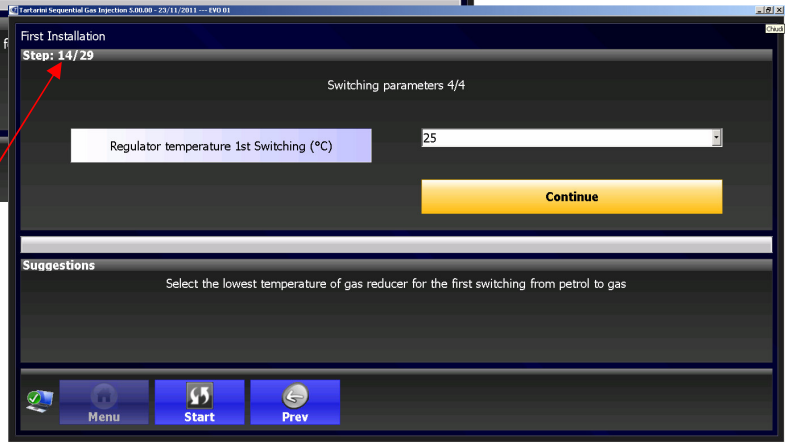
SELECT THE TYPE OF SWITCHING :
during ACCELERATION OR DECELERATION





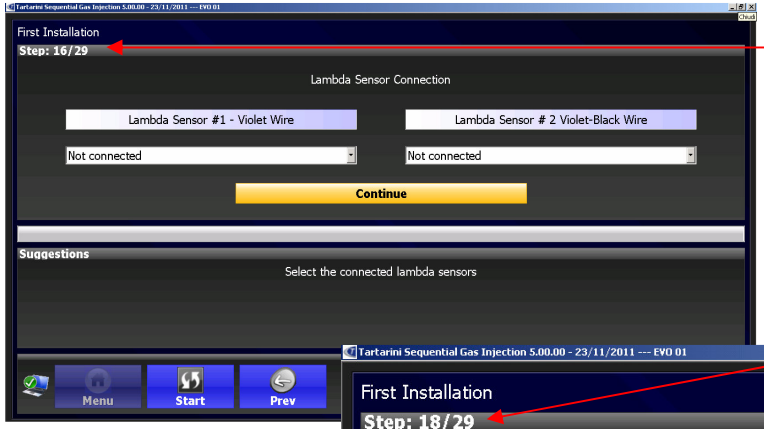


DELAY TIME FOR THE FIRST SWITCHING



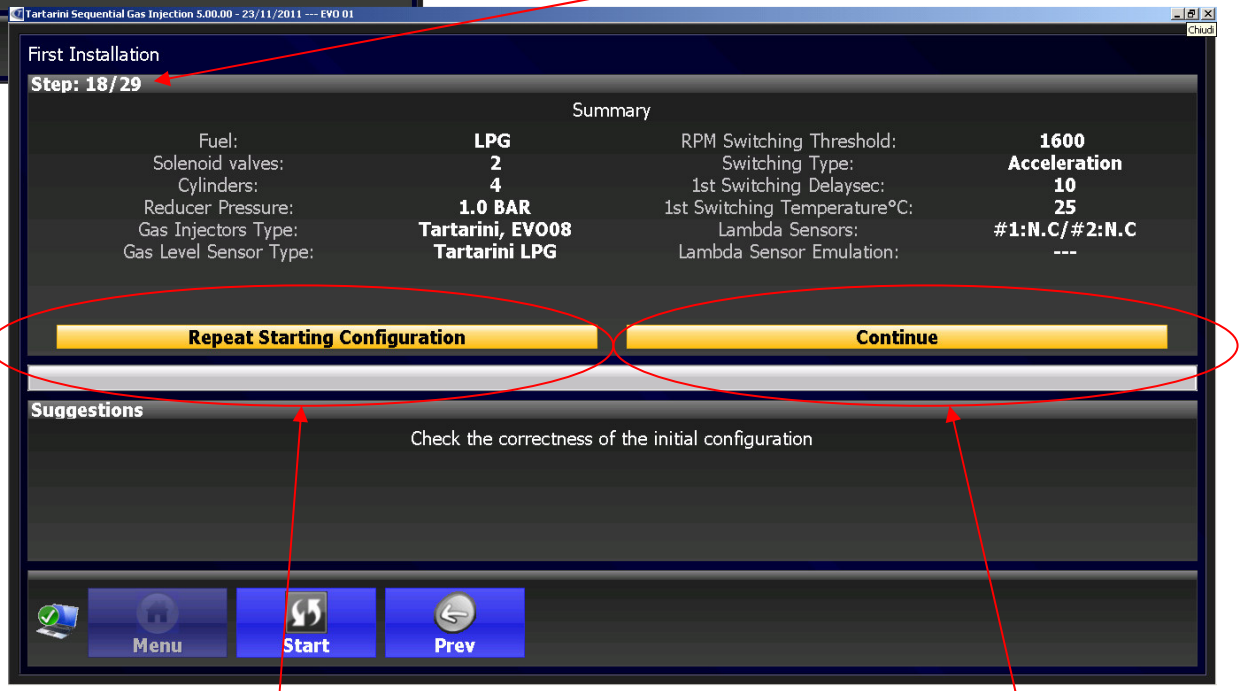
SELECT THE MINIMUM TEMPERATURE OF THE REGULATOR FOR THE FIRST SWITCHING

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LAMBDA SENSORS CONNECTION :
SELECT THE CONNECTED LAMBDA SENSORS

SUMMARY :
IN THIS PAGE IT IS POSSIBLE TO CHECK IF THE ENTERED DATA ARE CORRECT

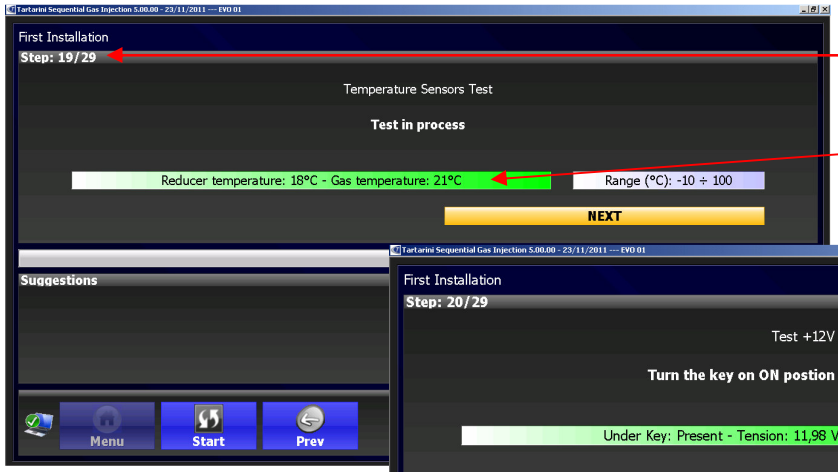


PRESS "REPEAT STARTING CONFIGURATION" TO CONFIGURATE AGAIN THE GAS ECU

"CONTINUE" STARTS A DYNAMIC CHECK OF THE INSTALLED COMPONENTS.

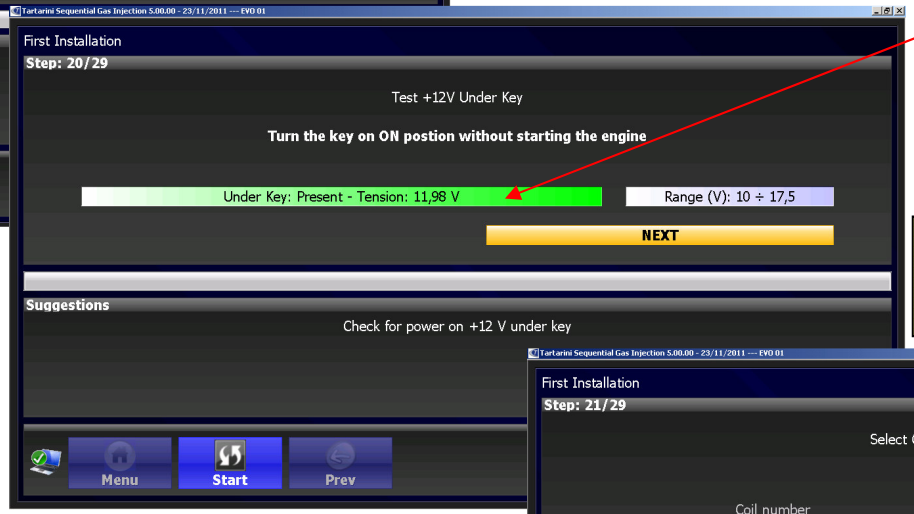
Up to this step the activities were carried out for the setting of the system.
Now we will show some screenshots of dynamic check on the installed components.

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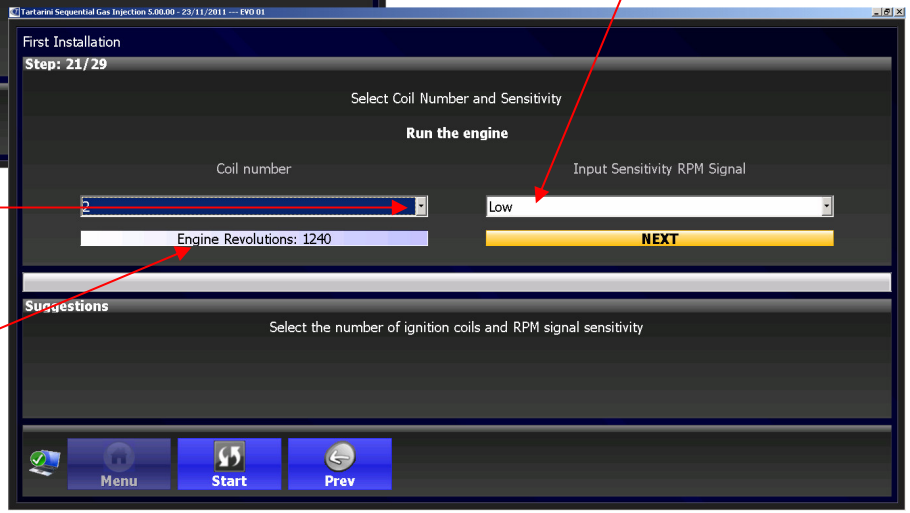
TEMPERATURE SENSORS CHECK

