



Cleaning fuel injectors in gasoline engines

with 937 Injector Intensive Cleaner & 1 331 0V2 Injecto-Clean unit

Introduction

Congratulations on your purchase of the TUNAP Injecto-Clean system and thank you for the trust you have placed in us. The TUNAP Injecto-Clean system allows you to combine cutting edge technology with high customer satisfaction and sustainable cost reductions. To ensure full functionality of the system, please carefully read and observe the information in this Service Information/Manufacturer Instructions.

Special safety notices

Please carefully read this Service Information/Manufacturer Instructions completely before bringing the TUNAP Injecto-Clean system into operation for the first time.

The TUNAP Injecto-Clean system is designed exclusively for professional use in the automotive field and is approved for the following cleaning tasks:

- Cleaning of fuel injection systems in diesel-powered vehicles
- Cleaning of fuel injection systems in gasoline-powered vehicles

All safety precautions must be observed in order to avoid damage to the equipment, the injection system being cleaned, as well as personal injury.

Chemical safety notices

- Observe the current safety data sheet.
- Use of protective glasses, gloves, and appropriate protective clothing is mandatory when using the cleaning system.
- Synthetic materials and paint must be reliably protected from contact with the cleaning fluid.
- The Injecto-Clean system is approved for use with TUNAP Injector Intensive Cleaner Diesel 938 and Injector Intensive Cleaner Gasoline 937 only. Use of non-approved cleaning chemicals can cause operational or safety problems.



Cleaning system safety notices

- Maintenance and service may be performed only by the manufacturer of the cleaning system.
- In order to assure safety, only use original TUNAP spare parts and accessories.
- Never use the cleaning system in a potentially explosive environment.
- If the connection hoses or connection line (power supply) become damaged, replace them immediately.

