

Tuning for Performance

Screamin' Eagle® Pro Street Tuner and the Smart Tune PRO



THE SCREAMIN' EAGLE PRO STREET TUNER AND THE ALL-NEW SMART TUNE PRO TAKE THE MYSTERY OUT OF TUNING.

When a band plays together, if even one of the performers is out of tune, it affects the entire performance. Something similar can happen to a motorcycle, particularly when making performance modifications. Every time an engine is modified, it needs to be "tuned," recalibrated, specifically for modifications that promise maximum performance and optimal efficiency.



Communication is Key

When riding a modern Harley-Davidson® motorcycle, its Electronic Control Module (ECM) measures the air going into the engine, the exhaust coming out, the oxygen content in the air and even the air temperature. It then makes adjustments to ensure optimal efficiency, and minimal emissions.

If that engine undergoes any performance upgrades, the ECM must be recalibrated to adjust the air/fuel ratio and other parameters based on the upgrades. Whether you change the exhaust, add a Stage II upgrade or make any performance modifications, the engine needs to be tuned. Neglecting to tune a motorcycle for performance upgrades can affect performance, fuel economy and emissions.

Performance tuning starts with the Screamin' Eagle® Pro Street Tuner. Once the ECM has been recalibrated, those settings will be saved in the Pro Street Tuner.

- Additional benefits of the Pro Street Tuner are that it actually communicates directly to, and reprograms, the motorcycle's ECM, rather than being a "piggyback" system that tries to fool the ECM by changing the values that the various sensors read.
- The Pro Street Tuner plugs directly into the motorcycle's data port, so there's no wire-splicing or under-seat hardware required.



Screamin' Eagle Pro Street Tuner, Part No. 41000008C, MSRP \$299.95

Pro Street Tuner: What it Does and Why it Matters

The ECM constantly monitors engine operation in the Part-Throttle Cruising Range, which is the range where most riders ride. In addition, it allows for manual tuning of the parameters within part- and full-throttle ranges.

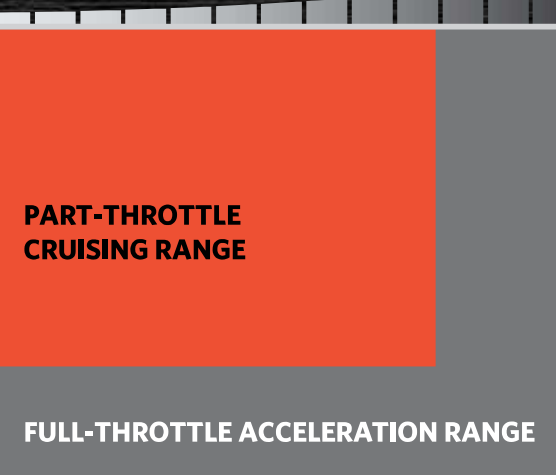
The Pro Street Tuner is compatible with all Screamin' Eagle performance products, ensuring you get maximum performance and optimal efficiency for your motorcycle. It provides users access to the calibrations that H-D engineers spent countless hours developing with the aid of a dynamometer and on-road testing to ensure peak performance in all conditions and situations. This includes testing for different temperatures, loads and drivability characteristics. Hitting peak horsepower and torque at wide-open-throttle is just one aspect of each calibration. We know you expect to use your bike every day and not make any concessions on the drivability while achieving peak performance. Screamin' Eagle performance solutions, including proper tuning, ensures this is a reality.

Note: The Screamin' Eagle Pro Street Tuner is for use with '17-later XG, '14-later XL, '07-'17 Dyna®, '07-later Softail® and Touring models and '17-later Trike models.

Throttle Position (%)



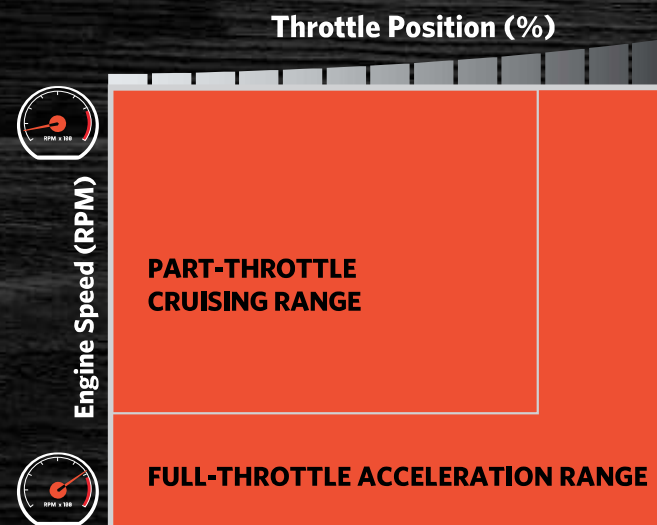
Engine Speed (RPM)



Pro Street Tuner Complete Motorcycle Operating Range

Part-Throttle Cruising Range: Pro Street Tuner Base Calibration + OE narrow-band O₂ sensors monitor exhaust for proper operation in the Part-Throttle Cruising Range

Full-Throttle Acceleration Range: OE narrow-band O₂ sensors cannot measure or adjust in this range; requires manual adjustments to reference data tables to provide tuning information



Smart Tune PRO Complete Motorcycle Operating Range

Complete Motorcycle Operating Range:
Pro Street Tuner Base Calibration + Smart Tune PRO + wide-band O₂ sensors automatically monitor and adjust the engine in real-time for all performance upgrades, operating ranges and riding conditions

Smart Tune PRO Takes Performance to the Next Level

Base calibrations deliver the best efficiency and rideability, and the best power and torque. The air/fuel ratio targets set in the base calibrations are a result of those countless hours on the road and on the dyno that the H-D calibration team puts in.