VERIFY THE TEMPERATURES



THIS STEP CHECKS THE CORRRECT CONNECTION OF +12V. UNDER KEY
BEWARE : TURN KEY TO ON POSITION WITHOUT RUNNING THE ENGINE

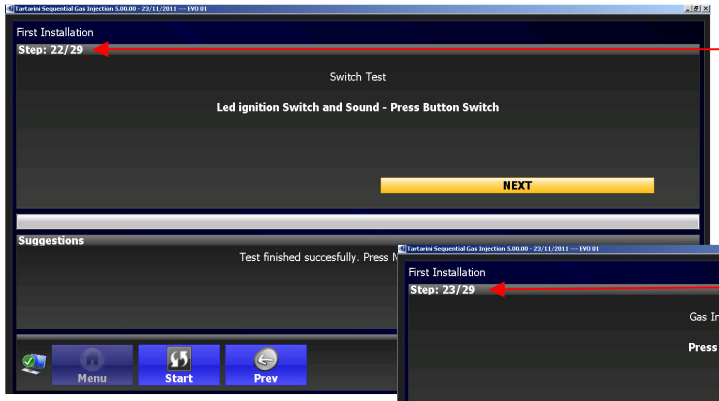
RPM SIGNAL SENSITIVITY:
LOW: STANDARD SIGNAL (SUGGESTED FOR EVERY VEHICLE)
HIGH: TO CHOSE ONLY IN CASE RPM ARE NOT DISPLAYIED



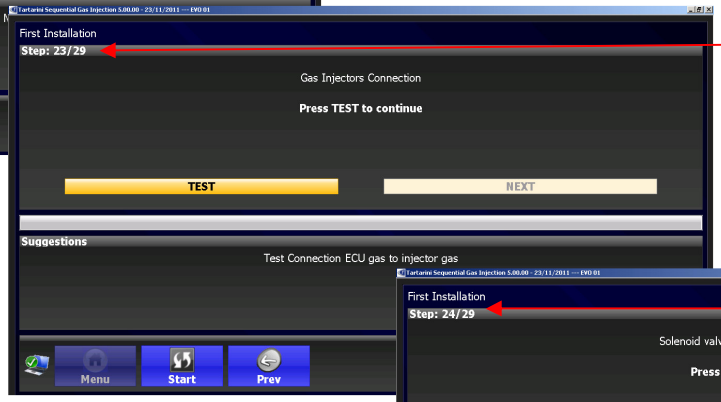
SELECT IGNITION COIL QUANTITY

- CHECK REVOLUTION NUMBER
- FOR A CORRECT WORKING OF THE SYSTEM AND A RIGHT IDENTIFICATION OF THE ENGINE REVOLUTION NUMBER **IT IS ABSOLUTELY FORBIDDEN** TO CONNECT THE REVOLUTIONS SIGNAL WIRE (BROWN) TO THE PETROL INJECTORS SIGNAL.

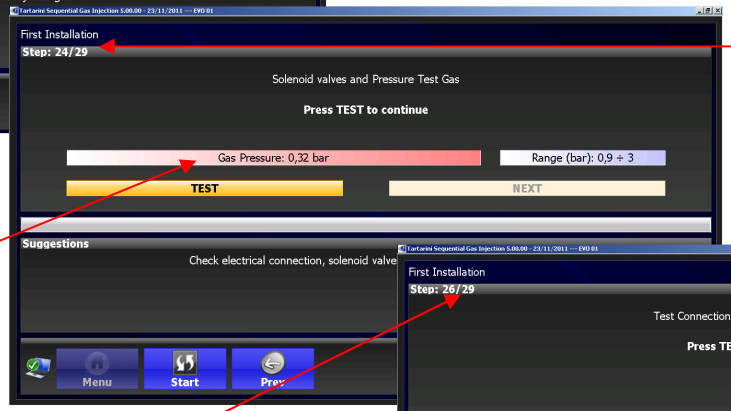
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SWITCH TEST : ALLOWS THE INSTALLER TO CHECK IF BOTH THE BUZZER AND EVERY LED OF THE SWITCH WORK CORRECTLY .
PRESS THE SWITCH TO END THE TEST AND "NEXT" TO PROCEED.

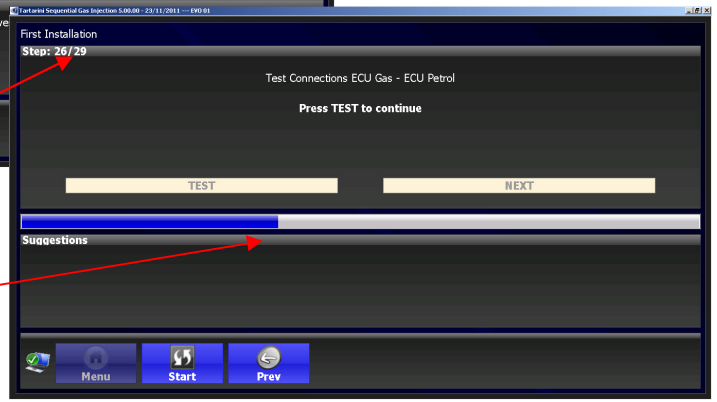


GAS INJECTORS CONNECTION :
IF ONE OR MORE INJECTORS ARE NOT CONNECTED OR THE COIL RESISTANCE IS INTERRUPTED, THEN THE NUMBER OF THE INTERRUPTED INJECTOR IS DISPLAYED.



GAS SOLENOIDS AND GAS PRESSURE TEST

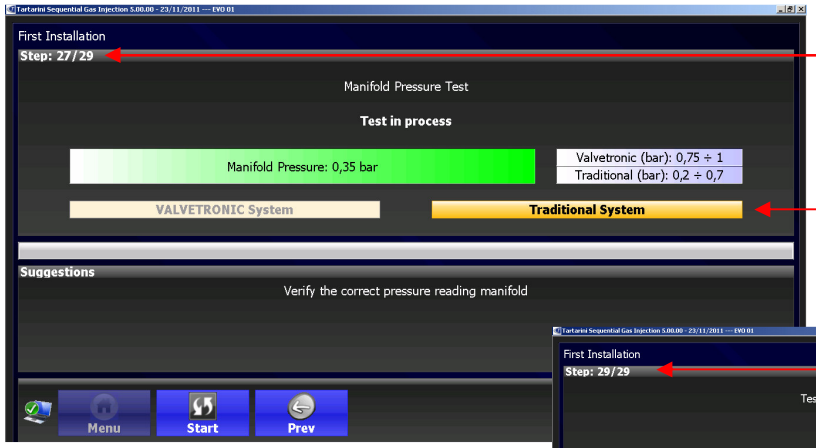
IT DISPLAYS THE PRESSURE IN THE INJECTOR RAIL



IT VERIFIES THE CONNECTION BETWEEN GAS ECU AND PETROL ECU

IT VERIFIES THAT THE NUMBER OF CYLINDERS CHOSEN IN THE SOFTWARE CORRESPONDS TO THE NUMBER OF CONNECTIONS AT THE END OF THE CUT OFF INJECTORS HARNESS. EXECUTE THE TEST

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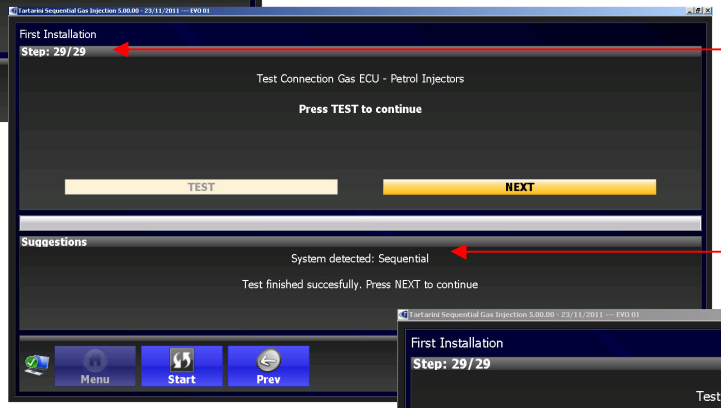


MANIFOLD PRESSURE TEST

IF THE VACUUM PRESSURE HAS BEEN COLLECTED IN THE RIGHT POSITION ON THE MANIFOLD, THEN THE VALUE SHOULD BE :

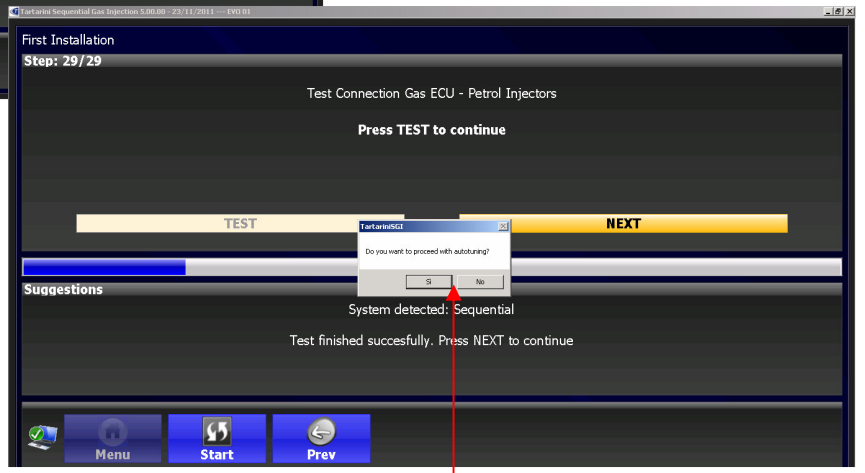
- FROM 0,2 TO 0,45 BAR IF SYSTEM IS TRADITIONAL
- CLOSE TO ATMOSPHERIC PRESSURE (1 BAR) IF SYSTEM IS VALVETRONIC

CHOOSE THE CORRECT SYSTEM .



