



# Pro Street Tuner User Manual

May 2025



## Table of Contents

Introduction .....	1
LED Operation.....	1
BCI Usage Cautionary Notice.....	2
Safety Precautions .....	2
Introduction to Harley-Davidson Electronic Fuel Injection (EFI) Systems.....	3
Opening the Application .....	6
Connecting the BCI .....	6
Main Menu .....	7
Tune .....	8
View .....	8
Program With This Calibration .....	8
Perform Smart Tune .....	10
Transferring Files .....	15
Creating a Calibration on a PC with Mobile Recordings.....	16
Toolbox.....	16
See Gauges.....	17
Configure Gauges .....	17
Maximum RPM Indicator (within Configure Gauges).....	18
Shift Light (within Configure Gauges) .....	19
Redline Light on Tachometer .....	21
Error Codes .....	22
System Info.....	23
Vehicle Configuration.....	23
Bike Builder.....	24
Settings .....	25
Language Settings .....	25
Units of Measure .....	25
Table Display Colors .....	26
Software Info.....	26
Reset Gauges.....	26
Bluetooth Settings .....	27
Recordings .....	27
Firmware Update.....	27
Trouble Shooting.....	29



# Harley-Davidson Pro Street Tuner App User Manual

## Introduction

The Harley-Davidson Pro Street Tuner App is designed to function with the Pro Street Tuner Bluetooth Communication Interface (BCI). The BCI connects to the motorcycle and transfers the data between the motorcycle and the App. The App has limited functionality when it is not paired to a BCI.

The new mobile tuner uses a smaller dongle style BCI that plugs directly into the Data Link Connector (DLC) on the motorcycle. Refer to the instruction sheet to determine the location of the DLC on the vehicle. The BCI communicates to an app on the mobile device via Bluetooth, and the app sends data between the motorcycle and the cloud.

App Icons	BCI Dongle
<p><b>Android:</b></p>  <p>Google Play</p> <p><b>Apple:</b></p>  <p>App Store</p>	 <ul style="list-style-type: none"><li>• Smaller dongle style BCI</li><li>• Plugs directly into the DLC</li><li>• Communicates via Bluetooth</li></ul>

## LED Operation

The BCI Light-Emitting Diode (LED) indicator flashes to display the state of the BCI. The indicator is not easily visible on the BCI unless it is illuminated.

The following table explains the various sequences:

Condition	LED Operation
Power Up	LED blinks 3 times – on ½ second/off ½ second
Search for Unpair Sequence	LED is off during the 5 seconds waiting for the Unpair Sequence
Completion of Unpair Sequence	LED turns on for 2 seconds upon completion of Unpair Sequence
Waiting for Pairing	LED Blinks – on 1 second/off 1 second
Paired	LED constant ON
Programming	LED blinks fast – on ¼ second/off ¼ second
Error Condition	LED blinks 5 times – on ½ second/off ½ second. Then reboots the dongle and repeats.



## BCI Usage Cautionary Notice

**Note:** The BCI is for use on a single vehicle only. When the BCI is first used to program a vehicle, it will be permanently locked to that vehicle, and cannot be used on any other vehicle for programming.

**Caution:** BCIs can ONLY be used with the specific products for which they were purchased. A Pro Street Tuner BCI cannot be used with the older Street Tuner software that requires a Vehicle Communication Interface (VCI).

## Safety Precautions

### General Warnings:

	<p>Motorcycle batteries contain sulfuric acid and produce explosive gases that can result in serious injury. To prevent ignition of gases, keep lighted cigarettes, sparks, flames, and other ignition sources away from the battery at all times. If using the battery as a power source, connect the RED (+) battery clip to the positive motorcycle battery terminal and connect the BLACK (-) battery clip to a good ground away from the battery.</p>
	<p>Wear an American National Standards Institute (ANSI)-approved eye shield when analyzing or repairing motorcycles. Spinning components (such as the primary drive belt when the housing cover is removed) can propel objects, possibly causing serious injury.</p>
	<p>To prevent electrical shock, avoid wet floors when plugging any system equipment into an electrical outlet.</p>
	<p>Rider and passenger safety depend upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within the user's capabilities or the user does not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333b)</p> <p><b>Note:</b></p> <p><i>A service manual for the year and model motorcycle is required for this installation and is available from:</i></p> <ul style="list-style-type: none"><li>• A Harley-Davidson dealer.</li><li>• H-D Service Information Portal, a subscription-based access available for most 2001 and newer models. For more information, see frequently asked questions about subscriptions.</li></ul>



## Introduction to Harley-Davidson Electronic Fuel Injection (EFI) Systems

### How it works

Before discussing how the Screamin' Eagle Pro Street Tuner software works, it is important to understand how the EFI system functions. It is assumed that the user of this product has a thorough understanding of internal combustion engine operation.

### Overview of How the Harley-Davidson ESPFI Functions

The front and rear cylinder Volumetric Efficiency (VE) Look-up tables, which are programmed into the Electronic Control Module (ECM), tell the ECM how much air, (volume) is flowing into the engine at different engine Revolutions Per Minute (RPM) and throttle positions.

The ECM also monitors the intake air temperature and manifold absolute pressure, which provide it with an indication of air density, or the amount of oxygen contained in a volume of air.

The Air Fuel Ratio (AFR) table, which is programmed into the ECM, tells the ECM what AFR the engine should require under specific engine loads, (engine load is determined by monitoring manifold absolute pressure and engine RPM) to produce the performance that's desired.

The front and rear Spark Advance tables, which are programmed into the ECM, tell the ECM the spark advance desired for specific engine loads to produce the performance that's desired.

### When the engine is running the series of events typically follows the process below:

- The ECM monitors the Crankshaft Position (CKP), Throttle Position (TP), and Temperature Manifold Absolute Pressure (TMAP) sensors telling it engine RPM, throttle position, intake air temperature and manifold absolute pressure.
- The ECM looks at throttle position and engine RPM when it refers to the VE Look-up tables. From this information the ECM knows the volume of air that should be entering each cylinder at this moment, under these present conditions.
- At the same time the ECM looks at intake air temperature and manifold absolute pressure to calculate the density of the air entering the engine. Air density tells the ECM how much oxygen is in the air entering the engine.
- Now the ECM knows exactly how much oxygen is entering each cylinder and it refers to the AFR Look-up table for the AFR that's desired. It then sends the appropriate output signals to the fuel injectors to achieve the AFR it has been programmed to deliver for the current engine RPM and engine load.
- The ECM also refers to the Spark Advance Look-up tables for the desired spark advance for each cylinder according to the current engine RPM and engine load. The ECM then sends output signals to the front and rear ignition coils to deliver the desired timing of the spark for each cylinder.



## Electronic Sequential Port Fuel Injection (ESPFI) System Operation

When the engine is experiencing a temporary condition such as when the bike is being started on a cold morning, it uses additional Look-up tables that are also programmed into the ECM. For example, a cold engine that's being cranked to start rotates at a very low RPM and needs additional fuel. The ECM reads the Engine Temperature (ET) and CKP sensors, which tell it the engine is cold, and that it's rotating at cranking speed. The ECM then refers to a Cranking Fuel look-up table and directs the fuel injectors to remain open longer, (increasing their pulse width) which delivers a richer air/fuel mixture for starting. When the engine starts to run the ECM sees the higher RPM and then refers to a Warm-up Enrichment look-up table that it uses to add the additional fuel needed while the engine is still cold. The table is designed to diminish its affect, (referred to as "decay value") to zero as the engine comes up to operating temperature.

ECM Refers to:	When:	Other Factor:	Purpose:
Cranking Fuel Table	Engine is being started	Engine Temperature	To increase fuel injector pulse width and deliver more fuel for starting
Warm-up Enrichment Table	Engine is colder than operating temperature		To richen AFR for cold engine and diminish effect as engine warms up
Idle RPM Table	Throttle is closed	Engine Temperature	To keep idle RPM at desired speed as engine warms up
Intake Air Control Table	Throttle is closed	Engine Temperature	To allow enough air into the engine for cold engine idle

## Heat Management System

The ESPFI system also incorporates a sophisticated heat management system that operates in three-phases to keep things cool in extreme conditions.

Phase I: If the ECM detects engine temperature above approximately 300° F while moving or stationary it reduces the idle speed. A lower idle speed produces fewer combustion events per minute and that reduces engine heat.

Phase II: If the ECM detects an engine temperature that's still drifting higher while moving or stationary it richens the AFR. An increased amount of fuel in the air/fuel mixture has a cooling effect on the engine.

Phase III: If the ECM detects an engine temperature that's still drifting higher while moving or stationary it directs the fuel injectors to skip, (only when the bike is stationary) and not deliver fuel on every intake stroke. This limits the number of combustion events taking place, which produces less heat.

