

# Technical information

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## Professional fuel and intake system cleaning with JetClean Tronic II

Modern engines work with perfectly tuned, highly precise components. This ensures the best possible fuel combustion under the most varied conditions in order to emit as few pollutants as possible. A common method of further reducing pollutant emissions while at the same time improving the effectiveness of combustion engines is to inject the fuel directly into the combustion chamber.

This is referred to as "internal mixture formation". In contrast to older engine generations in which gasoline is injected directly upstream of the engine intake valve ("external mixture formation"), for example, with the direct injection variant it is possible to precisely dose the fuel and perform injection several times in a row if necessary. This makes it possible to keep the fuel consumption and thus the pollutant emissions as low as possible.

### Benefits of fuel and intake system cleaning:

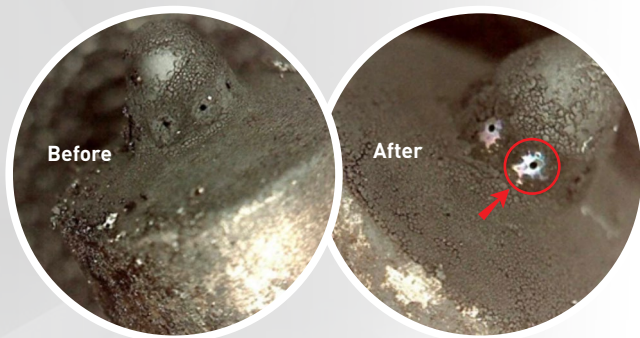
- Lower fuel consumption and pollutant emissions
- Lower repair costs
- Extended service life for the engine
- Cleaning process encompasses three system components in just one application



Part no. 29001

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## JetClean Tronic II: One device for two applications



Close-up of a Common Rail injector.

### 1. Problem: Contaminants in the fuel system

With every combustion process, various components in the injection systems are soiled. The more modern the engines, the more sensitively the systems react to contamination and the more serious the problems that occur. For example, direct injection of fuel assumes that the injector used (gasoline or diesel) goes into the combustion chamber. The consequence is that the sensitive nozzle head is permanently in contact with exhaust gases (including soot). Depending on the driving style and quality of fuel, deposits quickly form at the fuel outlets on the nozzle head. This means that the injected fuel can no longer mix optimally with the air, which in turn leads to higher consumption and with it an increase in pollutant emissions. As time goes on, more combustion residues such as soot is produced, clogging the fine outlets even more. This results in even poorer combustion through to the injector being blocked or the system failing, entailing costly repairs.

### 2. Problem: Contaminants in the intake system

A further problem with direct-injection gasoline and diesel engines is that the intake area is not cleaned, though this is contaminated in various ways. Both by the exhaust gas flowing back as a result of valve overlap and crankcase ventilation (deposits on the intake valves) and by the exhaust gas recirculation system. This combination of exhaust gas tract and intake tract causes what can be enormous deposits on the intake side of the engine.

But since there is no fuel present here that could remove the deposits like on older engine generations, these build up layer for layer.

The resulting problems are wide and varied - from a thoroughly contaminated intake area through a faulty exhaust gas recirculation valve and poorly closing intake valves as well as the associated loss of compression to engine damage.



Close-up of the intake valves (at top) and the intake pipe flap (bottom).



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## JetClean Tronic II: Our improved problem solver

### Solution: Cleaning of the systems

In order to rectify both described problems efficiently and reliably, we have developed a cleaning device unparalleled in quality, handling and effectiveness: the JetClean Tronic II.

This further development of the old JetClean Tronic enables the cleaning of the fuel system and the intake system with just one device.

### Fuel system cleaning

Using **Pro-Line JetClean Fuel** or **Diesel System Cleaner**, the injection nozzles are thoroughly cleaned of contamination.

### Intake system cleaning

Using our **Pro-Line JetClean Gasoline** or **Diesel Intake System Cleaner**, JetClean Tronic II removes months' worth of buildup quickly. Once the device is connected, this is performed automatically.

**Note:** JetClean Tronic II can only be used with our Pro-Line JetClean additives developed specifically for this. The additives for gasoline systems are colored blue to prevent confusion when there are fluids remaining in the JetClean Tronic II tank.



## 17 advantages of JetClean Tronic II

- 01 One device for two applications. Both the fuel system and the intake system can be cleaned at the same time.
- 02 Made in Germany quality. The device was developed and manufactured in Germany and is CE tested.
- 03 Housing and tanks made of high-grade stainless steel.
- 04 Active cooling of housing and medium in order to avoid the formation of steam bubbles. A continuous warning tone is given for safety if the medium reaches a temperature > 50 °C. The red indicator lamp on the device lights up at the same time.
- 05 To prevent the engine "running dry", a continuous warning tone is given when the fill level in the additive tank reaches approx. 250 ml and the blue indicator lamp on the device lights up at the same time.
- 06 Pressure regulator instead of bypass valve. The pump regulates the pressure automatically as soon as the vehicle demands more or less power. The maximum operating pressure is 6.5 bar. The pressure regulator allows the pressure in the device to be relieved completely after cleaning, ensuring additional safety.
- 07 Operated from the starter battery (12 volts) of the vehicle. This means cleaning does not need to be done at a specific location, and there is no need for an annual DGUV inspection.
- 08 Efficient pump delivering up to 120 l/h.
- 09 The high-quality pressure gauge displays pressures of up to 10 bar.
- 10 Standard fuel filter available in the trade with a filtration rate of 3-5 µm. The scope of delivery includes a sealing plate with screw for sealing the removed gasoline or diesel fuel filter.
- 11 Easy-to-read fill level indicator on the outside.
- 12 Separate tank for cleaning the intake tract.
- 13 Special adapters allow easy adaptation on the vehicle.
- 14 Also suitable for commercial vehicles, agricultural machinery, buses and motorcycles.
- 15 Adapter kits of the predecessor model can still be used.
- 16 Comprehensive operating instructions.
- 17 Both tanks can be emptied completely.

### Available as an option:

### JetClean Tronic II TD ASR with compressed air connection

Part no. 29067

The JetClean Tronic II TD ASR with compressed air connection tank cap developed especially for intake system cleaning is required for certain combustion engines in order to introduce the cleaning fluid at insufficient intake pipe underpressure via the equipment included in the scope of delivery. The JetClean Tronic II TD ASR is pressurized with compressed air for this purpose.