TEST CONNECTION GAS ECU – PETROL INJECTORS

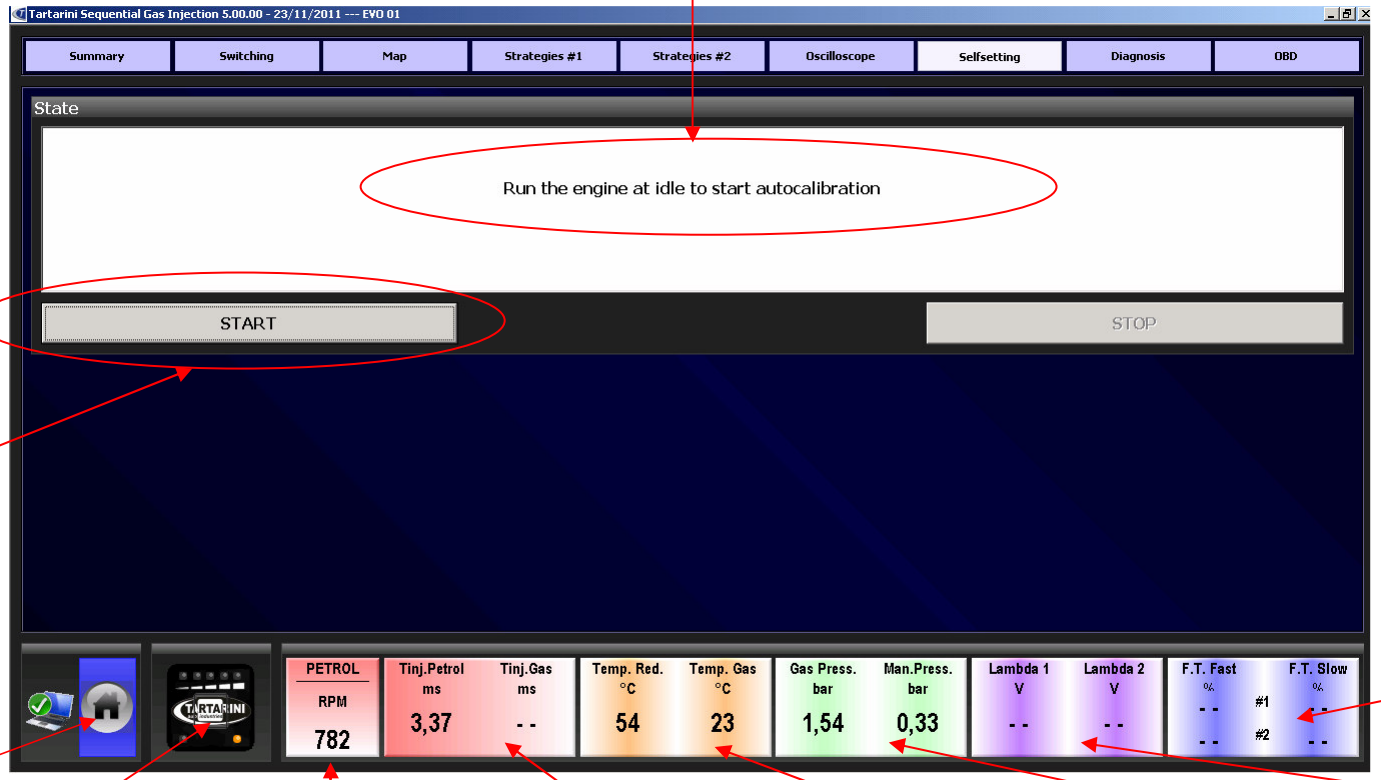
HERE WILL BE DISPLAYIED THE TYPE OF INJECTION RECOGNIZED BY THE SYSTEM: SEQUENTIAL/SEMISEQUENTIAL/FULL GROUP



THE SOFTWARE WILL ASK IF YOU WANT TO PROCEED WITH AUTOTUNING OR NOT.
BY CLICKING "NO" YOU WILL BE IMMEDIATELY REDIRECTED TO A STANDARD GAS INJECTION MAP.
BY CLICKING "YES" AUTOTUNING PROCEDURE WILL START

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"AUTOCALIBRATION"
FOLLOW THE INSTRUCTIONS OF THE SOFTWARE



CLICK "START" TO BEGIN AUTOCALIBRATION

OBD SLOW AND FAST FUEL TRIMS

LEADS BACK TO MAIN MENU

SWITCH PETROL-GAS

ENGINE REVOLUTIONS NUMBER

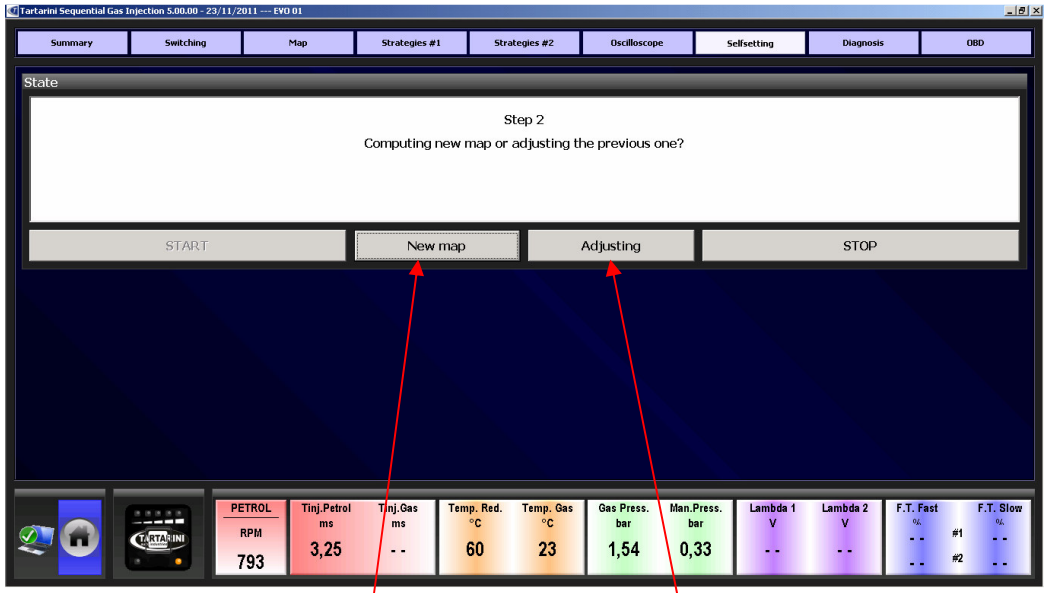
PETROL AND GAS INJECTION TIME

GAS AND REGULATOR TEMPERATURE

GAS AND MANIFOLD PRESSURE

LAMBDA VALUES

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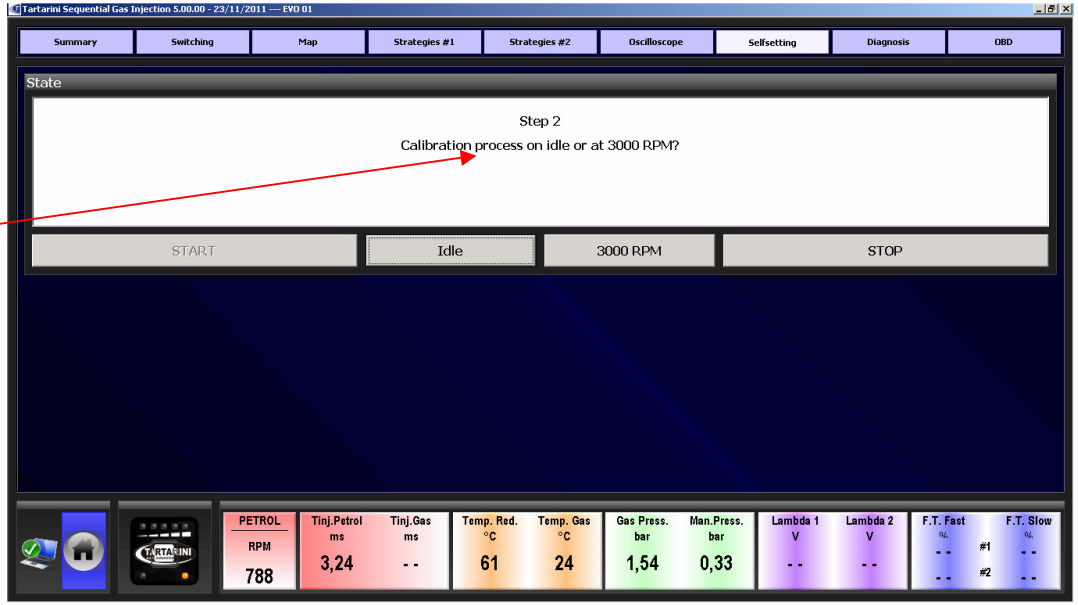


BEWARE :
DURING AUTOCALIBRATION ALL EMULATIONS AND PETROL STRATEGIES ARE TEMPORARILY SUSPENDED.
THE SYSTEM CARRIES OUT SAMPLING OF THE PETROL INJECTION TIME OF ANY SINGLE CYLINDER, THIS IS A VERY IMPORTANT PROCEDURE FOR OBTAINING A PROPER GAS INJECTION.

CHOSE "NEW MAP" FOR STARTING THE AUTOCALIBRATION

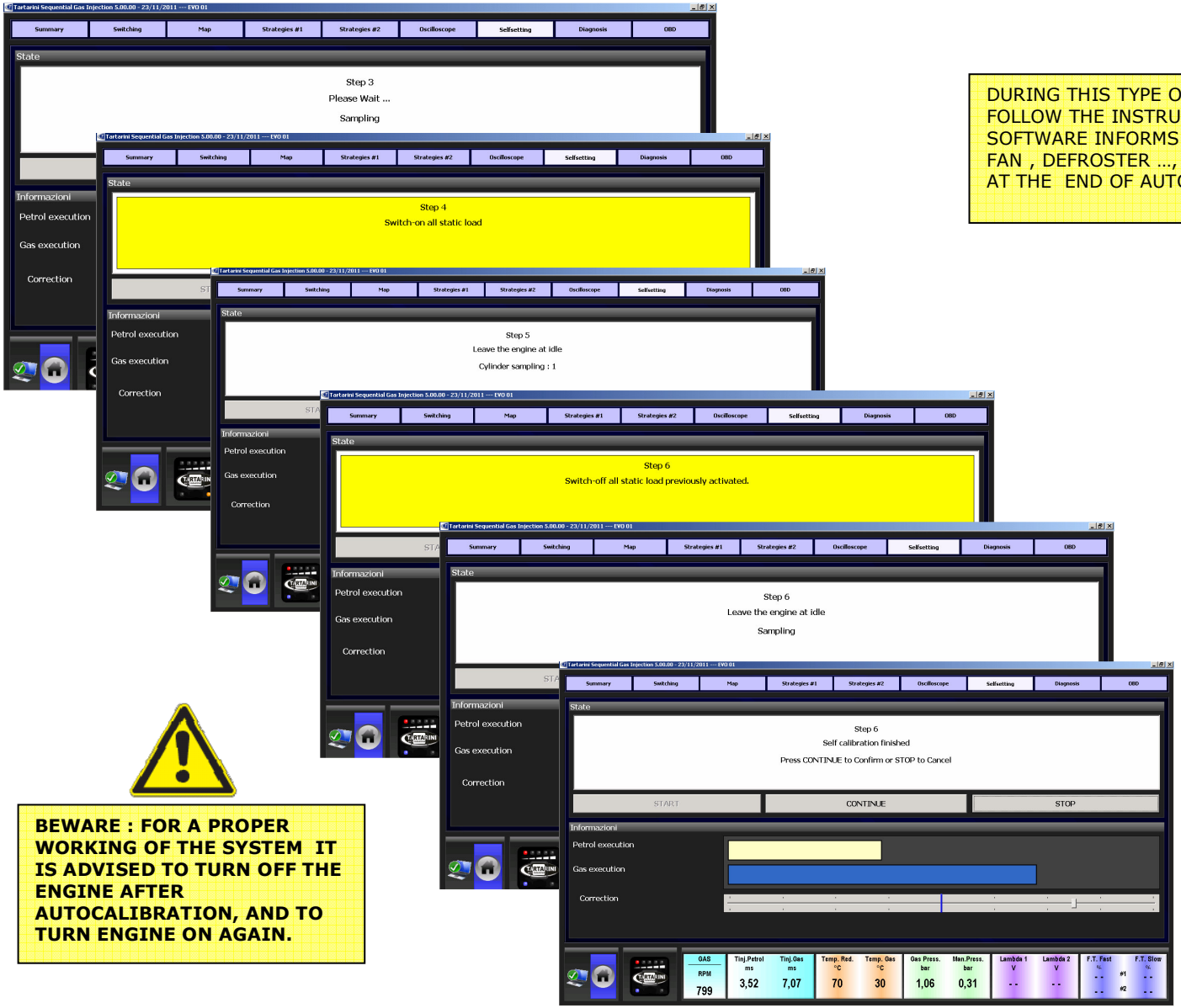
CHOSE "ADJUSTING" IN CASE ON THE ECU THERE IS ALREADY A DEDICATED MAP

BY CLICKING "NEW MAP" THE FOLLOWING WINDOW WILL APPEAR AND YOU WILL BE ASKED TO CHOSE BETWEEN AN AUTOCALIBRATION ON IDLE OR AN AUTOCALIBRATION AT 3000RPM