The three phases just described function seamlessly, and the rider may not notice the transition from one phase to the next.



## ESPFI Closed Loop Operation

### Background

In closed loop operation the ECM uses the oxygen sensors as a feedback loop in order to adjust the fuel mixture. This gives the name 'closed loop' from the closed feedback loop. The ECM does not run in a closed feedback loop all the time, so 'open loop' is used to describe the operation of the ECM when the mixture is not being adjusted in this way (usually when the engine is cold or when running under high load).

In closed loop operation the ECM uses the oxygen sensors to tell if the fuel mixture is rich or lean. However, due to the characteristics of the oxygen sensor it can't tell exactly how rich or lean, it only knows that the mixture is richer or leaner than optimum. The ECM will enrich the mixture if the oxygen sensor shows that the mixture is lean, and lean the mixture if it looks rich. The result of this is that the mixture will swing back and forward around the stoichiometric point or the set point of that particular O2 sensor.

Harley-Davidson Motor Company started using O2 sensors with the 2006 EFI Dyna models and today all Harley's use O2 sensors and can operate in 'Closed Loop' mode. Harley uses what is called a narrow band or switching sensor which controls over a very narrow range that is near stoichiometric (14.6 AFR).

### Tuning with Closed-Loop

If a large part of the original calibration's AFR table reads 14.6 AFR (the numbers in the cells will be in bold font) then that calibration is indeed closed loop.

The AFR table controls the operating conditions in which the ECM will enable closed-loop. The AFR cell must equal 14.6 for the ECM to enable closed-loop operation. This allows the user to control if and when the bike is in closed-loop using the AFR table.

Lambda based calibrations will be in closed loop for lambda values between .976 and 1.000.



# Harley-Davidson Pro Street Tuner App User Manual

## Opening the Application

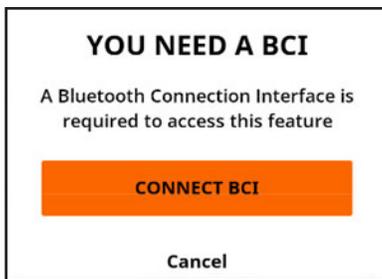
When the app launches on the mobile device, an opening screen appears.



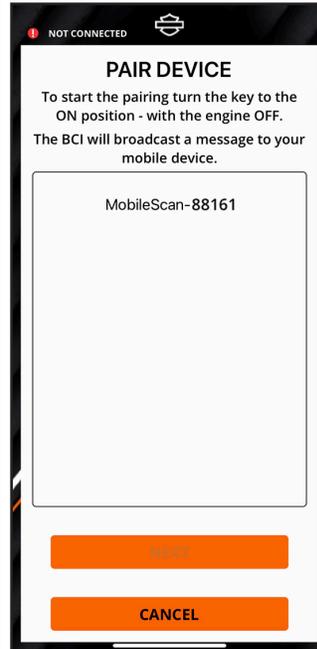
This screen allows the user to swipe left or right to see some of the featured functions of the application or to choose Skip at the bottom of the screen to launch the app.

## Connecting the BCI

As stated earlier, many features of the app require a BCI connection before they are accessible. When the user enters one of those areas, a pop-up menu appears to connect to the BCI. If for some reason the BCI connection is not wanted at that time, pressing **CANCEL** will take the user back to the main menu.



To initiate a BCI connection, the user selects **CONNECT BCI**.



The mobile device will search for Bluetooth devices and list them on the screen. Compare the MobileScan numbers on the screen to the serial number on the tag on the BCI. The last five digits of the serial number should match the numbers of the device on the screen. Verify you connect to the correct BCI.

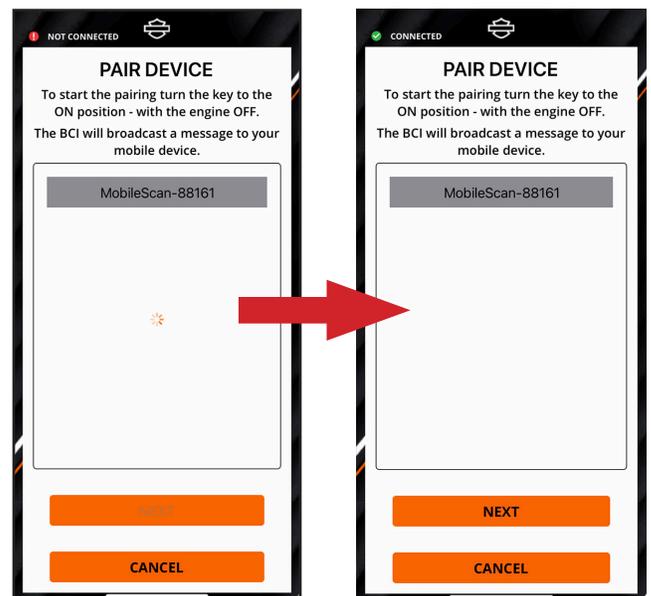
**Important:** Bluetooth signals have a limited range. Do not move the mobile device more than

20 feet away from the motorcycle at any time when connected through Bluetooth.

*This could cause the app to lose connection.*

The pairing is complete when the next button text turns from gray to black.

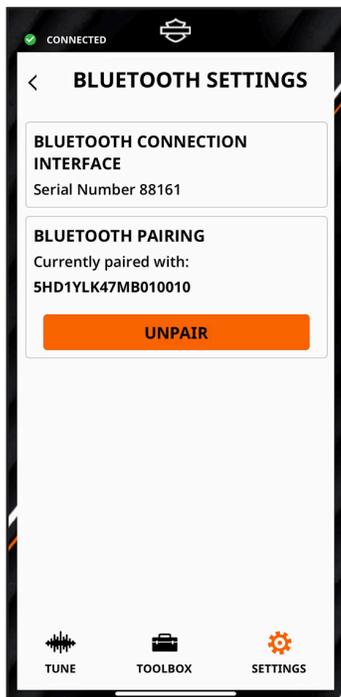
Press **NEXT** to continue.





# Harley-Davidson Pro Street Tuner App User Manual

The **BLUETOOTH SETTINGS** screen displays a serial number in the **BLUETOOTH CONNECTION INTERFACE** section and the VIN number of the motorcycle it is connected to in the **BLUETOOTH PAIRING** section.



The user can then proceed by choosing one of the three icons at the bottom of the screen (see main menu section), or by hitting the back arrow in the top left corner to go to the **SETTINGS** menu (see page 25).

Unpair the BCI by simply pressing the **UNPAIR** button. Unpair also allows the user to connect to another device. After unpairing, if the message appears,

“paired to another mobile device,” refer to the Troubleshooting section on page 29.

## BCI On/Off Indicator

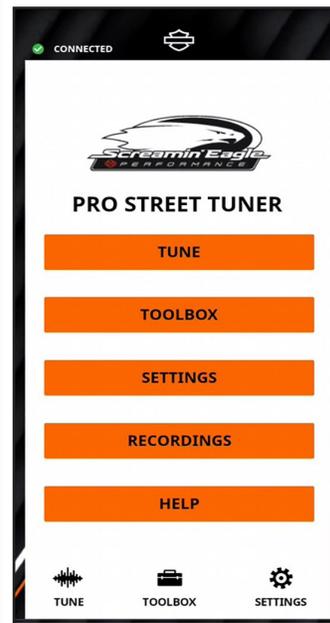


An indicator located at the upper left corner of the screen shows red when not connected to a BCI via Bluetooth and green when connected.

## Main Menu

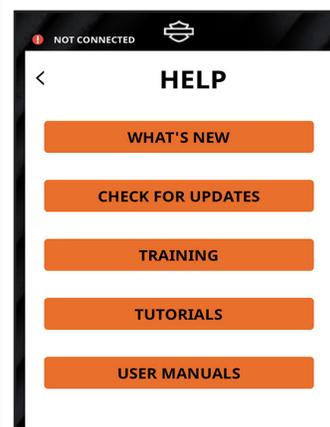
When the app is launched from the opening screen, the main menu lists the five core sections of the Pro Street Tuner.

- **TUNE**
- **TOOLBOX**
- **SETTINGS**
- **RECORDINGS**
- **HELP**



Three of the sections can also be accessed by the icons along the bottom of the screen.

Selecting the **HELP** button takes the user to **WHAT'S NEW**, **CHECK FOR UPDATES**, **TRAINING**, **TUTORIALS**, and **USER MANUALS**.



