

# KNOW THE FACTS

## ENGINE TUNING METHODS EXPLAINED



### ORIGINAL ECU CHIP FLASHING

A method common where the ECU has to be opened and certain parts are exchanged with components running modified engine management programs.

**BREAKING OF THE ORIGINAL WARRANTY SEAL** WHEN OPENED!

**SOLDERING** ON THE PCB BOARD

**CAUSES DAMAGE!** DAMAGED ECU CAN BE EXPENSIVE TO REPLACE

**WRONG PROGRAMMING** INCREASES RISK OF ENGINE FAULTS

**ENGINE FAILURE** WORST CASE SCENARIO

**INCREASED STRESS** ON ENGINE COMPONENTS, INJECTORS, INJECTOR PUMP & PISTONS

**NO POSSIBILITY** TO RETURN TO STOCK WITHOUT SIGNS OF TAMPERING

**LOWER RESALE VALUE** AFTER CHIP TUNING

**LEAVES FOOTPRINT** ON ECU

**SAFETY PARAMETERS** ALTERED

**FAULTS CODES ARE DEACTIVATED!** OFTEN REMOVED RESULTING IN NO FAULT WARNINGS



### ECU FLASHING RE-PROGRAMMING

Modified boost and fuel pressure maps are used to overwrite factory settings. Sensors warning thresholds are increased to prevent fault codes.

**INCREASE OF BOOST AND COMMON RAIL PRESSURE**

**FAULTS CODES ARE DEACTIVATED!** OFTEN REMOVED RESULTING IN NO FAULT WARNINGS

**INCREASED STRESS** ON ENGINE COMPONENTS, INJECTORS, INJECTOR PUMP & PISTONS

**BACKUPS OF ORIGINAL SOFTWARE** NOT ALWAYS SAVED

**SAFETY PARAMETERS** LIMITS OF THE SENSOR VALUES! ARE USUALLY INCREASED

**SOFTWARE DELETED** SCHEDULED SERVICES OFTEN OVERWRITE INSTALLED THIRD-PARTY MAPS

**NO PHYSICAL PRODUCT** CANNOT BE USED ON ANY OTHER MACHINES



### RAIL PRESSURE CHEAP TUNING BOXES

These simplistic devices enhance power by increasing the fuel pressure beyond factory settings. This often results in error codes, or worst case engine damage.

**INCREASE OF BOOST AND COMMON RAIL PRESSURE**

**CHEAP ELECTRONICS** AND CONNECTORS RARELY WEATHER RESISTANT

**DPF LIFE REDUCED** DUE TO INCREASED FUELLING UPON DPF REGENERATION

**INCREASED FUELLING** THROUGHOUT PRE/MAIN/POST INJECTION CYCLES

**SIMPLE INSTALLATION** VIA WIRING LOOM

**SIMPLE SOFTWARE** INTEGRATED

**HIGH LOAD** ON THE FUEL SYSTEM DUE TO INCREASE OF FUEL PRESSURE & COMBUSTION TEMPERATURE

**INCREASED STRESS** ON ENGINE COMPONENTS, INJECTORS, INJECTOR PUMP & PISTONS

**ENGINE FAILURE** WORST CASE SCENARIO

**HIGH RISK OF FOOTPRINT** ON ECU



### STEINBAUER POWER MODULE

The power gain is achieved by optimizing and extending the main injection phase. This way the engine is not exposed to increased pressure or temperature levels.

**SAFETY** - MANUFACTURERS SAFETY SETTINGS REMAIN

**NO MODIFICATION** OF THE ORIGINAL ECU

**EASE OF INSTALLATION** WITH ORIGINAL CONNECTORS

**3 YEAR WARRANTY** ON STEINBAUER PRODUCTS \*

**FIELD TESTED** WORLDWIDE

**OEM QUALITY** TO THE AUTOMOTIVE INDUSTRY STANDARD

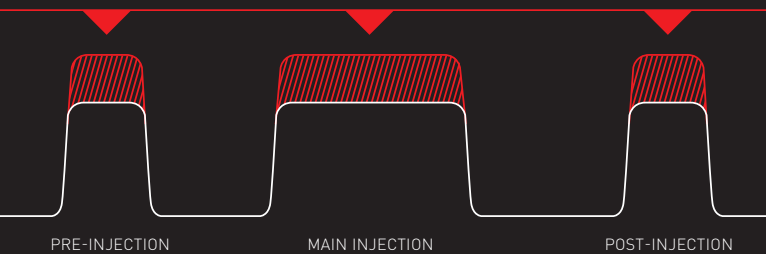
**TUNE SAFE** WITH THE STEINBAUER PERFORMANCE MODULE

**PRECISE OPTIMISATION** PERFORMANCE ONLY INCREASED UPON ENGINE LOAD

**NON GENERIC** SOFTWARE & HARDWARE, DESIGNED FOR THE APPLICATION

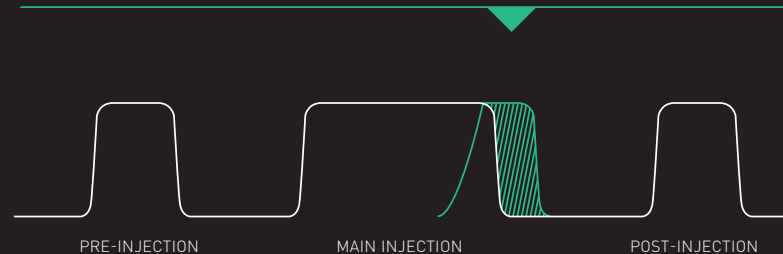
## HOW IT WORKS?

### COMPETITORS INJECTION PRESSURE



- » EXTREME INJECTION PRESSURE
- » INCREASED RISK OF DAMAGE TO THE INJECTORS OR PISTONS
- » INCREASED EXHAUST TEMPERATURE CAN DAMAGE DPF
- » BASIC SOFTWARE, PRODUCTS FROM UNKNOWN ORIGIN

### STEINBAUER INJECTION DURATION



- » UNIQUE POWER ENHANCEMENT PRINCIPLE
- » NO DAMAGE TO THE ECU, INJECTORS, INJECTION PUMP, DPF OR THE PISTONS
- » PATENTED TECHNOLOGY \*  
\* Patent for specific GM, Ford, Mercedes and BMW diesel models.



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ANNIVERSARY  
1996 - 2021

!!! NOT ALL TUNING PRODUCTS ARE THE SAME !!!