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AUTOCALIBRATION ON IDLE

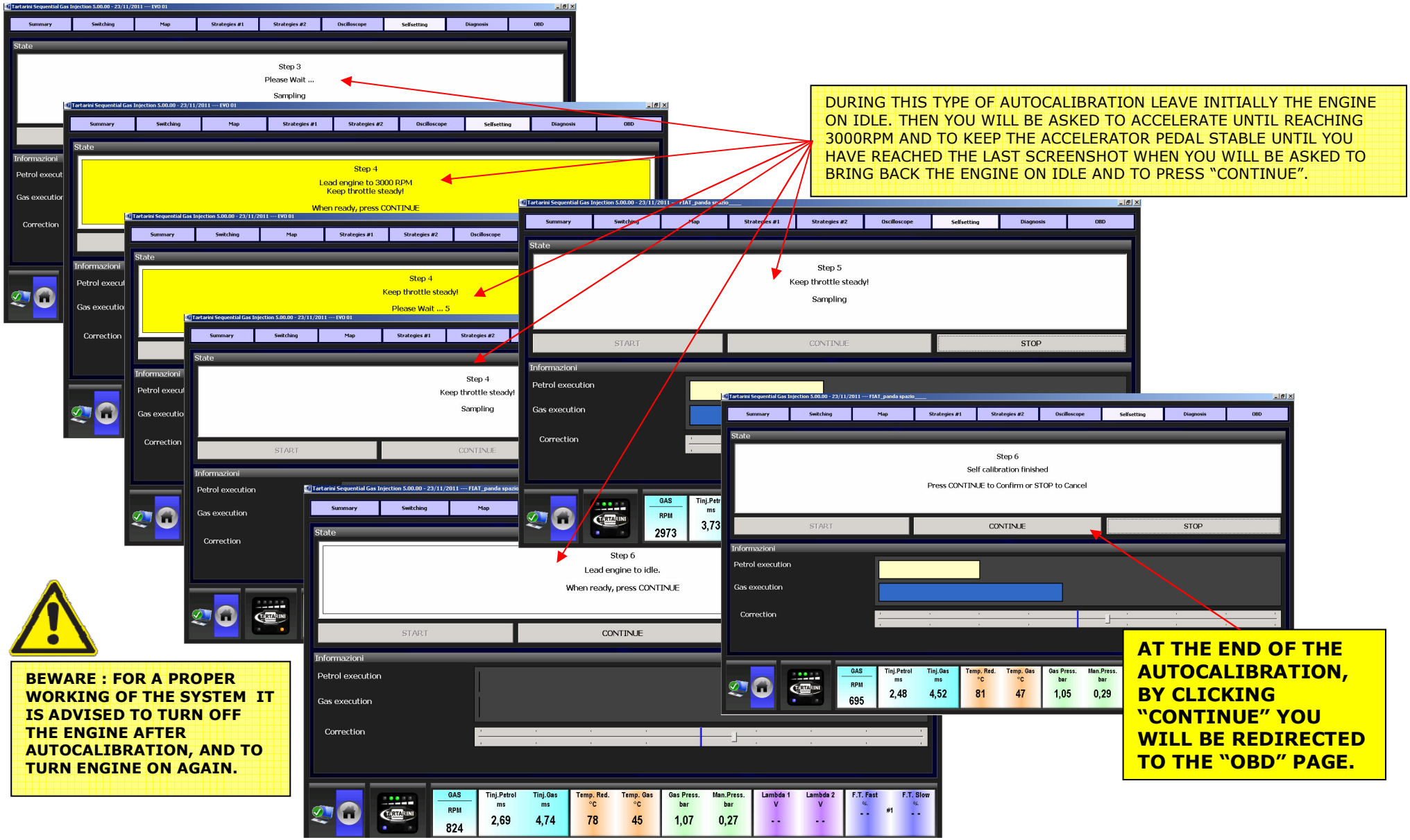


DURING THIS TYPE OF AUTOCALIBRATION LEAVE THE ENGINE AT IDLE, AND FOLLOW THE INSTRUCTIONS .
SOFTWARE INFORMS YOU WHEN TO TURN-ON ALL STEADY LOADS (LIGHTS, FAN , DEFROSTER …, ETC.) AND WHEN TO TURN THEM ALL OFF AGAIN .
AT THE END OF AUTOCALIBRATION (LAST SCREENSHOT) PRESS CONTINUE.

BEWARE : FOR A PROPER WORKING OF THE SYSTEM IT IS ADVISED TO TURN OFF THE ENGINE AFTER AUTOCALIBRATION, AND TO TURN ENGINE ON AGAIN.

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AUTOCALIBRATION AT 3000rpm



DURING THIS TYPE OF AUTOCALIBRATION LEAVE INITIALLY THE ENGINE ON IDLE. THEN YOU WILL BE ASKED TO ACCELERATE UNTIL REACHING 3000RPM AND TO KEEP THE ACCELERATOR PEDAL STABLE UNTIL YOU HAVE REACHED THE LAST SCREENSHOT WHEN YOU WILL BE ASKED TO BRING BACK THE ENGINE ON IDLE AND TO PRESS "CONTINUE".

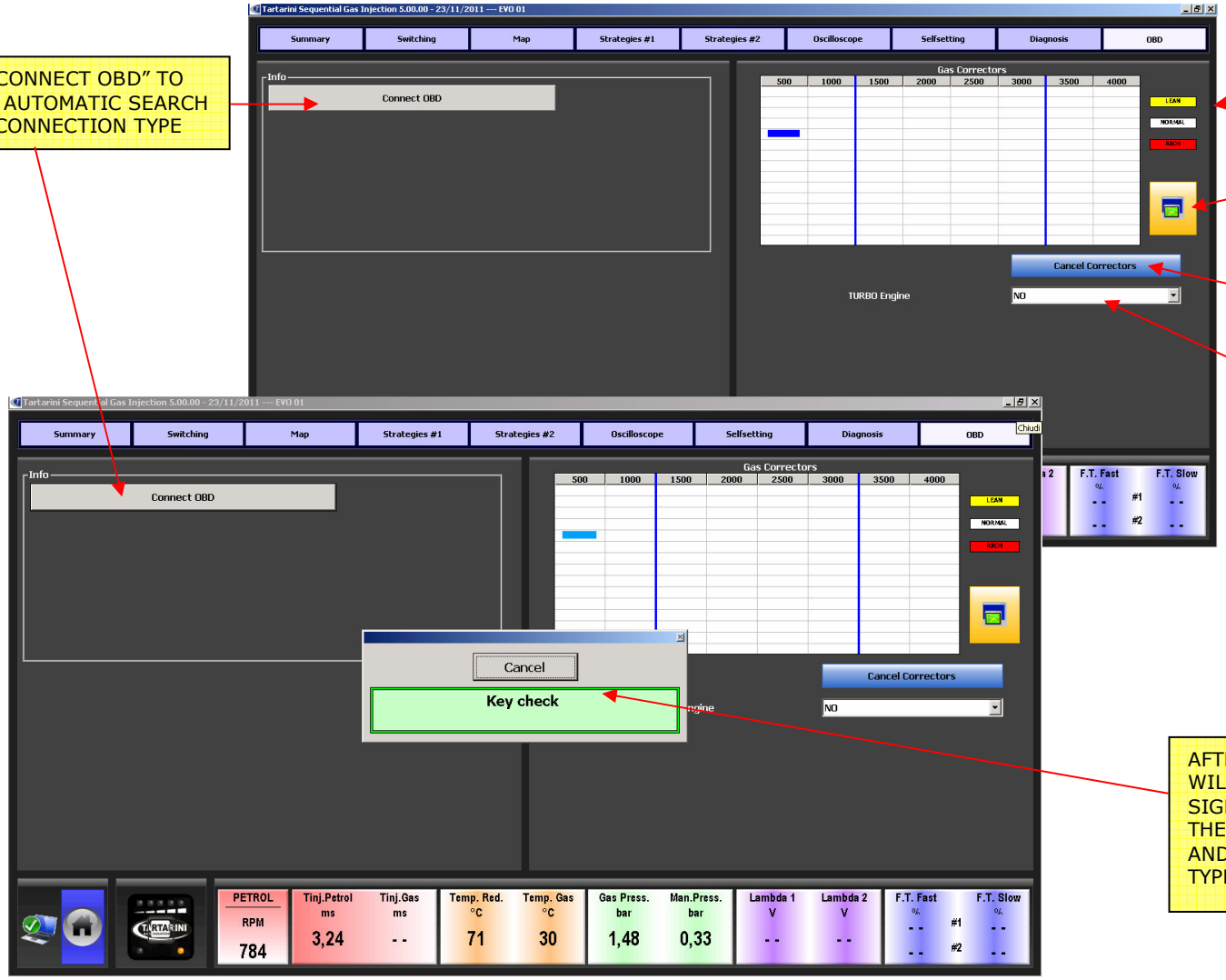
BEWARE : FOR A PROPER WORKING OF THE SYSTEM IT IS ADVISED TO TURN OFF THE ENGINE AFTER AUTOCALIBRATION, AND TO TURN ENGINE ON AGAIN.

AT THE END OF THE AUTOCALIBRATION, BY CLICKING "CONTINUE" YOU WILL BE REDIRECTED TO THE "OBD" PAGE.