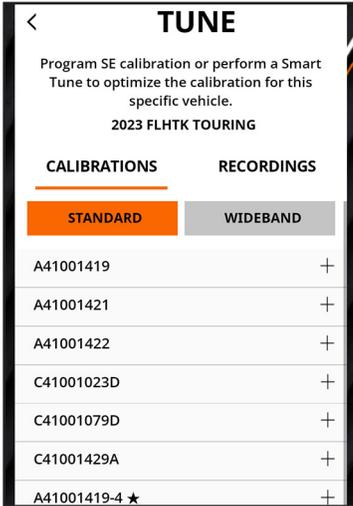
Hit the back arrow in the upper left-hand corner of the screen to return to the main menu.



# Harley-Davidson Pro Street Tuner App User Manual

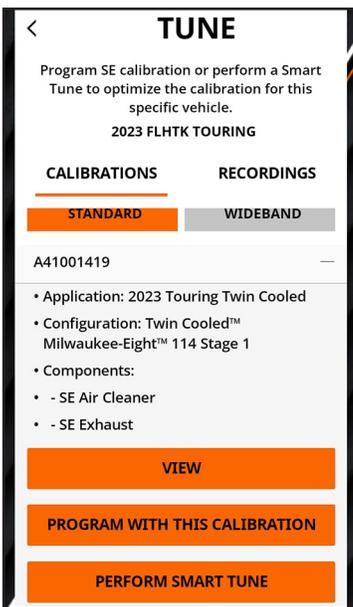
## Tune

The first core feature and primary purpose of the app is to tune the motorcycle. When the user selects **TUNE** from the main menu, the following



screen shows the calibrations available for the motorcycle based on the VIN. To the right, select **RECORDINGS** to view the saved recordings that have been created by the user for any of the listed calibrations. They are sorted by the base calibration and the current VIN.

The user chooses a calibration from the list to begin tuning. This screen also has selections for standard or wide band. These selections pull up the specific calibrations for either a standard or wide band O2 sensor setup. Only use the calibrations designed for the O2 setup on the motorcycle.



Choosing a calibration lists the components typically installed on the motorcycle that are supported by the selected calibration. The bottom portion of the screen offers a menu with the functions of **VIEW**, **PROGRAM WITH THIS CALIBRATION**, and **PERFORM SMART TUNE** for the selected calibration.

## View

The view function shows the various values for the calibration. Use the drop down menu to select the table of values to view.

One example is the Air Fuel Ratio.

A41000949B						
Application: 2021 Softail - Configuration: Milwaukee-Eight™ 114 to 117 Stage 3						
Air Fuel Ratio						
RPM /	20	30	35	40	50	60
750	0.994	0.994	0.994	0.994	0.993	0.990
1000	0.994	0.994	0.994	0.994	0.993	0.990
1250	0.994	0.994	0.994	0.993	0.993	0.990
1500	0.994	0.993	0.993	0.991	0.992	0.990
1750	0.994	0.993	0.992	0.990	0.991	0.990
2000	0.993	0.991	0.991	0.990	0.990	0.990
2250	0.991	0.990	0.990	0.990	0.990	0.990
2500	0.990	0.990	0.990	0.990	0.990	0.989
2750	0.989	0.989	0.989	0.989	0.989	0.988
3000	0.988	0.988	0.988	0.988	0.985	0.986
3500	0.987	0.986	0.986	0.985	0.984	0.988
3750	0.983	0.983	0.983	0.983	0.983	0.983
4000	0.940	0.940	0.940	0.940	0.940	0.940
4500	0.904	0.904	0.904	0.904	0.904	0.904
5000	0.877	0.877	0.877	0.877	0.877	0.877

When done viewing, the user can hit the back arrow at the top left to go back to the calibration menu.

To move forward with the actual calibration, the user needs to choose either **PROGRAM WITH THIS CALIBRATION** or **PERFORM SMART TUNE**.

## Program With This Calibration

**Note:** It is recommended the bike is connected to a battery tender prior to starting the calibration process to ensure the battery voltage does not fall below the threshold.

Selecting the **PROGRAM WITH THIS CALIBRATION** function allows the user to proceed with programming the calibration to the motorcycle without any further customization.



# Harley-Davidson Pro Street Tuner App User Manual

**Important:** An information screen will appear explaining the necessity to keep the phone within close proximity of the motorcycle.

**KEEP YOUR PHONE NEAR BIKE**

When re-flashing the motorcycle ensure the phone is within 20 feet. Direct line of sight is recommended. If Bluetooth connection is broken during re-flash process permanent damage to the motorcycle can occur.

**OK**

Tap **OK** to continue after reading the information.

**WARNING!**

Please be sure the calibration you have chosen matches your vehicle's installed hardware configuration. An inappropriate calibration may make your vehicle noncompliant with EPA regulatory emission standards. Are you sure you want to continue with the selected calibration?

**OK**

A warning pop-up appears asking to verify that this is the correct calibration for the set-up.

**PROGRAMMING MOTORCYCLE WITH FINAL CALIBRATION**

Your motorcycle will be programmed with the final calibration

Once programming is complete, your motorcycle will be ready to ride

Tap the "Program Motorcycle button to initiate the programming process.

The programming operation will take a few minutes to complete

**ECM Information**  
VIN: 1HD1KEF10P9999994

Retrieving calibration from Cloud

Please turn the ignition off and then back on, but do not start the engine.

**PROGRAM MOTORCYCLE**

**Cancel**

A screen appears indicating the calibration is being retrieved from the cloud. Once the calibration is retrieved, the "Retrieving calibration from Cloud" text will go away.

After the text has disappeared, follow the instructions in red to cycle the ignition off and on.

**PROGRAMMING MOTORCYCLE WITH FINAL CALIBRATION**

Your motorcycle will be programmed with the final calibration

Once programming is complete, your motorcycle will be ready to ride

Tap the "Program Motorcycle button to initiate the programming process.

The programming operation will take a few minutes to complete

**ECM Information**  
VIN: 1HD1KEF10P9999994

Please turn the ignition off and then back on, but do not start the engine.

**PROGRAM MOTORCYCLE**

**Cancel**

The red text will disappear, and the "Program Motorcycle" text will turn black.

**PROGRAMMING MOTORCYCLE WITH FINAL CALIBRATION**

Your motorcycle will be programmed with the final calibration

Once programming is complete, your motorcycle will be ready to ride

Tap the "Program Motorcycle button to initiate the programming process.

The programming operation will take a few minutes to complete

**ECM Information**  
VIN: 1HD1KEF10P9999994

**PROGRAM MOTORCYCLE**

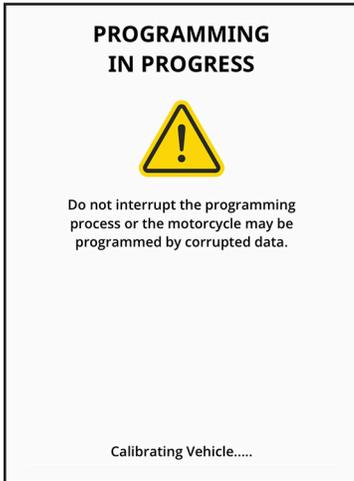
**Cancel**

Tap **PROGRAM MOTORCYCLE** to proceed with the final calibration, or **Cancel** to exit.



# Harley-Davidson Pro Street Tuner App User Manual

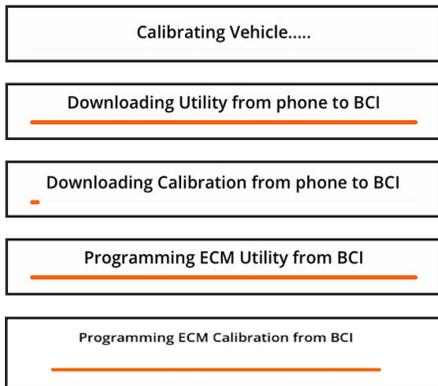
A **PROGRAMMING IN PROGRESS** Screen appears after **PROGRAM MOTORCYCLE** is selected. There are two stages to the programming process.



First, the strategy (if required), calibration, and utility files are downloaded from the cloud or the mobile device to the BCI.

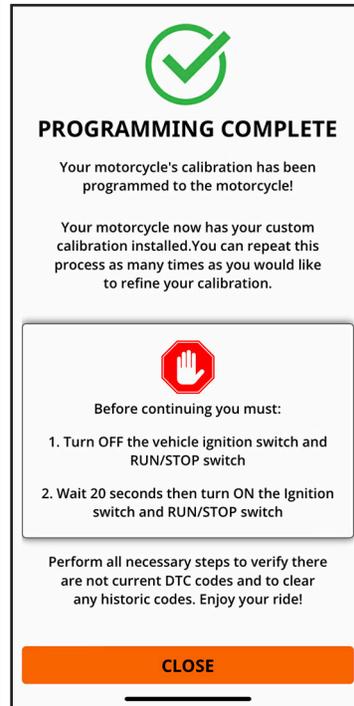
Second, the files are then programmed from the BCI to the motorcycle.