The Smart Tune PRO works in conjunction with the Pro Street Tuner. In other words, when you buy a Smart Tune PRO, you must first have a Pro Street Tuner, because the Pro Street Tuner's base calibrations are the starting point for tuning the engine. In addition, to operate throughout the entire throttle range, the Smart Tune PRO requires upgraded wide-band oxygen sensors. Wide-band oxygen sensor inlets come standard on the Stage I High-Flow Exhaust System for Milwaukee-Eight® engines. But when using the Smart Tune PRO with other exhaust systems, the M18 Oxygen Sensor Installation Tool is required to convert narrow-band oxygen sensor inlets to accept wide-band oxygen sensors.

- The Pro Street Tuner is designed to plug in, tune and then unplug from the motorcycle, but the Smart Tune PRO is installed permanently on the motorcycle.
- The Smart Tune PRO requires a wide-band starting calibration in the Pro Street Tuner to function.

The location of the Smart Tune PRO varies by model, but in all installations, it is out of sight and out of the way. Once it is installed, it does not have to be touched again.

Smart Tune PRO: Maximum Performance

The key to the Smart Tune PRO is the wide-band oxygen sensors. They can measure the exhaust output throughout the entire operating range, so the Smart Tune PRO can automatically tune to the current conditions, in both the part-throttle cruising range and the full-throttle acceleration range.

Once this system is installed, adjustments are made in real-time for all performance upgrades. Additional benefits of the Smart Tune PRO are:

- It ensures that the target air/fuel ratios are achieved every revolution. Since every revolution is measured and adjusted to hit the targets, the adjustment range that the module can account for is essentially doubled. This ensures that all the different combinations of intake and exhaust and bike-to-bike variation are completely within the adjustable range of the module.
- It automatically adjusts performance while riding, for maximum efficiency in the part-throttle cruising range and performance in the full-throttle acceleration range.
- It enhances drivability in all riding conditions and for all combinations of performance upgrades.
- It is an excellent alternative to taking multiple test-rides or dyno runs to dial in the calibration.
- It can be used to squeeze every last bit of horsepower and torque out of the engine.

The technology built into Smart Tune PRO does all the hard work, so you can enjoy your motorcycle under all operating conditions. When the Pro Street Tuner is paired with the Smart Tune PRO, it's like having an onboard tuning genius fine-tune your Harley-Davidson® motorcycle as you ride!

Note: The Screamin' Eagle® Smart Tune PRO fits '17-later XL, '16-later Dyna® FXDLS and Softail® models and '14-later Touring models.



Only Screamin' Eagle® Tuners Can Boast These Benefits

The tuning and performance benefits of the Pro Street Tuner and the Smart Tune PRO are just part of the story. Need more reasons why Screamin' Eagle parts are simply the best?

- All performance packages are designed by the people who designed the motorcycles.
- Smart Tune PRO undergoes the same testing as the Original Equipment ECM, and they are tested for the following to ensure reliability.
 - › Environmental testing: Ensures their resistance to cleaning chemicals and road debris
 - › Mechanical testing: Ensures their resistance to vibration and shock while installed on the vehicle
 - › Electrical testing: Ensures that they do not alter the normal electrical function of the bike
 - › Electromagnetic testing: Ensures that they do not affect any other on-bike electronics
- Both tuners are factory-supported, so they deliver performance riders can trust.
- Pro Street Tuner is compliant with Environmental Protection Agency regulations in all 50 states and supported by the world-class Harley-Davidson dealer network.
- Installing these tuners does not impact the Harley-Davidson factory vehicle warranty.



Performance for the People, with No Compromises

Half the fun of owning a Harley-Davidson® motorcycle is customizing it with accessories and performance parts. The goal for those in search of more power from their motorcycle is to tune the vehicle to achieve maximum performance from the investment put into the bike.

Because installation complexity varies by model and configuration, we recommend having our Service Department install performance upgrades and tune the engine. Stop in to ask one of our Parts Professionals for a copy of the Screamin' Eagle Stage I Milwaukee-Eight® brochure. They will be happy to review the details and help you select the performance upgrades and Screamin' Eagle engine tuner that will deliver reliable performance you can trust.



These Screamin' Eagle products are 50-state U.S. EPA compliant for sale and use on all applicable vehicles, including those that are pollution controlled.