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## Successful conversion



## Electronic Fuel Injection in a Classic?

*An interview with Grzegorz Groele – creator of extraordinarily effective retrofit of Bosch MFI.*

*We have already been writing about Bosch FIP in our issue 08/2018, but not always its refurbishing brings results as we were describing. In any case – it is an engineering work of art, but after half a century and with fuels we can use today, it can really ruin any trip we undertake.*

*Jerzy Kossowski: Why a search for alternatives to Bosch fuel injection started?*

*Grzegorz Groele: an enthusiast, an owner of a classic car, is happy not only when they can look at their car, but also when they can enjoy its reliability and trouble-free use. This is how I imagined a project of full restoration of a Mercedes W111 Coupe 250SE that we had finished. This is what it seemed to me only, because that is when the troubles began. The car was restored, but the engine was living its own uncontrolled life. Sometimes it starts, sometimes not. Sometimes the car can go back home on its wheels, sometimes on a tow truck. Spits, sputters – pretty dramatic. Diagnosis came – Bosch FIP was faulty.*

We started fixing it with one of the companies in Carpathia region (that is a Bosch dealership who offer services of restoring FIPs, but Grzegorz does not mention them by name – add. Paweł). For a while everything was all right, but one day it all came back to normal – we landed on a tow truck to get home. Then the FIP was sent to the best German Bosch FIP repair shop we knew. It came back beautiful, cleaned, shiny and working – for a few days. After a long time of stagnation, disassembling the FIP, studying its complicated internals and the way it was working, it came to my mind to build an electronic

injection system. The first idea was the one of my colleague – adaptation of electronic fuel injection system from BMW. Having spent lots of hours on re-fitting and trials we managed to start the engine, but issues appeared, related to engine management, start, etc. Unfortunately carrying on of work turned out to be a failure. My colleague decided he did not see any sense in continuing. This situation confirmed my motto: every cloud has a silver lining.

I had dived into the topic even more, changing practically everything, certainly backed up by the knowledge of some of my friends, to whom I am very grateful for help and support. This is how an autonomous and independent NotroniG electronic injection system was born – driven by the need of the moment.

*J.K.: Does installation of this system interfere significantly with factory car structure and – can you go back to the original state?*

G.G.: the main idea of NotroniG system is:

- Reliability of fuel-air system functioning
- Full control over engine performance parameters
- Full reversibility back to original
- Aesthetic looks, close to original

All components of the NotroniG system are selected, tested, safe and configured to a particular engine. As we can set a lot of working parameters of the system, we can control and properly program individual parameters of engine work. With classic cars – often the same engine type may be in different condition, is worn in a different way, e.g. has different compression in cylinders, valves work differently, etc.

One of the most important features of our system is care about originality of the car and possibility to come back to the original state. NotroniG is not spoiling aesthetics. Parts used in the system, injectors for example, that are replacing original ones, are made as per the original one's pattern.

It happens that people who know and own cars with Bosch MFI, while taking a look under the hood, do not notice changes. All parts that we replace are properly packed and returned to customers.

*J.K.: What are the main advantages of your solution and which types of FIPs you can replace?*

G.G.: The main feature of our system is providing opportunity of trouble-free using of cars to their owners. In 2022 I covered over 14000km in a car with my injection system treating her as daily driver. Fuel consumption went down by 20% and due to possibility of settings adjustments emissions went significantly down. The change in torque, smoothness and flexibility of the engine performance was unbelievable.

The system was created with engines equipped with Bosch FIPs, such as M127, M129, M130 and M189 in mind, used in many Mercedes-Benz cars – W113, W111, W112, W108, W109 with SE, SL, SEL, 220, 230, 250, 280 and 300 markings.

*J.K.: How much time does it take to install and test the system?*

G.G.: Installation and testing of all parameters of NotroniG depend upon the condition of a car. If additional work needs to be performed, e.g. fuel tank cleaning, the time will be longer. It may be 2-5 working days. Installation of the system is conditional upon the technical state of the engine. An

important topic I have just talked about with one of my German customers, but it will be a topic soon here in Poland as well, is emissions. A car registered as classic in Germany with a letter “H” for historical license plates, is going through technical assessment every 2 years and emissions are checked there. It often happens that a classic car not delivering on emissions is not granted TUV certificate. Fitting of our system results in such an opportunity to adjust parameters that, even at the expense of performance sometimes, a car is able to pass rigorous assessment. Today, for classic owners in Germany, it is one of the most important topics that I had not been aware of before.

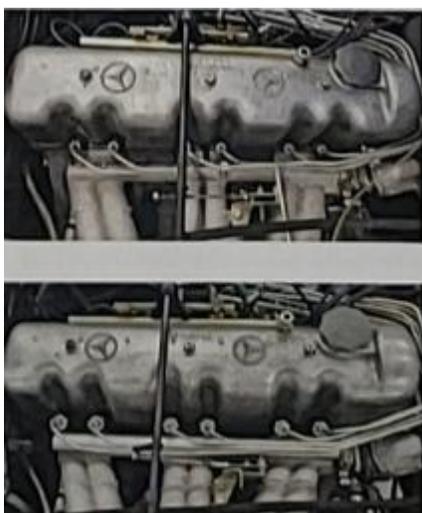
*J.K.: Is the installation of NotroniG system done only in your shop or it can be performed by other shops as well?*

Because of the safety (it is a fuel system) for now it is done only in our shop. Due to high demand we are in talks to start a network of several authorized shops in Poland and abroad who could install our system. All this is encouraging us to work even harder on solving any issues. A happy customer, enjoying their cars and using them is the most important topic in all the classic cars culture.

We are also able to adapt our solution to carburetor fuel supplied engines. We are working on engines with D-Jet powering Mercedes models W114, W107 as well as BMW e9 3,0CSL. For customers who are after tuning of their engines we can modify parameters, increase power output, exhaust sound, create two different maps in engine computer that you can switch between with a button. You can also watch engine parameters on a smartphone.



A computer and injectors are the heart and the most important components of a NotroniG system.



Before assembly – an original FIP

After installation of electronic system we took care that everything looks almost identical to original

Note from Pawet: well, frankly, as much as you can say injectors do look very similar, FIP we just do not see here...