The following progress messages will appear near the bottom of the screen to indicate what part of the programming process is happening:



A **PROGRAMMING COMPLETE** screen will display when the calibration is successful.

Read and follow the instructions on the screen, and then press **CLOSE** to end the calibration session.



## Perform Smart Tune

**Important:** An information screen will appear explaining the necessity to keep the phone within close proximity of the motorcycle.



Tap **OK** to continue after reading the information.



# Harley-Davidson Pro Street Tuner App User Manual

## WARNING!

Please be sure the calibration you have chosen matches your vehicle's installed hardware configuration. An inappropriate calibration may make your vehicle noncompliant with EPA regulatory emission standards. Are you sure you want to continue with the selected calibration?

OK

A warning pop-up appears asking to verify that this is the correct calibration for the set-up.

## PROGRAMMING MOTORCYCLE FOR DATA GATHERING WITH SMART TUNE

Your motorcycle will be programmed in Smart Tune mode. This mode allows the factory sensors to control fuel delivery throughout the entire operating range.

Record data while riding the motorcycle normally to get the data needed to customize your calibration for your riding style



While in this mode your motorcycle may not perform at peak performance. Only use this mode to gather data recording for use in tuning

ECM Information  
VIN: 1HD1KEF10P9999994

Please turn the ignition off and then back on, but do not start the engine.

PROGRAM MOTORCYCLE

Cancel

The perform smart tune function allows precise customization to the calibration.

To begin, follow the instructions in red to cycle the ignition off and on. After doing so the red text will disappear, and the "Program Motorcyle" text will turn black.

## PROGRAMMING MOTORCYCLE FOR DATA GATHERING WITH SMART TUNE

Your motorcycle will be programmed in Smart Tune mode. This mode allows the factory sensors to control fuel delivery throughout the entire operating range.

Record data while riding the motorcycle normally to get the data needed to customize your calibration for your riding style



While in this mode your motorcycle may not perform at peak performance. Only use this mode to gather data recording for use in tuning

ECM Information  
VIN: 1HD1KEF10P9999994

PROGRAM MOTORCYCLE

Cancel

An information screen will load explaining smart tune. After reading the information, select **PROGRAM MOTORCYCLE**. This programs the initial tune on the motorcycle as a starting point for the smart tune.

Hitting **Cancel** exits the smart tune function.

## PROGRAMMING IN PROGRESS



Do not interrupt the programming process or the motorcycle may be programmed by corrupted data.

A **PROGRAMMING IN PROGRESS** screen displays.

The following progress messages will appear near the bottom of the screen to indicate what part of the programming process is happening:

Calibrating Vehicle.....

Downloading Utility from phone to BCI

Downloading Calibration from phone to BCI

Programming ECM Utility from BCI

Programming ECM Calibration from BCI



# Harley-Davidson Pro Street Tuner App User Manual

A **PROGRAMMING COMPLETE** screen will display if the calibration is successful.

Your motorcycle's calibration has been updated to allow you to gather data

Your motorcycle now has your custom calibration installed. You can repeat this process as many times as you would like to refine your calibration.



**Before continuing you must:**

1. Turn **OFF** the vehicle ignition switch and RUN/STOP switch
2. Wait **20 seconds** then turn **ON** the Ignition switch and RUN/STOP switch

Perform all necessary steps to verify there are not current DTC codes and to clear any historic codes. Enjoy your ride!

**CONTINUE**

Cancel

Read and follow the instructions as presented on the screen, and then press **CLOSE** to end the calibration session.

A screen saying **IT'S TIME TO MAKE RECORDINGS** will appear. While the motorcycle is turned off, the continue button text is gray and can not be selected. When ready to ride, the user restarts the motorcycle and can now select **CONTINUE** to proceed.

**IT'S TIME TO MAKE RECORDINGS.**



Street tuner is ready to create recordings for tuning.

Start motorcycle, select continue and record data while riding your motorcycle in a safe and appropriate manner at varying speeds and RPMs.

**CONTINUE**

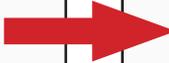
**IT'S TIME TO MAKE RECORDINGS.**



Street tuner is ready to create recordings for tuning.

Start motorcycle, select continue and record data while riding your motorcycle in a safe and appropriate manner at varying speeds and RPMs.

**CONTINUE**



**LOADING TABLE**

A **LOADING TABLE** screen displays.

When done loading, a screen with a blank table appears.

**THROTTLE POSITION (%)**

RPM	3	4	5	7.5	10	15	20	25	30	40	60	80	90	100
700														
850														
1000														
1125														
1250														
1500														
1750														
2000														
2250														
2500														
2750														
3000														
3500														
4000														
4500														
5000														
5500														
6000														
6500														

**▶** O2 Sensor Front    O2 Sensor Rear    -/- Engine Temp.

Press the play button to start the recording. Once the motorcycle is warm and in closed loop the program will start to gather data. This is indicated by the O2 and engine temp displays at the bottom of the screen turning green.

As data is gathered for a certain cell, the cell will change to a darker shade of the color. Only when the cells have reached the darkest shade has

enough data been collected for that cell.

When data for the desired cells has been collected, press the stop button.

**THROTTLE POSITION (%)**

RPM	3	4	5	7.5	10	15	20	25	30	40	60	80	90	100
700														
850														
1000														
1125														
1250														
1500														
1750														
2000														
2250														
2500														
2750														
3000														
3500														
4000														
4500														
5000														
5500														
6000														
6500														

**◻** O2 Sensor Front    O2 Sensor Rear    **80.6** Engine Temp.

**THROTTLE POSITION (%)**

RPM	3	4	5	7.5	10	15	20	25	30	40	60	80	90	100
700														
850														
1000														
1125														
1250														
1500														
1750														
2000														
2250														
2500														
2750														
3000														
3500														
4000														
4500														
5000														
5500														
6000														
6500														

**◻** O2 Sensor Front    O2 Sensor Rear    **249.8** Engine Temp.

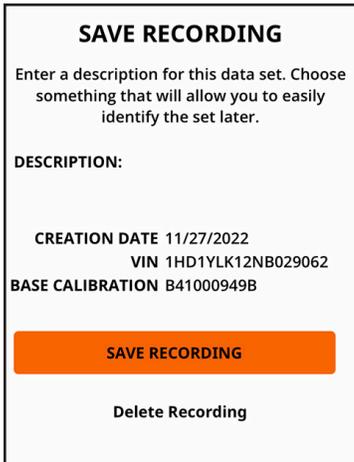




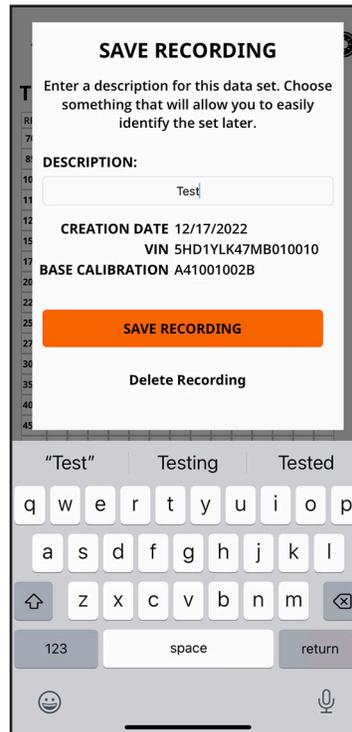
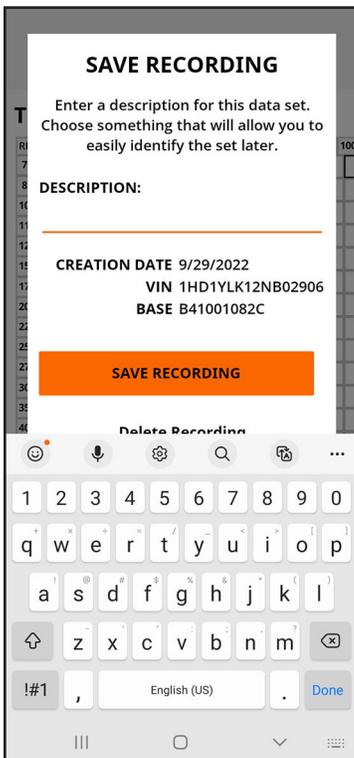
# Harley-Davidson Pro Street Tuner App User Manual

A **SAVE RECORDING** dialog box Appears.

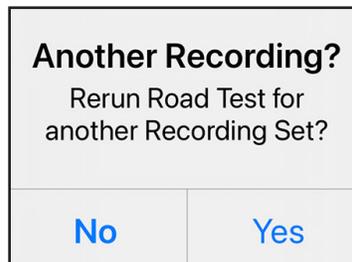
The user can either choose **SAVE RECORDING** or **Delete Recording**.



