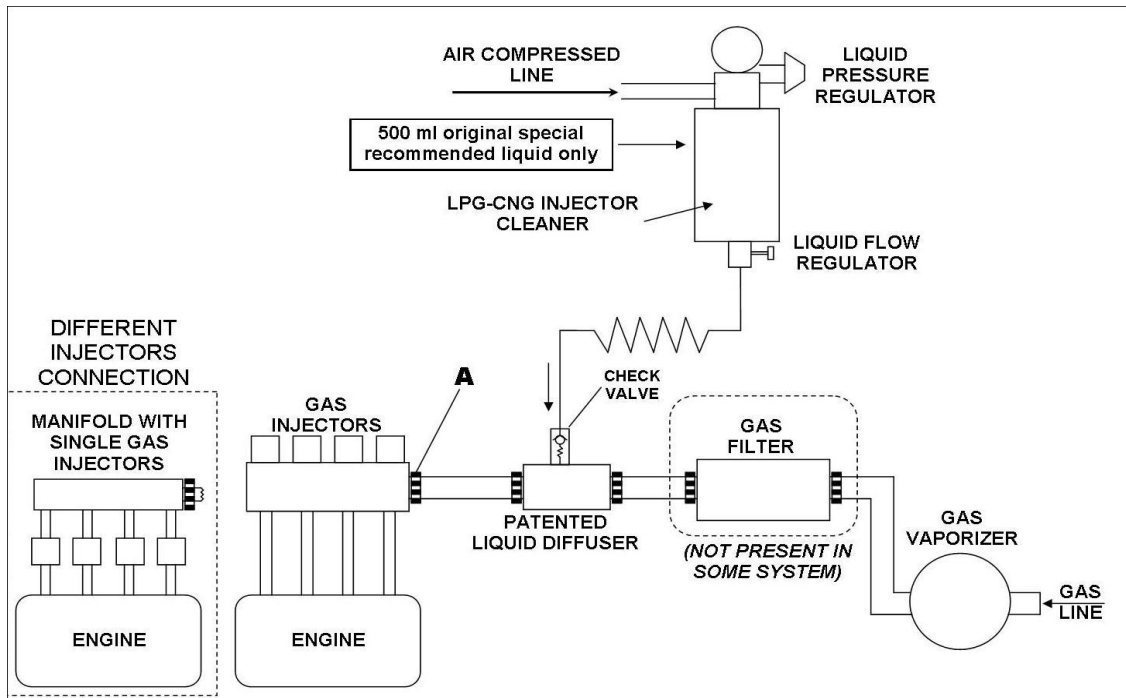




# GAS INJECTOR CLEANER

For LPG – CNG SEQUENTIAL INJECTION SYSTEM



## Instructions for use

### Introduction

- This patented system allows you to clean automotive LPG and CNG injectors in just a few minutes, completely restoring their original efficiency. Additionally, the system also contributes to cleaning the intake valves, for more responsive engine performance, improved acceleration, smoother, more progressive engine driveability in traffic and consequent reduced emissions and fuel consumption.

### Precautions and hazards

- RAIL LIQUID GAS INJECTOR CLEANER is an inflammable product. Pour with caution, handle with care and do not use near naked flame. Ensure that the system is securely fastened to the engine bonnet and that the bonnet itself cannot accidentally move or close. Before each use, check that the coiled hose is in good condition. Always release pressure after cleaning. Using any liquid other than RAIL LIQUID GAS INJECTOR CLEANER may cause damage to the injectors and engine. **Caution: never open the delivery valve with the engine off.** The precision micro regulator near the valve controls the quantity of liquid delivered to the injectors, not the pressure. Fit the vaporiser horizontally, with the arrow in the direction of gas flow (pointing towards the injectors). The system is safe to use with all types of oxygen sensor and catalytic converter.

### Preparation

- Run the engine for a few minutes to warm it up (water temp.  $50 \div 60^{\circ}\text{C}$ ). Check that the valve under the device is closed! Pour only and exclusively 500 ml of RAIL LIQUID GAS INJECTOR CLEANER into the device. Screw the pressure reducer on without tightening too much and check that the pressure reducer knob is unscrewed (at zero pressure setting). Hang the device onto the engine bonnet, ensuring that it is securely fastened.

## Operating procedure

- Remove the filter in the gas line upstream of the injectors. Choose two suitable hose connectors for the internal diameter of the gas line hose and screw onto the ends of the diffuser. Fit the diffuser in place of the filter and fasten with the clamps, tightening with care. In systems with no filter, connect the device near the injector rail. Unscrew the relative clamp (A) and fit the diffuser (arrow pointing towards injectors), fitting one of the supplied length of hose to the other end. Never connect near the gas pressure reducer (plenum chamber). On V engines or horizontally opposed engines, preferably clean the injectors on each manifold separately.
- **WARNING: The diffuser must be installed horizontally to ensure correct working!**
- Connect compressed air to the device. Ensure again that the valve is closed. Start the engine. **Always find out the gas working pressure in the injectors. Set the pressure with the regulator to a value of 0.3 ÷ 0.6 Bar greater than the nominal working pressure.**
- Switch the engine to run by gas. Open the liquid delivery valve. Adjust the micro flow regulator until liquid starts flowing down the transparent hose. If this does not happen, increase the liquid pressure slightly with the air pressure regulator feeding the tank. Important: The precision flow regulator controls the quantity of liquid delivered. Too much liquid will cause the engine chatters, will flood it and foul the spark plugs. The operator must practice using the controls and learn to understand exactly when the fuel mixture is too rich, to prevent flooding the engine.
- Once the liquid is finished, work quickly to prevent the engine from cooling excessively: 1) Close the liquid delivery valve. 2) Switch off the engine. 3) Disconnect the compressed air. 4) Disconnect the diffuser with caution, as residual gas may be released. 5) Restore the original connections. 6) Check the pressure tightness of the system. 7) Purge the engine system immediately.
- **Always purge the system** after use. Proceed as follows: drive for 5 ÷ 6 Km to remove any residual liquid and dissolved deposits remaining in the injection circuit and on the engine intake valves.

## Contents

- Cleaning device, consisting of tank, pressure reduction unit and coiled hose.
- Patented diffuser.
- Valve with precision flow micro regulator.
- 2 x 10-12 mm ø hose connectors.
- 2 x 16 mm ø hose connectors.
- 2 x 1/2" (13 mm) ø hose connectors.
- Assorted hoses (3) and hose clamps (4).
- Check valve.
- Carrying case.

## Guarantee

- The guarantee is valid for two years from the date of purchase from the dealer. The guarantee is rendered void in the event of any modifications made to the device or any of its components. The guarantee does not cover damage to the coiled hose due to heat, wear or cuts, or damage to the precision flow regulator due to knocks or falls. This guarantee does not cover the injectors or any other engine component.

## Modifications

- The manufacturer reserves the right to modify the device without prior notification.