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OBD PAGE & CONNECTION

CLICK "CONNECT OBD" TO BEGIN THE AUTOMATIC SEARCH OF THE CONNECTION TYPE



KEY

THIS BUTTON ALLOWS TO VISUALIZE THE ADAPTIVE MAP ALSO IN ANOTHER WINDOW

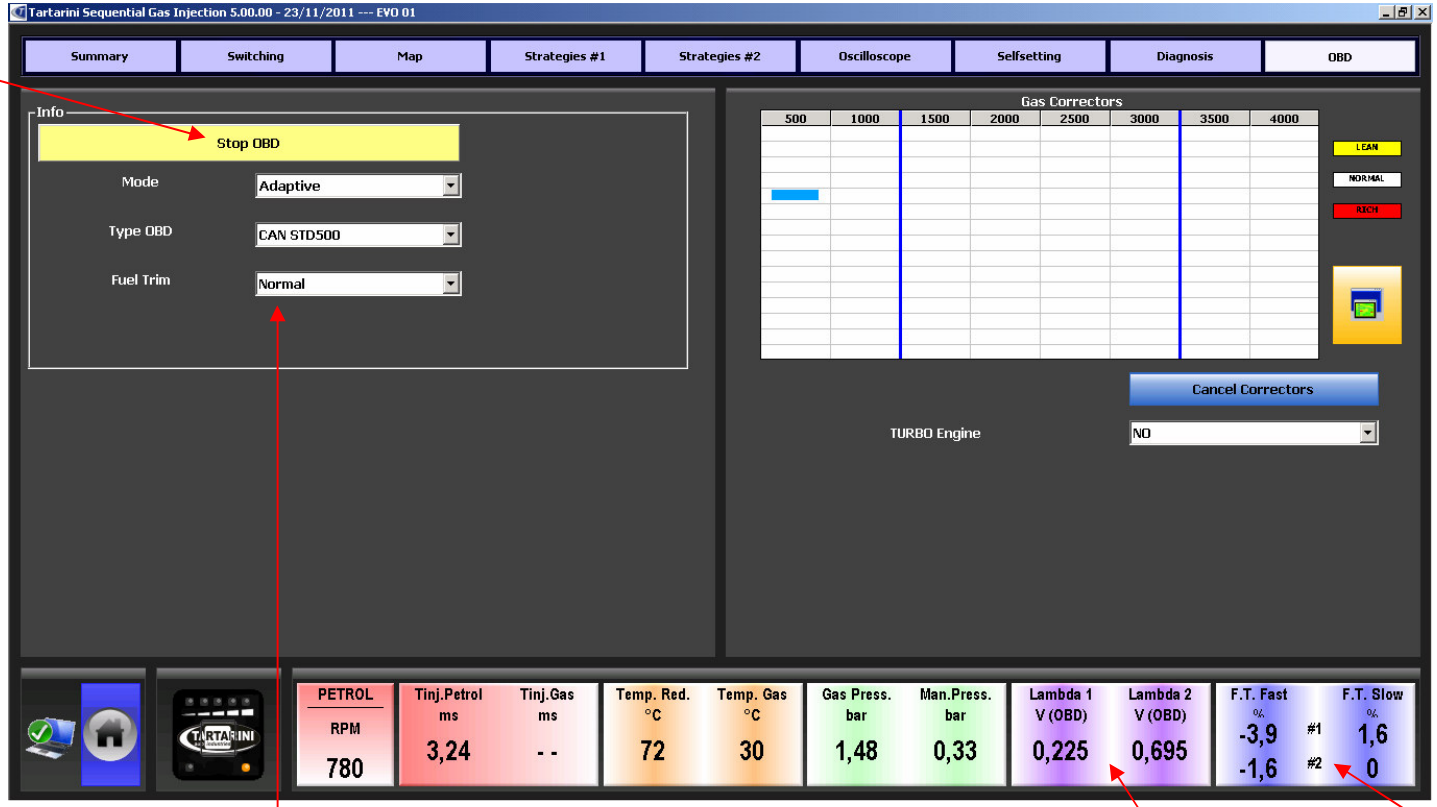
THIS BUTTON RESETS TO ZERO THE ADAPTIVITY OF THE GAS ECU

SELECT "YES" IN CASE THE ENGINE IS TURBO

AFTER CLICKING "CONNECT OBD" THIS WINDOW WILL OPEN AND SYSTEM WILL LOOK FOR 12V. SIGNAL (IT IS THEREFORE NECESSARY TO BRING THE DASHBOARD-KEY IN "ON" POSITION) AND THEN WILL RESEARCH THE OBD PROTOCOL TYPE.

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INTERRUPT CONNECTION TO OBD



ONCE YOU ARE CONNECTED THREE OPTIONS WILL BE AVAILABLE.

MODE= MONITOR (DISPLAY ONLY-OBD CORRECTION IS NOT ACTIVE) OR ADAPTIVE (OBD CORRECTION IS ACTIVE)
TYPE OBD = OBD CONNECTION TYPE CHOICE
FUEL TRIMS = THIS CHOICE IS NOT AUTOMATIC. YOU MUST CHOSE IF THE FUEL TRIMS ARE OF TYPE: STRAIGHT, INVERTED , FIAT INVERTED. YOU MUST CONNECT AN EXTERNAL OBD SCANTOOL IN ORDER TO CHECK WHICH TYPE OF FUEL TRIM USES THE VEHICLE'S OBD.

LAMBDA VALUES WILL BE DISPLAYIED WHEN CONNECTED TO OBD

SHORT & LONG-TERM FUEL TRIMS WILL BE DISPLAYIED WHEN CONNECTED TO OBD

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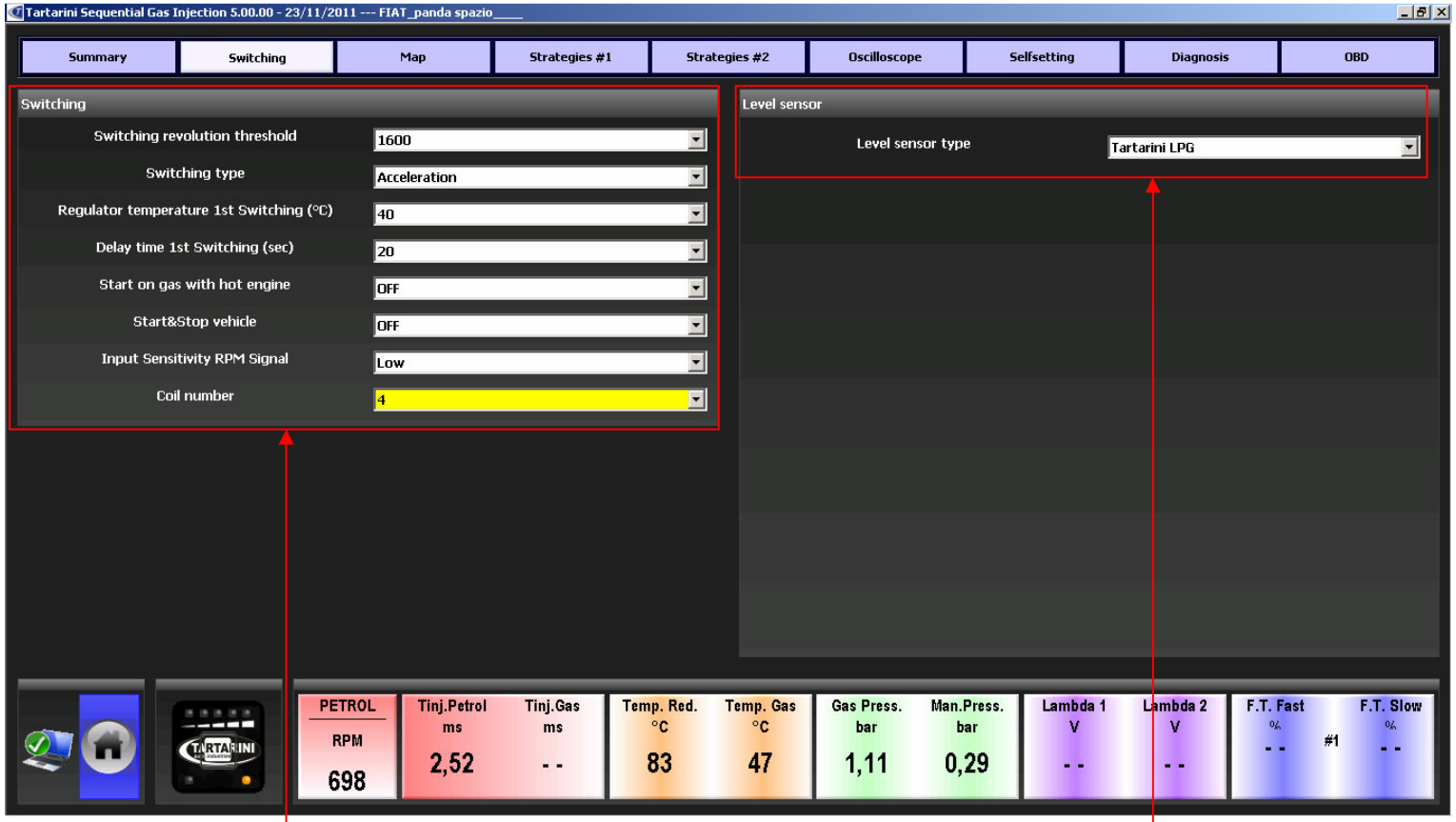


FROM THE MAIN MENU, BY PRESSING "ADVANCED MODE", THE PAGE "SUMMARY" WILL OPEN. THIS PAGE IS USEFUL FOR DISPLAYING ALL THE CHOSEN DATA



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IN THE PAGE "SWITCHING" IT IS POSSIBLE TO MODIFY THE PARAMETERS OF THE FIRST SWITCHING AND TO SELECT THE TYPE OF GAS LEVEL SENSOR.



SELECT SWITCHING PARAMETERS

SELECT THE TYPE OF GAS LEVEL SENSOR

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IN THIS SCREEN IT IS POSSIBLE TO AMEND THE GAS CALIBRATION BY INCREASING OR DECREASING COEFFICIENT VALUES OF THE MAP.

CLICK THIS CELL TO SELECT THE ENTIRE MAP .

IT ALLOWS TO DECREASE THE SELECTED CELLS OF ONE UNIT PER EACH TIME

IT ALLOWS TO INCREASE THE SELECTED CELLS OF ONE UNIT PER EACH TIME

UNDO: IT CANCELS THE LAST MODIFICATION

IT ALLOWS A PERCENTUAL INCREASE OR DECREASE OF THE ENTIRE MAP WITHOUT MODIFYING THE NUMBERS IN THE CELLS

LOAD A PREVIOUSLY STORED INJECTION MAP

SAVE THIS INJECTION MAP



CLICK HERE TO SELECT OTHER PETROL INJECTION TIME SCALES :
STANDARD : FROM 2ms TO 18ms
REDUCED : FROM 1ms TO 14ms
EXTENDED : FROM 4ms TO 23ms