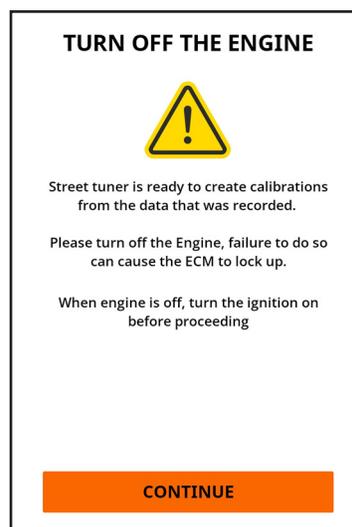
When saving a recording, tap in the description box. The keyboard pop-up will appear.



Type in a new name on the keyboard and press **SAVE RECORDING**.



**Another Recording?** dialog box will display each time. As many recordings can be done as needed by selecting "Yes" and repeating the steps to collect the required data. Select "No" to proceed to the next step.



A **TURN OFF THE ENGINE** pop-up displays. follow the instructions then tap **CONTINUE**.



# Harley-Davidson Pro Street Tuner App User Manual

The user can then select which recordings to include in the custom calibration.

**CHOOSE RECORDING SET**

Select one or more recordings. Be sure to only choose recording sets that match the VIN of the motorcycle you are using.

Test.hdx

Rec2.hdx

Rec1.hdx

**CREATE CALIBRATION**

Cancel



**CHOOSE RECORDING SET**

Select one or more recordings. Be sure to only choose recording sets that match the VIN of the motorcycle you are using.

Test.hdx

Rec2.hdx

Rec1.hdx

**CREATE CALIBRATION**

Cancel

**REVIEW AND APPLY RECORDINGS**

Would you like the software to apply the recommended VE changes from your recordings to your calibration?

LOADING...

**YES**

Cancel

Press **CREATE CALIBRATION**. The data will load from the recordings.

**REVIEW AND APPLY RECORDINGS**

Would you like the software to apply the recommended VE changes from your recordings to your calibration?

Ve Front Cyl

RPM / %	3.0	4.0	5.0	7.5	10.0	15.0
700	64.0	67.0	74.0	81.5	86.5	89.0
850	62.5	66.0	73.5	81.5	86.5	89.0
1000	64.5	68.0	72.5	81.5	87.0	90.0
1125	65.0	68.0	72.5	81.5	88.0	91.0
1250	66.5	70.0	75.0	79.6	87.5	91.5
1500	68.0	71.0	75.9	79.2	83.0	91.5
1750	68.5	71.5	77.7	80.4	85.2	91.0
2000	67.5	70.0	78.8	82.1	84.9	91.5
2250	64.0	67.5	81.5	80.9	84.7	94.0
2500	65.0	69.5	78.5	82.7	88.9	95.0
2750	62.0	66.5	77.0	79.5	87.5	95.0
3000	57.0	60.0	72.0	78.5	82.4	93.0

**YES**

Cancel

Once loaded, the user can review and apply the data from the recordings by selecting **YES**, or choose **Cancel**.

**SAVE CALIBRATION**

**DESCRIPTION**

CREATION DATE 6/21/2023  
VIN 1HD1KEF10P9999994  
BASE CALIBRATION A41001419

**SAVE AND PROGRAM BIKE**

Delete Recording

If applied by selecting Yes, a **SAVE CALIBRATION** dialog box appears. Press **SAVE AND PROGRAM BIKE**.

**PROGRAMMING MOTORCYCLE WITH FINAL CALIBRATION**

Your motorcycle will be programmed with the final calibration

Once programming is complete, your motorcycle will be ready to ride

Tap the "Program Motorcycle button to initiate the programming process.

The programming operation will take a few minutes to complete

ECM Information  
VIN: 1HD1KEF10P9999994

Please turn the ignition off and then back on, but do not start the engine.

**PROGRAM MOTORCYCLE**

Cancel

A **PROGRAMMING MOTORCYCLE WITH FINAL CALIBRATION** dialog box appears.

Follow the instructions in red to cycle the ignition off and on.

The red text will disappear, and the "Program Motorcycle" text will turn black.

**PROGRAMMING MOTORCYCLE WITH FINAL CALIBRATION**

Your motorcycle will be programmed with the final calibration

Once programming is complete, your motorcycle will be ready to ride

Tap the "Program Motorcycle button to initiate the programming process.

The programming operation will take a few minutes to complete

ECM Information  
VIN: 1HD1KEF10P9999994

**PROGRAM MOTORCYCLE**

Cancel

Tap **PROGRAM MOTORCYCLE** to proceed with the final calibration, or **Cancel** to exit.



## PROGRAMMING IN PROGRESS

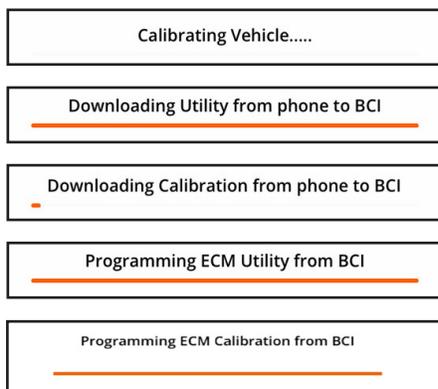


Do not interrupt the programming process or the motorcycle may be programmed by corrupted data.

When programming, another **PROGRAMMING IN PROGRESS** screen displays.

The following progress messages will appear near the

bottom of the screen to indicate what part of the programming process is happening:



A **PROGRAMMING COMPLETE** screen will display if the calibration is successful.



## PROGRAMMING COMPLETE

Your motorcycle's calibration has been updated to allow you to gather data

Your motorcycle now has your custom calibration installed. You can repeat this process as many times as you would like to refine your calibration.



Before continuing you must:

1. Turn OFF the vehicle ignition switch and RUN/STOP switch
2. Wait 20 seconds then turn ON the Ignition switch and RUN/STOP switch

Perform all necessary steps to verify there are not current DTC codes and to clear any historic codes. Enjoy your ride!

CLOSE

Read and follow the instructions as presented on the screen, and then press **CLOSE** to end the calibration session.

## Transferring Files

Calibration files that have been applied to the motorcycle are stored in the cloud. The application will show all calibrations that have been applied to the motorcycle using Pro Street Tuner. Any mobile device or computer using the pro street tuner software will show these calibrations when connected to the BCI and communicating with the motorcycle.

Recording files can be shared directly from the application simply by swiping right on the recording and selecting share. This allows the user to use the typical share features on their mobile device such as email or some other file sharing program to move the files to a different device.

Different mobile devices store files in different locations. For example, connecting an Android mobile device to a personal computer (PC) allows the user to navigate through the folders. Below is a sample location of where the recordings are stored.

Internal storage\Android\data\com.harley\_davidson.mobiletuner

On an Apple device, navigating using the files app on the mobile device will display a Pro Street Tuner folder. Selecting it will display a folder called recordings. Here it is possible to use the sharing functions of the mobile device to share the files with other devices.



## Creating a Calibration on a PC with Mobile Recordings

1. Once the files are transferred to the PC, open Street Tuner on the PC.
2. Navigate to the **TUNING** menu and open the calibration file to which you would like to apply the recording.
3. Go to the tuning tree in the upper left of the screen and select VE Front (Fuel Correction Factor Front on some models).
4. Open the VE Front table.
5. Do the same process for the VE Rear table (Fuel Correction Factor Rear).
6. Select working VE Front table and open it.
7. Do the same process for the working VE Rear table.
8. There are now four windows open on the workspace in tuner.
9. On the Smart Tune VE Front table click add new.
10. Locate the recording on the PC and click open. Do this for each recording you want to add.

**Note:** *The recording will show up in the front and rear VE tables. Scroll down to see the tables.*

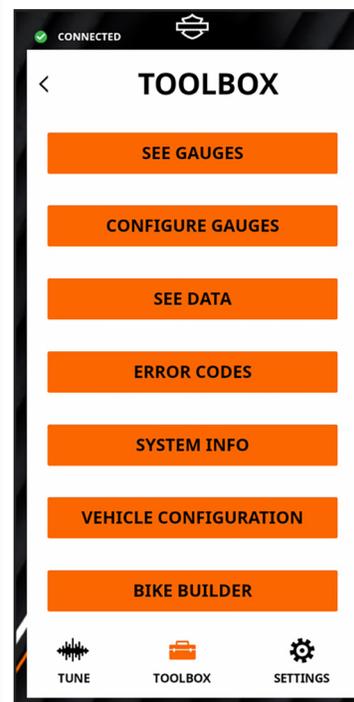
11. Click the generate button on the Smart Tune table and click OK.
12. Click the interpolate button.
13. Click the update button.
14. Do this on the front and rear Smart Tune tables.
15. Click Save As and when popup screen appears click Save.
16. Select Programs Motorcycle. The Record and Review buttons will be grayed out.

