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*Gaseous phased sequential
Injection control system*

LPG

GASEOUS PHASED SEQUENTIAL ELECTRONIC INJECTION CONTROL SYSTEM **ECOgeo 3000 - LPG**

FEATURES

Bedini sequential phased injection ECOgeo enables to take advantage of the latest generation engines advanced technology and strictly respects their original phasing.

Following are the system's main features

- Self learning
- Self-adaptation to every vehicle
- Simple and quick installation
- Consumption optimization
- Same performances as with the original feeding
- Pollutant minimization

HOW IT WORKS

The ECOgeo 3000 sequential phased system uses the petrol injection timing converting it into gas injectors injection timing.

The system converts and optimizes the injection timing using of a set of parameters acquired by the control unit :

- gas pressure and temperature in the multi-injector
- negative pressure in the aspiration manifold (MAP)

COMPONENTS

Reducer – vaporizer – model LPG100 injection

Gas and reducer temperature sensors – (supplied mounted on the reducer)

Safety solenoid valves – Maya-pl

Electronic control unit – ECOgeo 3000 – LPG

Multi – injector – model M44R (sleeves supplied separately)

Pressure sensors – gas and MAP

Gas filter – model V91

Petrol-gas changeover switch with fuel level indicator

Acoustic indicator

Complete wiring harness (injection cut out wiring supplied separately)

Set of fabric coated gas and water pipes, with relevant clips

High pressure copper pipe, with relevant fittings

Manifolds' sleeves



REDUCER-VAPORIZER

Model LPG100 Injection – Single stage diaphragm reducer with water/gas heat exchanger. Produced in die cast steel, the diameter of the body is 100 mm. Being extremely compact, the system is then easy to be fitted inside small engine compartments. The LPG100 reducer is supplied with a safety solenoid valve to lock-off LPG, equipped with a filter and a self cleaning system.

Homologations: E20 67R01 0680 (Reducer)
E13 67R01 0119 class 3 (Solenoid valve)



CONTROL UNIT

ECOgeo 3000-LPG – The electronic control unit manages the gas feeding directly processing the original petrol injectors injection timing and other parameters, to transform it into injection timing for the gas injectors.

It is self learning : in a few minutes it automatically stores the original petrol system injection timing on every vehicle where it is installed. The same control unit can be installed on other

vehicles and obtains the same performances without needing new settings.

It is self adjusting : therefore it keeps the optimal balance of air / gas ratio, notwithstanding the changes in the weather conditions and the wearing of the components (air filter for example).

Equipped with a safety device (*safety car*) - Fuel cut off when delivering.

The system doesn't require the installation of original ECU emulators.

Homologation E7 67R01 3063-22



MULTI-INJECTOR

Model M44R – 4 outlets and 4 controls. It is equipped with an electromagnetic coil/shutter system. This allows the nozzles opening and closing in an extremely reduced time, that can be compared to those of the original petrol injectors. High working precision, extremely silent.

The gas nozzles are available for every swept volume as well as the relevant calibrated sections (supplied separately)

Homologation E13 67R01 0167 03



GAS & MAP PRESSURE SENSORS

The gas pressure sensor and the manifold aspiration negative pressure sensor (MAP) are seated in one single waterproof container and send to the ECOgeo 3000 control unit the information on the gas physical status, in order to perform the necessary injection timing changes.

Homologation E7 67R01 3063-24



GAS FILTER

Model V91 - Disjoint filter for gaseous phase in line LPG, NOT INSPECTIONABLE – Body in galvanized plate steel. High filtering surface.

Homologation E4 67R01 0105 class 2.



CHANGEOVER SWITCH with acoustic signal

Of extremely reduced size to allow an easier installation inside the vehicle.

It changes over from one fuel to the other by simply pushing a button. The indication of the fuel in use is through two leds (Red=petrol – Yellow=gas)

It shows the quantity of gas present in the tank, through 5 luminous leds. (4 green and 1 yellow flashing to indicate the reserve).

Moreover the switch is supplied with an acoustic signal, that starts functioning, with different tones, when: going back to petrol feeding due to low pressure, slightly before switching from one fuel to the other, and once the switching has taken place.



SERIAL INTERFACE

The system working can be displayed and checked in real time through a personal computer, thanks to the ECOgeo 3000 program and the relevant serial interface