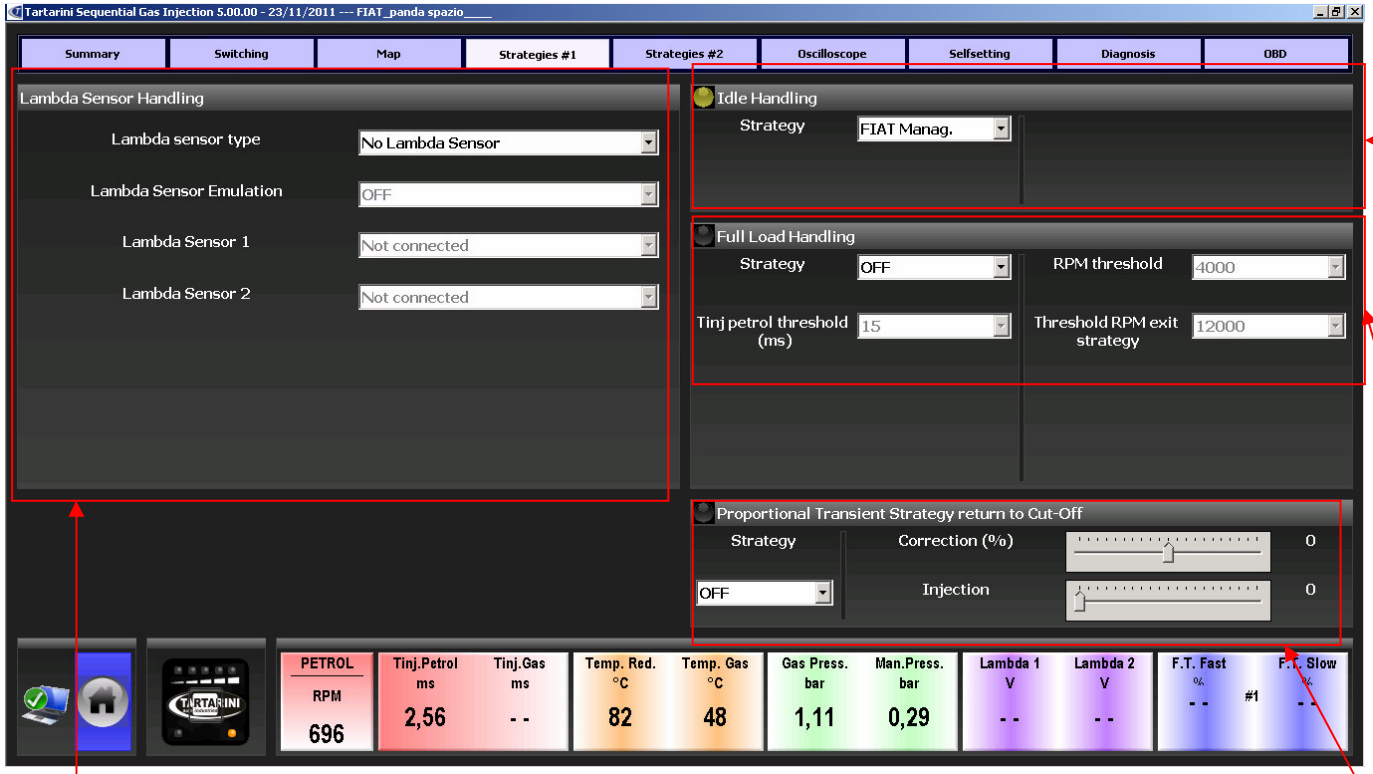
IN LINE mode:
The entered value is added in the modified cell/cells :
Example 110 + 10 ↵(ENTER) = 120

ABSOLUTE mode.
The entered value is overwritten in the cell/cells modified.
Example : 110, digit 10 ↵(ENTER) and the result will be 10.

THE MAP IS BUILT IN FUNCTION OF ENGINE REVOLUTIONS AND PETROL INJECTION TIMES. THIS PAGE ALLOWS US TO OPTIMIZE THE VALUES OF GAS INJECTION TIME AT IDLE AND OUT OF IDLE BY MODIFYING THE VALUES OF THE COEFFICIENTS OBTAINED AFTER THE AUTOCALIBRATION.
TO CHANGE THE VALUES, SELECT ONE OR MORE CELLS, PRESS "ENTER". A WINDOW WITH TWO POSSIBLE TYPES OF CORRECTION WILL APPEAR: ABSOLUTE OR IN LINE

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IN THE PAGE "STRATEGIES#1" IT IS POSSIBLE TO SET THE PARAMETERS FOR LAMBDA SENSOR SIGNAL READING AND EMULATION, SET GASOLINE STRATEGIES, AND MODIFY THE GAS CARBURATION IN CUT-OFF PHASE



IDLE HANDLING STRATEGY:

OFF: ENGINE RUNS ONLY ON GAS

FORCED ON PETROL: UNDER THE SET RPM THE SYSTEM SWITCHES TO PETROL. IT WILL REMAIN ON PETROL UNTIL RPM ARE HIGHER THAN THE SET VALUE.

RETURN TO PETROL: UNDER THE SET RPM THE SYSTEM SWITCHES TO PETROL. AS SOON AS THE IDLE IS STABLE THE SYSTEM SWITCHES AUTOMATICALLY BACK TO GAS.

FIAT MANAGEMENT: TO BE USED ONLY ON FIAT ENGINES 1.2cc 8V.

FULL LOAD HANDLING STRATEGY:

OFF: ENGINE RUNS ONLY ON GAS

FORCED ON PETROL: OVER THE SET RPM AND PETROL INJECTION TIME, THE SYSTEM SWITCHES TO PETROL. IT WILL REMAIN ON PETROL UNTIL EITHER RPM OR INJECTION TIME ARE LOWER THAN THE SET VALUES.

PETROL CONTRIBUTION: UNDER THE SET RPM THE SYSTEM SWITCHES TO PETROL. AS SOON AS THE IDLE IS STABLE THE SYSTEM SWITCHES AUTOMATICALLY BACK TO GAS.

Transient strategy handling

OFF : System off

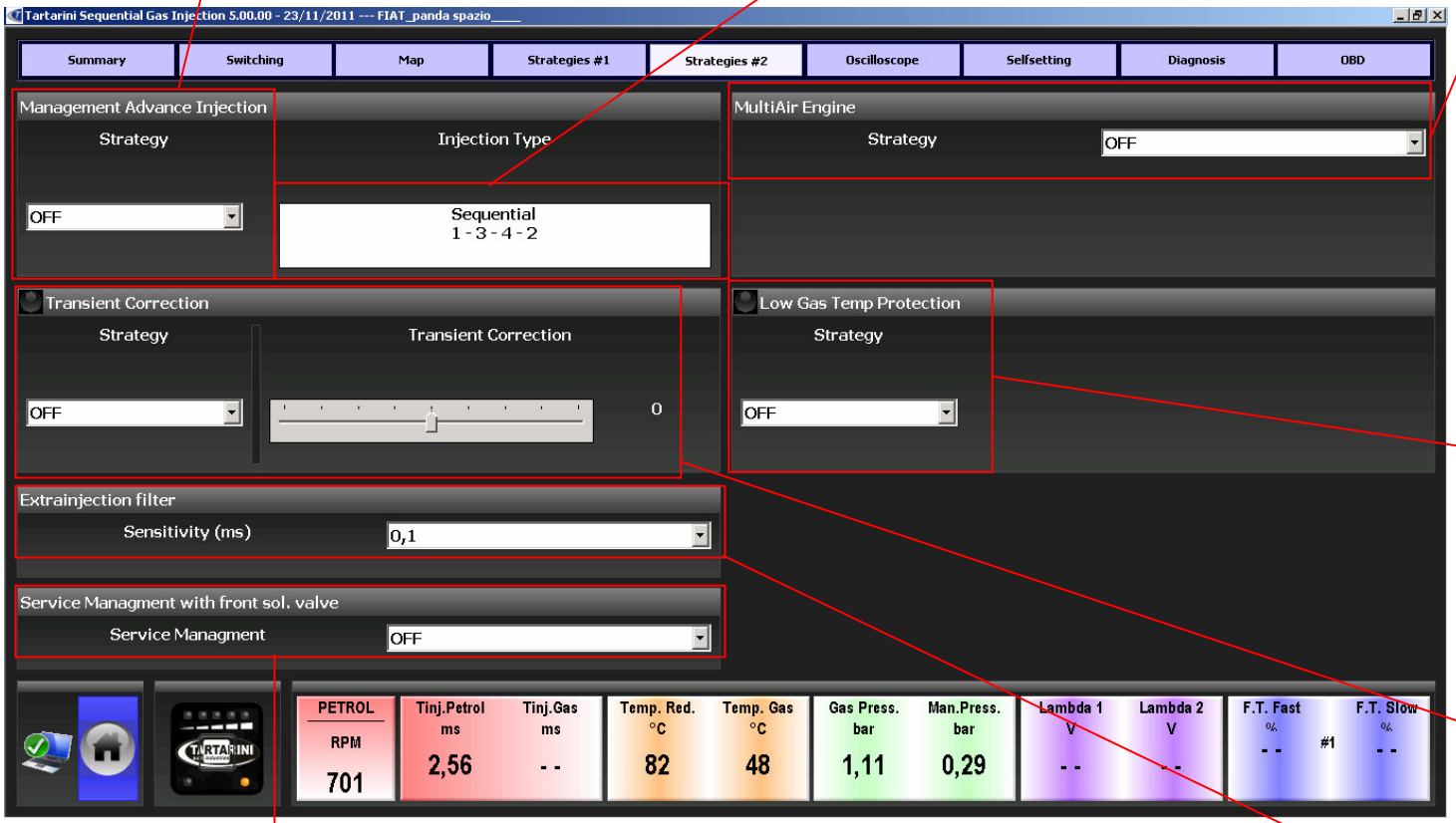
ON : By means of the slide it is possible to increase or decrease, of a percentage ± 50%, the gas injection time upon return from cut-off.
With the second slide it is decided the quantity of injections upon which the previously chosen increase/decrease will be spread.

LAMBDA SENSOR SIGNAL READING AND EMULATION

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Management advance injection
By setting "ON", the system will anticipate the gas injection sequence. Please note that the switching to gas will not be anymore sequential but direct, therefore it is suggest to chose also SWITCHING IN DECELERATION in combination with this option, in order to avoid possible rough switching process.

INDICATES THE CYLINDERS INJECTION SEQUENCE



Multiair Engine
Use MULTIAIR strategy only if the engine is of MULTIAIR type (only for some new Fiat cars).

Low Gas Temp Protection
If the gas temperature reaches the value of 0° and remains stable for over 30 seconds , then the system switches automatically to petrol.
The driver is informed about this engine protection strategy throughout the blinking of the petrol led of the gas switch.

Transient Correction
With strategy ON it is possible to lean or enrich the gas mixture during strong accelerations (open loop), avoiding jerks of the engine and obtaining the correct fuel mix.

Service Management with front solenoid valve
BY SWITCHING "ON" THIS FUNCTION, IT WILL NOT BE POSSIBLE ANYMORE TO USE ANY GASOLINE STRATEGY DURING THE FUNCTIONING ON GAS.

Extra injection filter
During the driving test at steady speed it is possible to feel occasional engine jerking .
A possible reason could be Extra injections of the petrol system therefore it is advisable to increase the filter sensitivity in order to get a good and dynamic driveability.