## Toolbox

The second section in the main menu is the **TOOLBOX**. The Toolbox accesses the functions of the tuner separate from the actual tuning. These functions include reading DTCs, viewing data, and configuring the gauge widget to view various gauges on the mobile device. Most of the screens can only be accessed when the motorcycle is not moving. However, the created gauge groups can be viewed while riding.

The user can choose from:

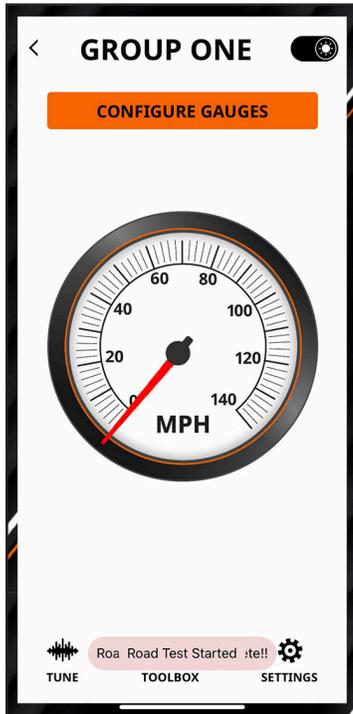
- **SEE GAUGES**
- **CONFIGURE GAUGES**
- **SEE DATA**
- **ERROR CODES**
- **SYSTEM INFO**
- **VEHICLE CONFIGURATION**
- **BIKE BUILDER**





# Harley-Davidson Pro Street Tuner App User Manual

## See Gauges



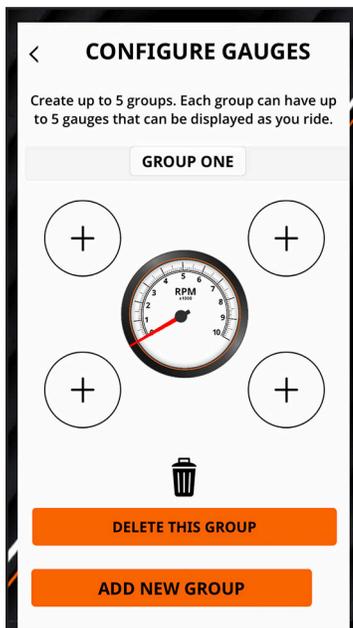
Selecting **SEE GAUGES** shows the user the gauge groups that are created.

If none have been created, the screen will show the **CONFIGURE GAUGES** button. See the Configure Gauges section below for how to add gauges.

The back arrow at the top left of the screen returns the user to the **TOOLBOX** menu.

## Configure Gauges

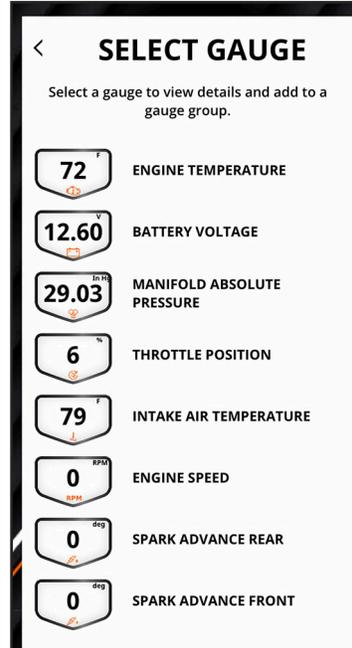
Hitting the **CONFIGURE GAUGES** button on either the **TOOLBOX** or the **SEE GAUGES** screen takes the user to the configure gauges section of the app.



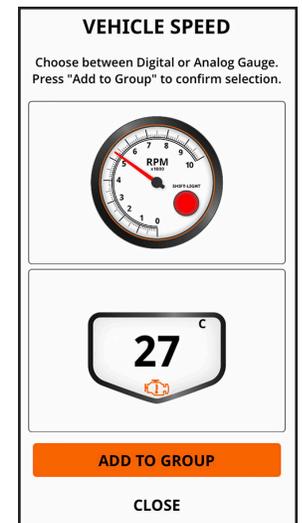
**Note:** Entering from the toolbox screen allows the user to set-up gauges without being connected to a BCI.

To add gauges, tap one of the circles with a + sign.

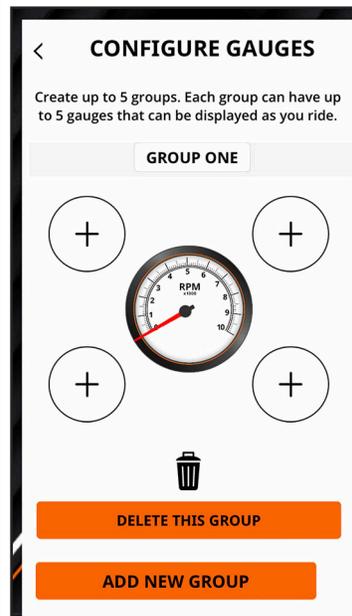
A list of gauges will appear. The user chooses the gauge to be placed in the selected position.



**Note:** When selecting the speedometer or tachometer in the center position, the option for a digital or analog gauge will be offered. Select one and press **ADD TO GROUP**.

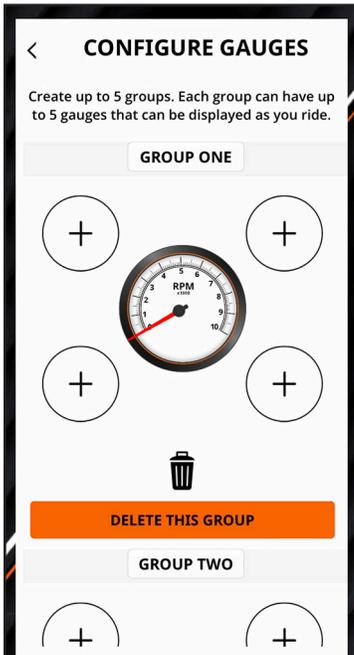


Press the **ADD NEW GROUP** button to add another group.





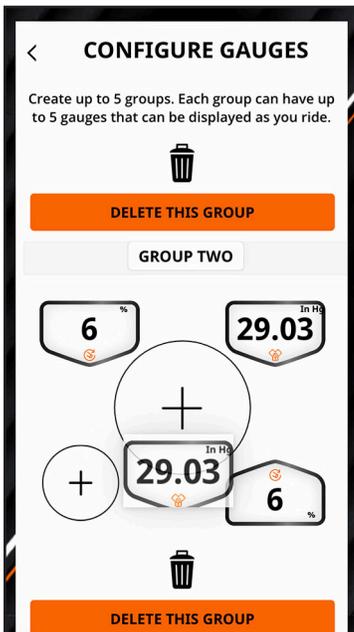
# Harley-Davidson Pro Street Tuner App User Manual



The user can create up to five unique gauge groups with up to five gauges per group.

When editing a group, gauges can be removed by dragging them to the trash icon. Gauges can also be moved by dragging them to another spot in the group.

Press **DELETE THIS GROUP** to remove the whole group.

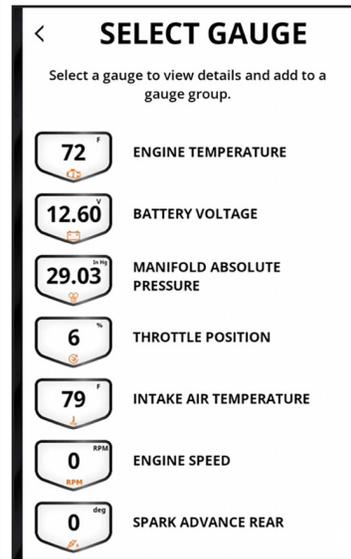


Hit the back arrow at the top left of the screen to save and exit the **CONFIGURE GAUGES** screen.

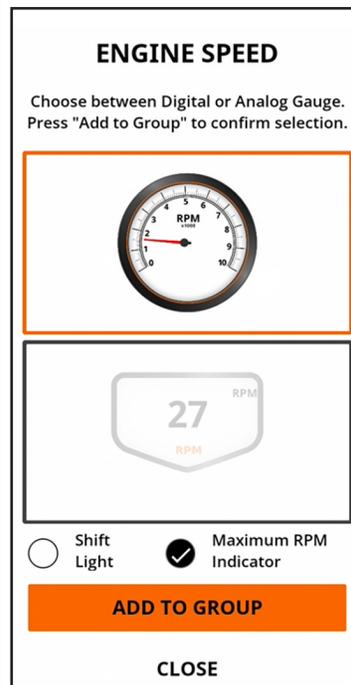
## Maximum RPM Indicator (within Configure Gauges)

The Maximum RPM Indicator shows the user the highest engine RPM that was reached during a ride.

