

Professional diagnostics & tuning tool for  
workshops and tuning centers

# Engine tuning **HARLEY-DAVIDSON<sup>®</sup>**

## TUNING STRATEGY

- The tuning system focuses on Harley-Davidson engines equipped with DELPHI EFI (diagnostic communication J1850 or CAN)
- The tuning system is based on diagnostic system **DIAG4BIKE**. **DIAG4BIKE** is the professional diagnostic tool for Harley-Davidson Motorcycles. The tuning software **DIAG4TUNE** is included in the diagnostic software from Version 12. To tune an individual motorcycle a TUNING DONGLE (or EASY TUNING DONGLE) must be purchased that can be used for that specific motorcycle. It is recommended to use last version of **DIAG4BIKE** software for diagnostic or tuning.
- The tuning process does not require the installation of additional component(s) or any motorcycle harness modification. Tuning is based on the modification of EFI Calibrations (software modification) exclusively via the diagnostic connector.
- The first step in Tuning is storage of the original EFI Calibration. The tuning operator can restore the original EFI Calibration at any time during tuning process (stock calibration).
- The tuning process is used to optimize Fuel Maps in case of any changes to the configuration of engine components or accessories (exhaust or/and intake system etc.)

## AVAILABLE TUNING METHODS

### 1. ADVANCED TUNING

By this method of the tuning is possible to use full range of **DIAG4TUNE** functions. The method provides ability to use an embedded database of calibrations. These calibrations (maps) are pre-set for several configurations of exhaust and intake components (open exhaust, intake and combinations). Advanced tuning method provides important improvement of engine functions. The best engine efficiency is possible to reach only by using PROFESSIONAL TUNING method.

### Necessary Tuning Components:

**DIAG4BIKE**



Functional set

**TUNING DONGLE**



Reference  
CCE: 619 083  
ZODIAC: 732 045  
ACTIA CZ: AT531 4094

Professional diagnostics & tuning tool for  
workshops and tuning centers

# Engine tuning HARLEY-DAVIDSON®

## 2. PROFESSIONAL TUNING - engine fuel maps optimization

By this method of the tuning is possible to use full range of **DIAG4TUNE** functions. The key function is here **VOLUMETRIC EFFICIENCY MAP MEASUREMENT** under load. It means real VE maps measurement of each engine configuration. VE map measurement can be done on an appropriate Roller Station, good example is **SMART POWER BENCH**, or during Road Test on the street. Professional tuning method provides the best bike tuning for each special engine - maximal efficiency, torque and power.

### Necessary Tuning Components:

#### DIAG4BIKE



#### TUNING DONGLE



#### AFR TUNING MONITOR

Reference  
CCE: 619 084  
ZODIAC: 732 044  
ACTIA CZ: AT106 4016



### Useful Tuning Components:

#### THROTTLE CONTROL LIMITER

Reference  
CCE: 690 896  
ZODIAC: 732 046  
ACTIA CZ: AT531 4097



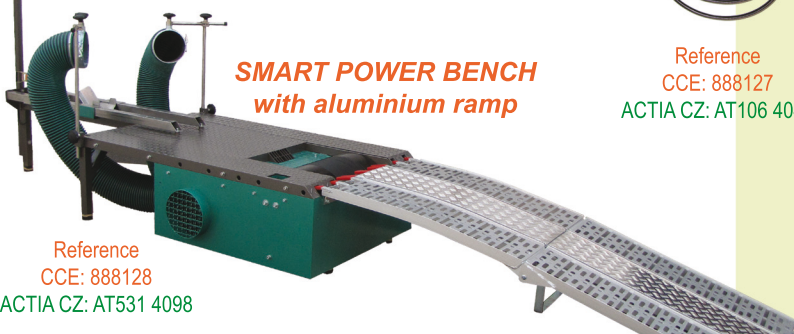
#### KIT-ADAPTER FOR OPEN EXHAUST (option)



Reference  
CCE: 888127  
ACTIA CZ: AT106 4047

#### SMART POWER BENCH with aluminium ramp

Reference  
CCE: 888128  
ACTIA CZ: AT531 4098



#### INSTALLATION SET LAMBDA

Reference: CCE: 690 897 ; ZODIAC: 732 042  
ACTIA CZ: AT106 4020

# Blank ECM Flash

This function is used to flash a new blank ECM. By this function you can set a VIN number and after flash the selected calibration according to the VIN number. It can be also done for the used ECM. If this function is successful you can do full range of the **DIAG4TUNE** functions.

#### DIAG4BIKE



#### TUNING DONGLE

Reference  
CCE: 619 083  
ZODIAC: 732 045  
ACTIA CZ: AT531 4094