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THE PAGE "OSCILLOSCOPE" ALLOWS DIAGNOSIS OF ALL THE SIGNALS READ BY THE GAS SYSTEM

CHANNELS LIST WITH SWITCHES FOR THE DISPLAY OF THE TRACKS



OPEN FILE

SAVE ACQUISITION

START ACQUISITION

STOP ACQUISITION

ZOOM BUTTONS



BUTTONS TO MOVE THE TRACKS

PREVIOUS PAGE

REDUCE TIME

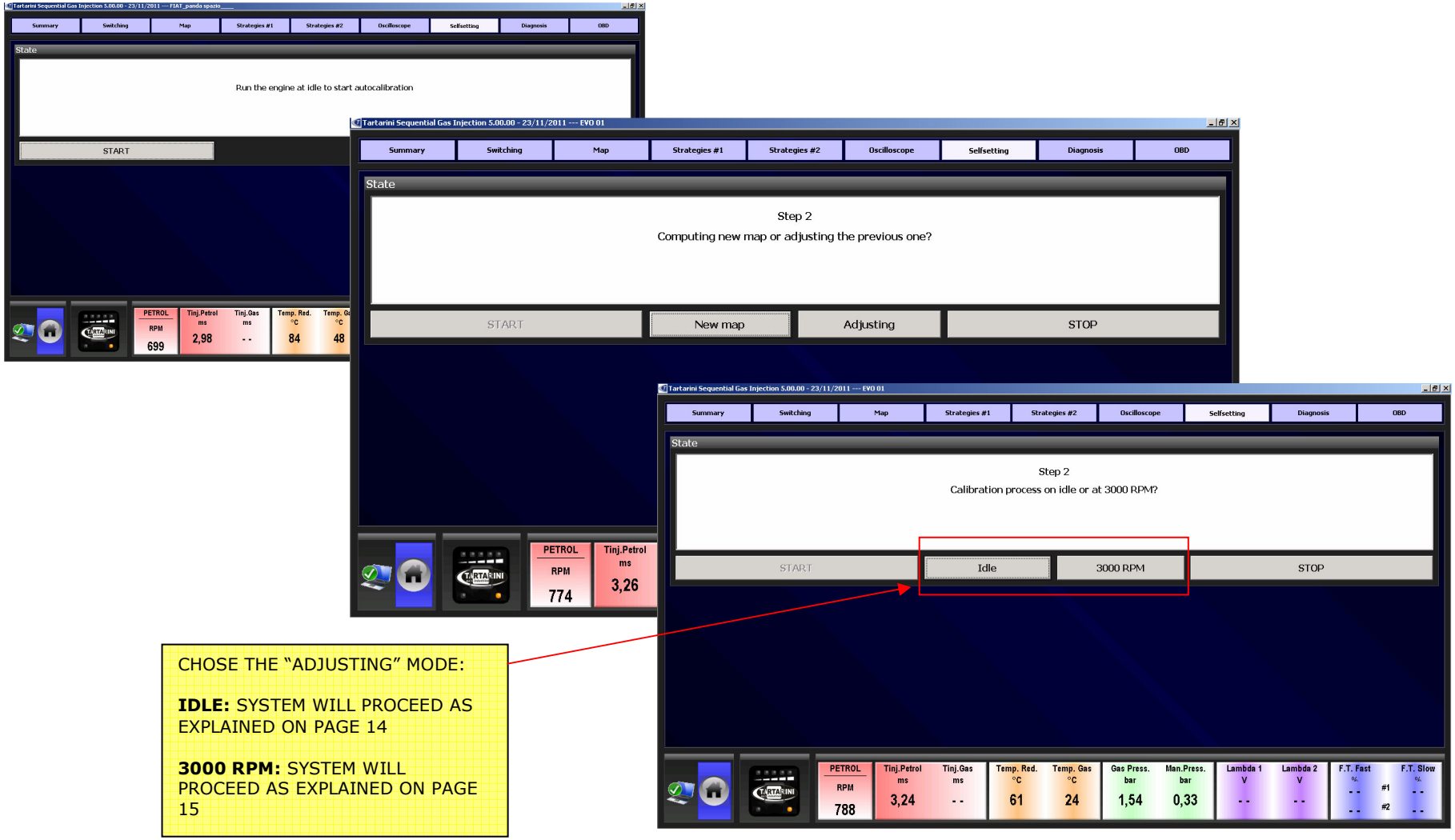
RESET TO ORIGINAL RANGES

INCREASE TIME

NEXT PAGE

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SELFSETTING PAGE
IT IS POSSIBLE TO EFFECT AN AUTOCALIBRATION BY CLICKING "NEW MAP" (SEE PAGES 12-15) OR ELSE BY CLICKING "ADJUSTING" IT IS POSSIBLE TO MODIFY A PREVIOUSLY OBTAINED MAP



CHOSE THE "ADJUSTING" MODE:

IDLE: SYSTEM WILL PROCEED AS EXPLAINED ON PAGE 14

3000 RPM: SYSTEM WILL PROCEED AS EXPLAINED ON PAGE 15

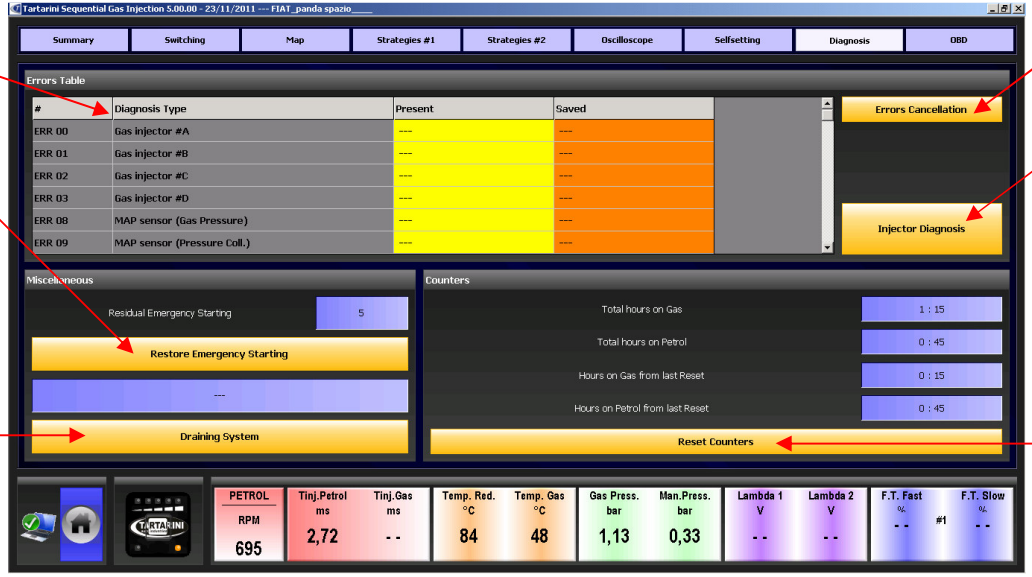
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DIAGNOSIS PAGE. STARTING PAGE TO ACCESS COMPONENTS DIAGNOSIS

LIST OF COMPONENTS SUBJECT TO DIAGNOSIS

RESTORES EMERGENCY STARTINGS ON GAS

SYSTEM EMPTYING: LOCKS THE TANK SOLENOID AND LETS THE ENGINE USE ALL THE REMAINING GAS IN THE PIPES. WHEN ENGINE DIES, IT IS POSSIBLE TO CARRY OUT MAINTENANCE ON THE FRONT GAS EQUIPMENT

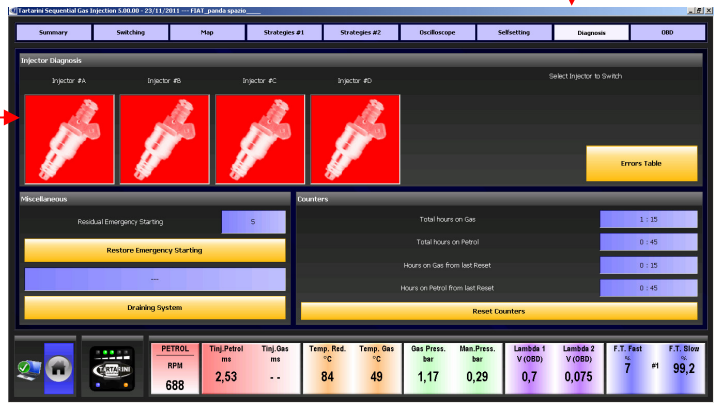


ERRORS RESET

INJECTORS DIAGNOSIS

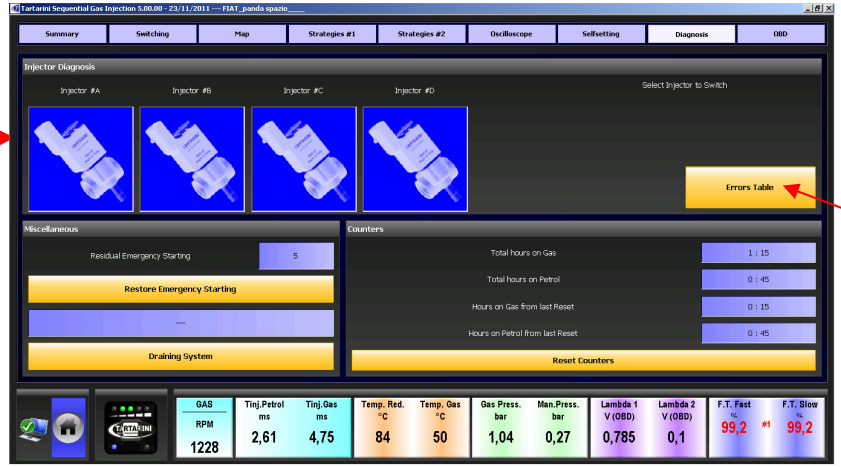
It opens the INJECTORS DIAGNOSIS page

RESET COUNTERS : EVERY 350 WORKING HOURS ON GAS THE SWITCH SENDS AN ACUSTIC SIGNAL EVERY TIME THE ENGINE IS TURNED ON, TO INFORM THE DRIVER THAT IT HAS COME THE TIME TO EFFECT MAINTENANCE . AFTER MAINTENANCE CLICK RESET COUNTERS, AND ALSO THE SOUND WILL STOP.