**Note:** For safety reasons, the reset button is disabled when the bike is moving (MPH > 0).



To access the Maximum RPM Indicator function, select the gauge for **ENGINE SPEED**.



Choose the Analog Option.

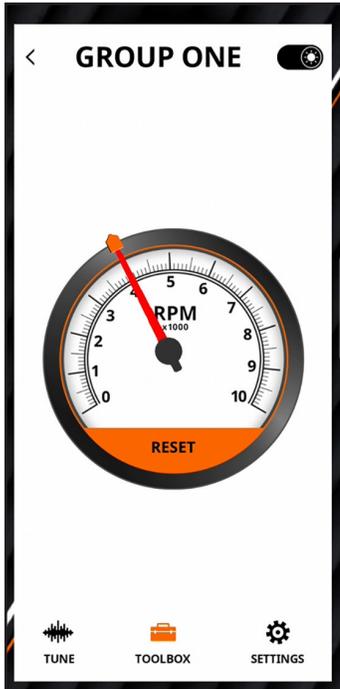
Enable the function by pressing the Maximum RPM Indicator radio button. Press **ADD TO GROUP** and then **CLOSE**.

Hit the back arrow at the top left of the screen to save and exit the **CONFIGURE GAUGES** screen.



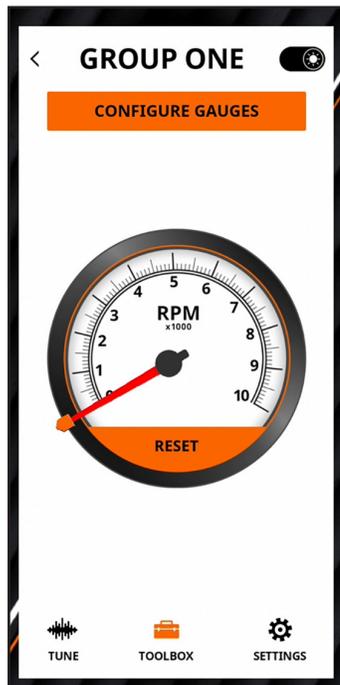
# Harley-Davidson Pro Street Tuner App User Manual

Start the motorcycle (if it is not already running) and go to the **TOOLBOX** Menu. Select **SEE GAUGES**.



Find and select the **ENGINE SPEED** gauge.

The user can now ride the motorcycle and the indicator carot will move as the engine RPM increases to show the maximum RPM achieved.



To reset the RPM back to the current engine RPM, press the **RESET** button on the gauge. It will return to zero if the bike is not running.

## Shift Light (within Configure Gauges)

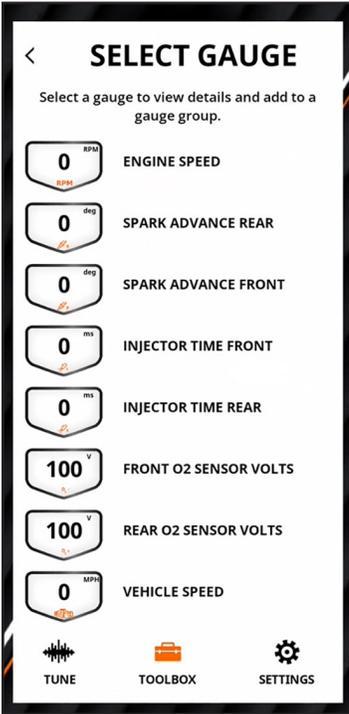
The shift light function informs the user when to shift gears when accelerating without having to focus on the tachometer. When the shift light is active, the background color of the gauge will change. The user can see the change in their peripheral vision without taking their eyes off the road.

### Overview:

- The shift light only applies to the large center gauge in the Gauges function.
- The only data items or parameters that can be used with the shift light are Engine Speed (Analog or Digital) and Vehicle Speed (Analog or Digital).
- It is only available (otherwise greyed out) when the bike has been programmed with a “Tuner” calibration.
- Once enabled and the desired RPM selected, the selected shift light RPM is displayed on the gauge.
- It can be used with either a light or dark background color. The shift light color changes depending on the selected background color to have adequate contrast when active.
- The shift light comes on when the selected Engine RPM is reached and will turn off if the RPM changes +/- 500 RPM from the selected value.
- The shift light stays on for a minimum of 1 second, and stays on longer if the RPM remains within 500 RPM of the selected value.



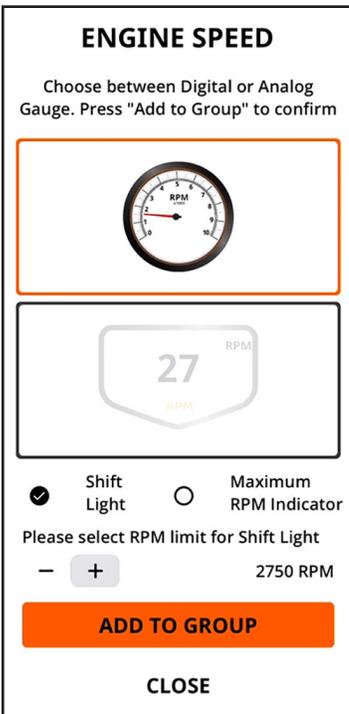
# Harley-Davidson Pro Street Tuner App User Manual



To enable the shift light function, choose the data item either **ENGINE SPEED** or **VEHICLE SPEED**.

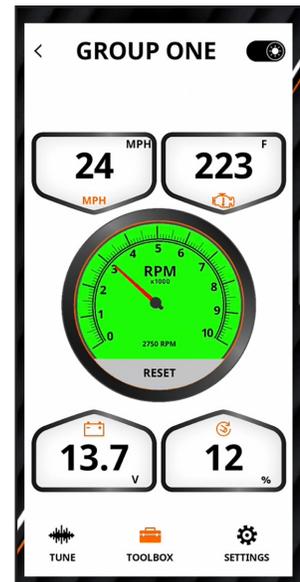
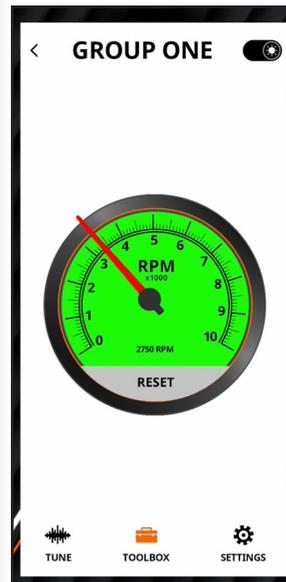
Start the motorcycle (if not already running) and go to the **TOOLBOX** Menu. Select **SEE GAUGES**. The user can now ride and the shift light will activate when the selected Engine RPM is met.

The display will show based on user set up between a single gauge and the full set of five gauges.



Enable the feature by selecting the Shift Light radio button and then selecting the desired engine RPM. Press **ADD TO GROUP** and then **CLOSE**.

Hit the back arrow at the top left of the screen to save and exit the **CONFIGURE GAUGES** screen.





# Harley-Davidson Pro Street Tuner App User Manual

## Redline Light on Tachometer

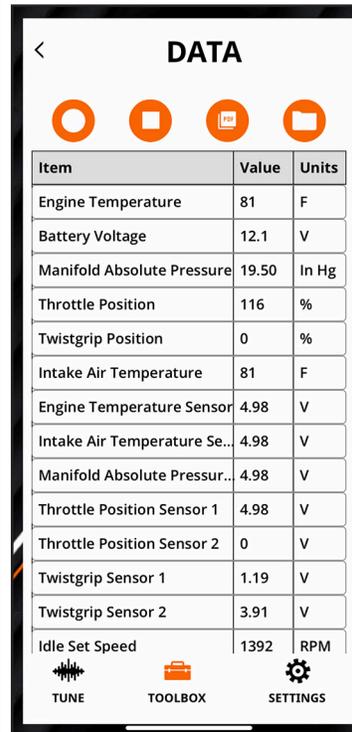
The Tachometer flashes red (similar to Shift Light) when the motorcycle reaches redline RPM. Once calibrated (the ECM re-flashed with the Tuner), the software indicates the max RPM of the connected motorcycle. The background color turns red as soon as the engine reaches the max RPM, and stays red as long as the RPM is at or above redline. If/when the RPM drops below redline, the background red color stays on for 1 second before reverting to the normal background color.