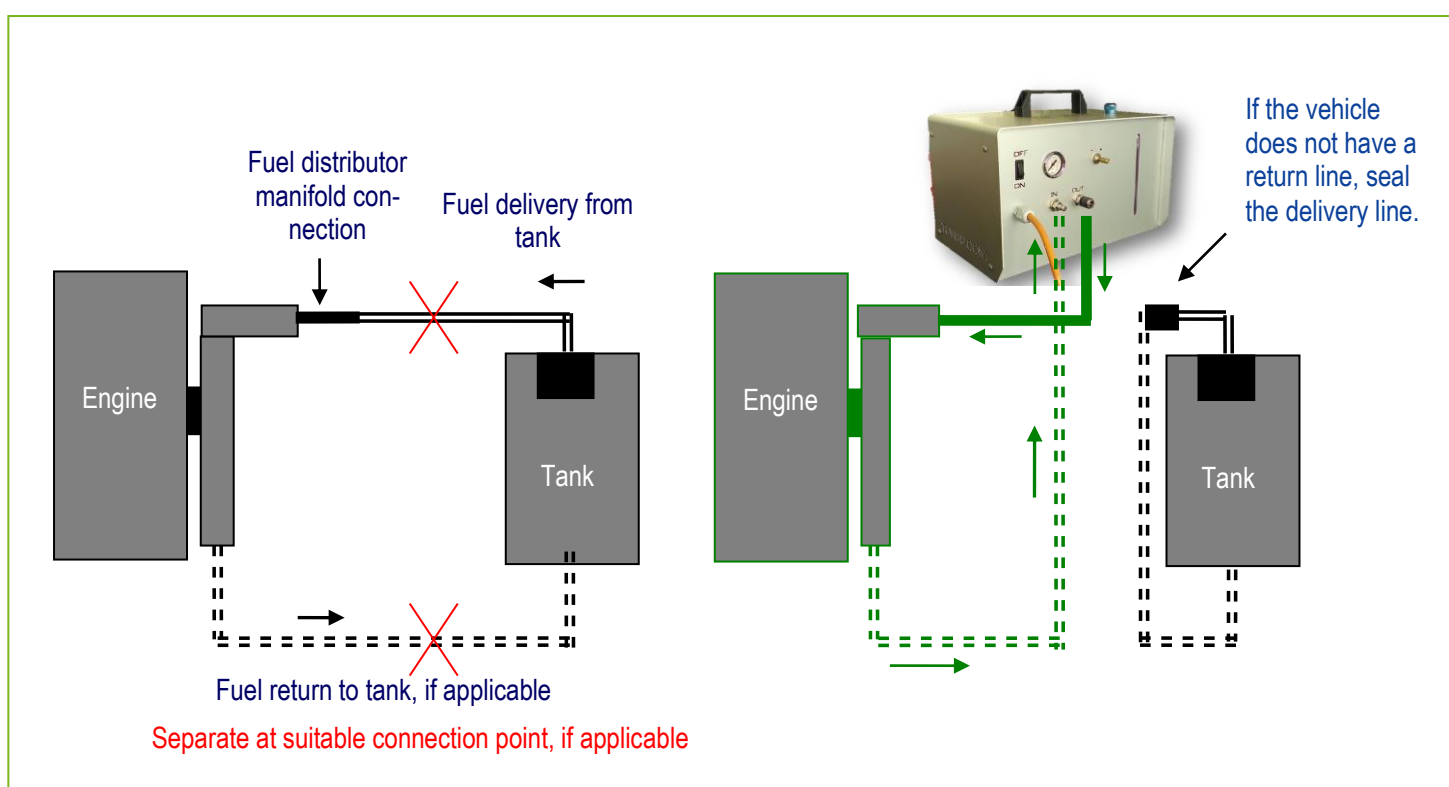
Scope of delivery

1. TUNAP Injecto-Clean system, including connection hoses for fuel delivery and return, with quick connectors for the included universal connection adapter and connection set (Gasoline & Diesel) 11 13330.
 2. Two universal connection adapters for installation of the TUNAP Injecto-Clean system on the vehicle's fuel delivery and return lines.
 3. Two Separate Service Information/Operating Instructions for using the TUNAP Injecto-Clean system on diesel and gasoline vehicles.
- Before bringing the TUNAP Injecto-Clean system into operation, check the delivery for completion. If the delivery is incomplete, please contact TUNAP.
 - Before initial operation, please check for potential defects or damage to the unit or the connection lines.
 - If defects or damage are discovered, do not bring the unit into operation; contact TUNAP immediately.

Important notices

- Use 937 Injector Intensive Cleaner "Gasoline" exclusively for cleaning gasoline injection systems.
- Cleaning is performed using the TUNAP Injecto-Clean unit (item No. 13310V2) without disassembling the injectors.
- Before separating the fuel lines, make sure that they are not pressurized.
- Observe all manufacturer regulations before performing work on the gasoline fuel system.
- Always wear appropriate protective clothing, protective gloves, and protective glasses/eye protection while working.
- The engine must be at operating temperature before cleaning.
- Perform a test drive after cleaning is complete. Read out/reset the error memory.
- After cleaning, add 974 Injector Direct Protection continuous for additional prevention.

Connections diagram



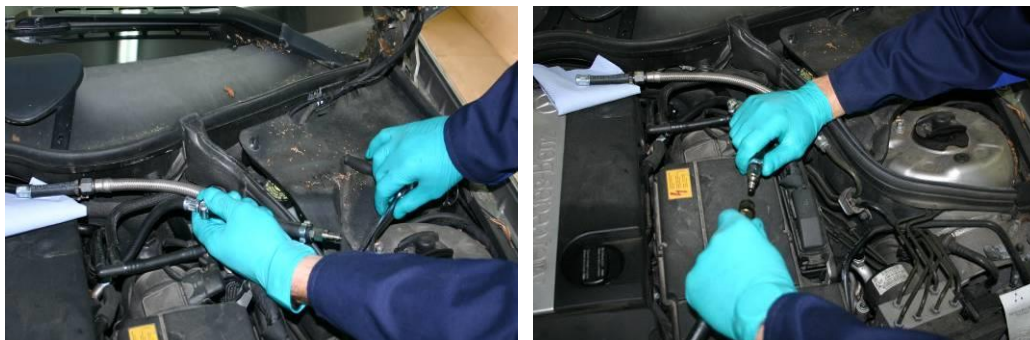
Application example

1. Separate the engine's fuel supply (delivery) near the high-pressure pump or the injectors' fuel distributor manifold. Seal the vehicle's delivery line. If the vehicle has a return line, connect the delivery and return lines to each other.



The specifications provided in this Service Information sheet are the results of careful analysis. Any application-related specifications shall be viewed as recommendations based on past experiences. Due to the wide variety of applications and work methods, we are unable to provide binding specifications. Therefore, there exists no contractual legal relationship, nor will secondary obligations arise from any purchase contracts. Only the most recent version of the Service Information sheet retains its validity.