ALL RED PICTURES OF PETROL INJECTORS INDICATES ENGINE RUNS ON PETROL

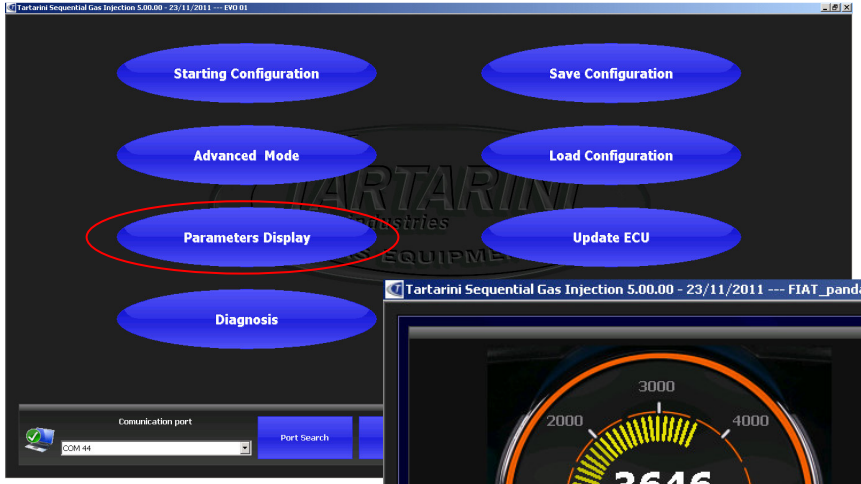
ALL RED PICTURES OF PETROL INJECTORS INDICATES ENGINE RUNS ON GAS



BACK TO DIAGNOSIS START-PAGE

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"PARAMETERS DISPLAY" PAGE



FROM THE MAIN MENU YOU MAY ENTER THE PARAMETERS DISPLAY PAGE. HERE IT IS POSSIBLE TO DISPLAY ALL THE REAL-TIME DATAS AND THE MAIN STRATEGIES ACTIVATED

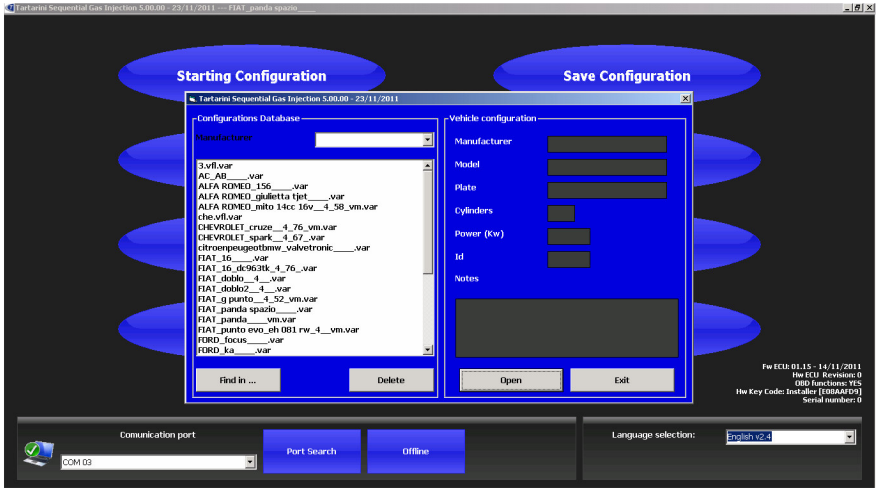


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FROM MAIN MENU CHOSE FUNCTION "SAVE CONFIGURATION"

AFTER THE CORRECT CALIBRATION OF THE VEHICLE, IT IS POSSIBLE TO SAVE THE ENTIRE CALIBRATION PARAMETERS IN A FILE.
IT IS SUGGESTED TO FILL WITH ALL DATAS THIS SHEET IN ORDER TO REMEMBER LATER OUR WORK. YOU MAY ALSO INCLUDE SOME EXTRA PERSONAL NOTES FOR THE CORRECT IDENTIFICATION OF THE VEHICLE
NOTE: ALL FIELDS WITH * MUST BE STRICTLY FILLED IN.



FROM MAIN MENU CHOSE FUNCTION "LOAD CONFIGURATION"

IN THE LIST "VEHICLE CONFIGURATION" IT IS POSSIBLE TO VIEW ALL PREVIOUSLY STORED DATA.

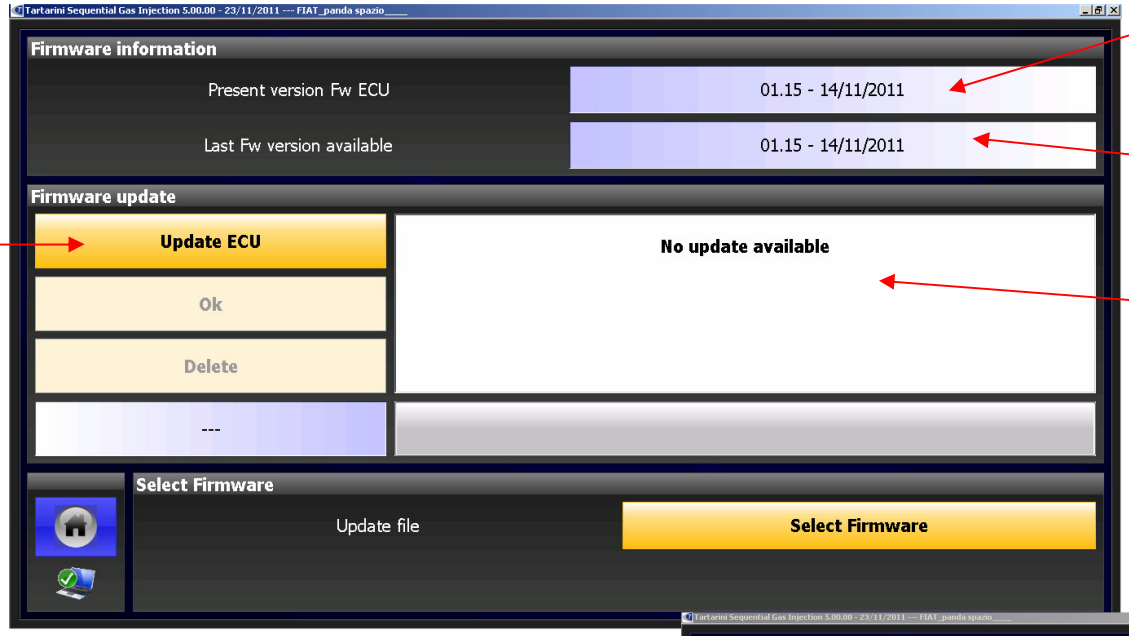


WARNING:

DO NOT USE THIS SOFTWARE VERSION IN COMBINATION WITH OLD CONFIGURATION FILES SAVED WITH PREVIOUS SOFTWARE VERSIONS. NON OSSERVANCE OF THIS RULE WILL CREATE MALFUNCTIONING OF THE SYSTEM

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FUNCTION "ECU UPDATE"
THIS PAGE IS FOR CHECKING AND UPDATING FIRMWARE VERSION

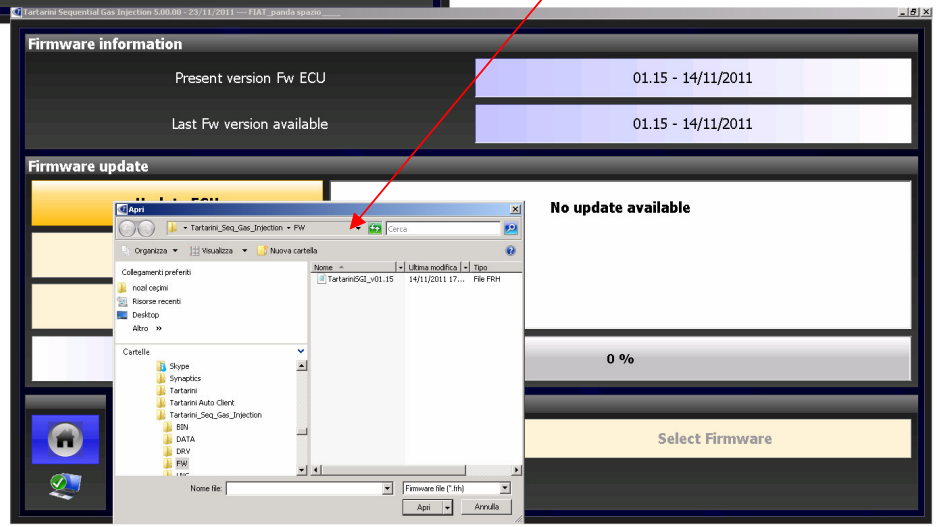


IT IS DISPLAYIED THE FIRMWARE PRESENT ON THE GAS ECU

IT IS DISPLAYIED THE MOST UPDATED VERSION OF FIRMWARE PRESENT ON THE LAPTOP

CLICK "UPDATE ECU" FOR UPDATING THE FIRMWARE

BY CLICKING "SELECT FIRMWARE" THE WINDOW WITH ALL AVAILABLE FIRMWARES WILL OPEN





WARNING:

FOR A CORRECT FUNCTIONING OF THE SYSTEM, IT IS IMPORTANT TO UPDATE THE FIRWARE WITH THE LAST VERSION AVAILABLE IN THE SOFTWARE

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HINTS ON MANUAL CALIBRATION ADJUSTMENT

1) The first step after auto-calibration, WITH OBD ON "MONITOR" FUNCTION, is to check if injection time of gas at idle (without loads) is lower than the minimum injection time requested by each type of gas rail. Please refer to each single rail model data-sheet of Tartarini. If the injection time of gas at idle (without loads) is lower than the one suggested, it will be necessary to use some smaller diameter nozzles on the rails, in order increase the gas injection time and avoid the non-opening of the injector rail due to its minimum opening requested time.
   In case the gas injection time at idle (without loads) is much higher (+2,5ms.) than the petrol injection time, it is necessary to use a larger diameter nozzle.
   In case the nozzle size is incorrect, it may happen that engine stalls in low RPM or else that system switches to petrol at 6000RPM full load.
2) Then the next thing to do is checking the entire gas injection map, first by staying AT IDLE and switching between gas and petrol. In this condition you will need to check the Injection time of PETROL and not anymore the injection time of LPG.
   Any first changing of map numbers must be done simultaneously ON THE ENTIRE MAP according to the carburetion of the idle; when switching to LPG in case you notice that the injection time of PETROL decreases, it means that the gas fuel injection is RICH. So you will have to DECREASE THE ENTIRE MAP NUMBERS until the switching to LPG does not generate any changing in the petrol injection time. At the same time you must double-check with the OBD VALUES that the petrol ECU fast and slow fuel trims remain approximately constant after some seconds from switching to GAS. While you do all these operations you must be aware that electric loads of the car may turn on and off, and this will make the job harder. Therefore it is always better to wait until any load turns off in case you want to have a good understanding of the situation.
3) Once the entire map results correct at idle, you may drive on the road in order to check and modify the map in each line (for simplifying the calibration job, we may check 2 or 3 lines per time, since most probably all numbers of these lines need approximately the same adjustment) but DON'T select and change numbers in the idle column (the first on the left), since this column shall be already fine from your previous adjustments.
   This street control is based on the same principal: by driving AT VERY STABLE RPM AND PETROL INJECTION TIME, switch to GAS in order to check if the injection time of PETROL changes. If injection time of PETROL decreases when switching to GAS, it means that the injection map in the position we are checking, is too rich. If injection time of PETROL increases when switching to GAS, it means that the injection map in the position we are checking is too lean.
   Always double-check the OBD VALUES; the petrol ECU fast and slow fuel trims must remain approximately constant after some seconds from switching to GAS.
   It may happen to be forced to calibrate the map more precisely in some very small areas but remember that numbers close to each other may never differ too much one from the other because it is impossible to have such rough variations in the original car injection maps, therefore also in the gas injection maps. Once terminated the manual calibration, you may switch the OBD function from MONITOR to "ACTIVE". The gas system will begin to self adapt itself following the car OBD indications.

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