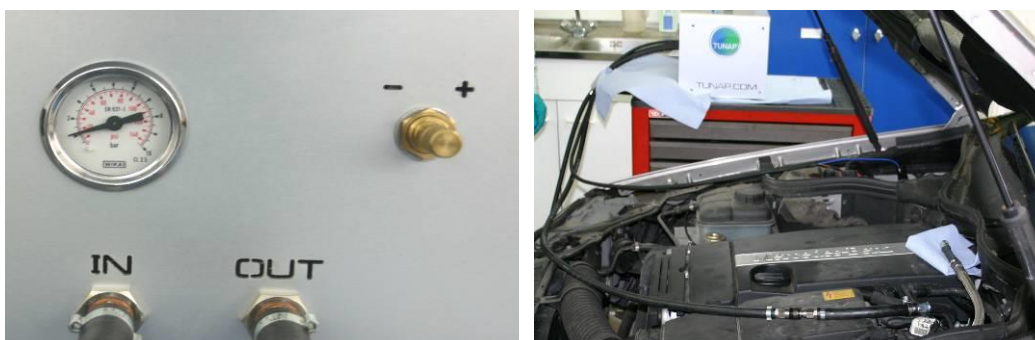
2. Then install the appropriate connection adapter to the engines delivery line. Connect the delivery line of the Injecto-Clean unit to the connection adapter at the engine. If the vehicle has a return line, connect the vehicle's return line to the return line of the Injecto-Clean unit.



3. Add at least two cans of 937 Injector Intensive Cleaner (initial filling) through the appropriate filling connection into the Injecto-Clean unit (internal can pressure performs filling). **Attention:** Open red cap for filling. On engines with eight cylinders or more or displacement greater than 3000 ccm, add three cans for initial filling. Use one or two cans for refilling. Connect the Injecto-Clean unit at the corresponding power-supply terminal to the vehicle's 12V battery (observe proper polarity). Close up filler coupling with red cap, after work and for transport.



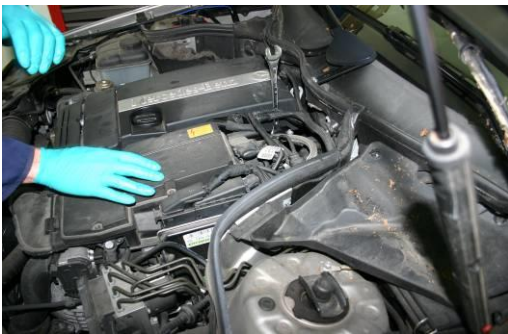
4. Switch on the Injecto-Clean unit's power switch and use the pressure regulator to set the fuel pressure to 3 to 3.5 bar (same as the vehicle's pre-feed pressure; refer to workshop literature for the exact value, if available). Start the vehicle and allow to idle for approximately 20 minutes with the 937 Cleansing Fuel. After 20 minutes, shut off the engine and allow the 937 Cleansing Fuel to work for at least 30 minutes but no more than 60 minutes. Then restart the engine and allow it to run for an additional 20 minutes at alternating speeds (maximum 2500 rpm).



5. Shut off the engine and allow the fuel system to cool down. Separate the hoses of the Injecto-Clean unit from the connection adapters at the quick connectors. Attention! A small amount of cleansing fuel may escape from the connection adapters. Please capture this fuel with appropriate means, e.g., paper towels or cloth. Remove connection adapters from delivery and return lines. Reconnect the vehicle's fuel supply and check for leaks. **Reset the fuel adaptation values in the engine control device.**



6. Start engine and allow it to idle for several minutes. Delete any error codes that appear. Check fuel system connections for leaks. Replace fuel filter (item No. 13310-12) in the return line of the Injecto-Clean unit.



7. If the unit will not be used for longer than two days after the most recent cleaning or if a diesel-powered vehicle will be cleaned next, the unit's tank and the connection lines must be completely drained. To do this, place the connection pieces onto the delivery and return lines of the Injecto-Clean unit and then place them in a suitable container (min. 1 liter). Switch on the unit and pump out the residual liquid until nothing more comes out of the hoses. Switch off the unit, remove the connection pieces from the delivery and return lines. Disconnect Injecto-Clean unit from the battery (observe proper order). Close up vent and filler coupling with red cap.