**Note:** If the selected shift light RPM value is the same as max RPM, the redline light displays.



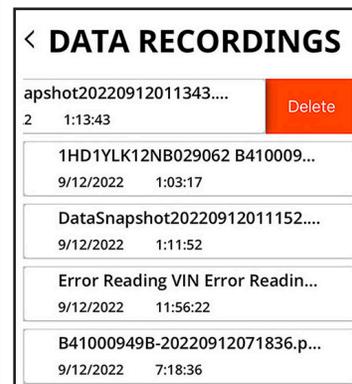
## See Data

Next, the **SEE DATA** option shows the user the various data items read from the motorcycle. The user also has the ability to record and save data. Press the play button to start a recording



and the stop button to stop and save recording. There is also a pause button to pause a recording. Selecting the PDF button allows the data in the table to be saved as a PDF, and selecting the data recordings button brings up a list of all the recordings in the mobile device. From here the user can either swipe right or left.

**Swiping left** gives the option to delete the recording.



**Note:** There is no warning to ask if the user wants to delete before the recording is deleted.

Hit the back arrow when done to return to the **TOOLBOX** menu.



# Harley-Davidson Pro Street Tuner App User Manual

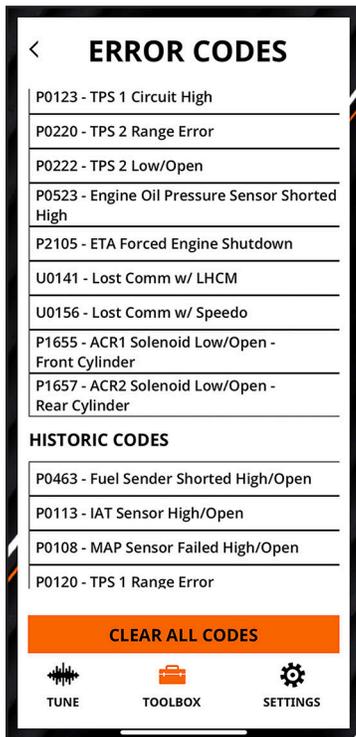
Swiping right on a recording gives the user the option to rename or share the recording. The share feature uses the mobile device's operating system to share the files.



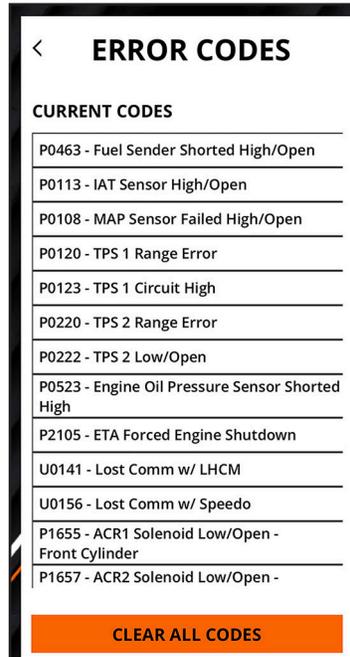
**Note:** Refer to *Creating a Calibration on a PC with Mobile Recordings* section on page 16 for instructions to get files to the PC tuner application.

## Error Codes

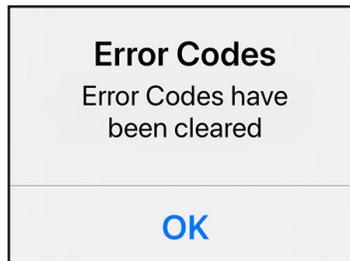
The **ERROR CODES** option will show the user if there are any current or historic ECM error codes when the mobile device is connected to the motorcycle.



Pressing the **CLEAR ALL CODES** button will clear all error codes. The current codes will return if they are still relevant.

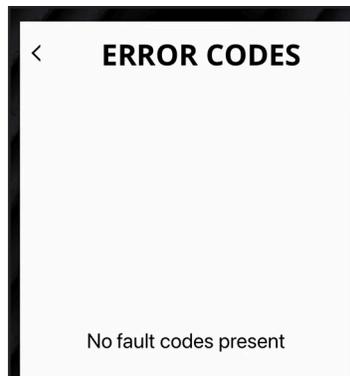


After all the error codes are addressed, the user can press **CLEAR ALL CODES** again to delete the codes.



A dialog box appears acknowledging that all codes have been cleared. Tap **OK** to continue.

The next screen will show the user that there are no error codes to display.



The user can now hit the back arrow to return to the **TOOLBOX** menu.



# Harley-Davidson Pro Street Tuner App User Manual

## System Info

The **SYSTEM INFO** option displays a screen with all the available information about the motorcycle.

The **PRINT SYSTEM INFO** button at the bottom of the screen allows the user to create a PDF document of the system info screen.



The user can now hit the back arrow to return to the **TOOLBOX** Menu.

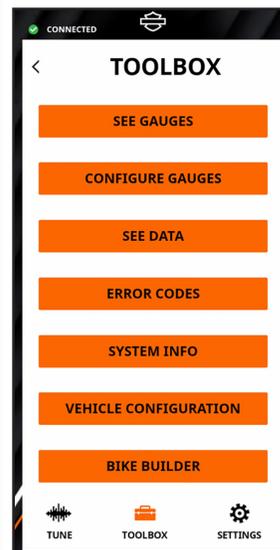
## Vehicle Configuration

The vehicle configuration screen is an information and maintenance screen that allows the owner to save information related to the motorcycle's performance upgrades and maintenance schedule. This screen can be viewed and edited both with and without being connected to BCI. The information entered by the user is saved locally to the device.

To open Vehicle Configuration, select **TOOLBOX** from the main menu.



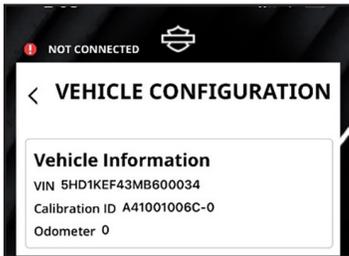
Select **VEHICLE CONFIGURATION**.



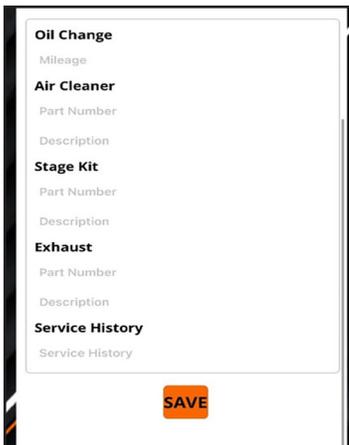


# Harley-Davidson Pro Street Tuner App User Manual

The information at the top of the screen (VIN, Calibration ID, and Odometer) is automatically collected from the bike when the BCI is connected. Once this information has been saved, it will be displayed even when the BCI is not connected and updated the next time the BCI is connected if anything has changed.

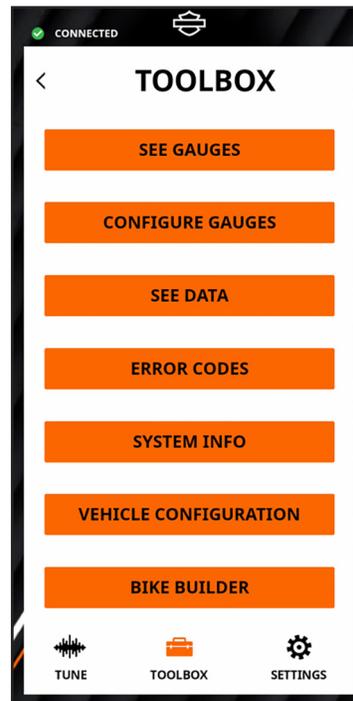


The main portion of the screen (Oil Change, Air Cleaner, Stage Kit, Exhaust, and Service History) are open text fields where the user can enter information.



## Bike Builder

Selecting **BIKE BUILDER** from the **TOOLBOX** menu takes the user to an online feature that allows them to look at the latest motorcycle models and create their own custom configuration.





## Settings



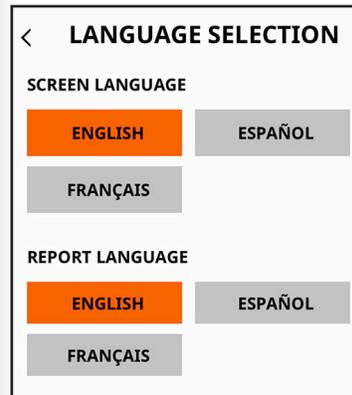
The third section of the app is Settings. Pressing **SETTINGS** from the main menu will bring up another menu of options.

The user can choose from:

- **LANGUAGE SETTINGS**
- **UNITS OF MEASURE**
- **TABLE DISPLAY COLORS**
- **SOFTWARE INFO**
- **RESET GAUGES**
- **BLUETOOTH SETTINGS**

## Language Settings

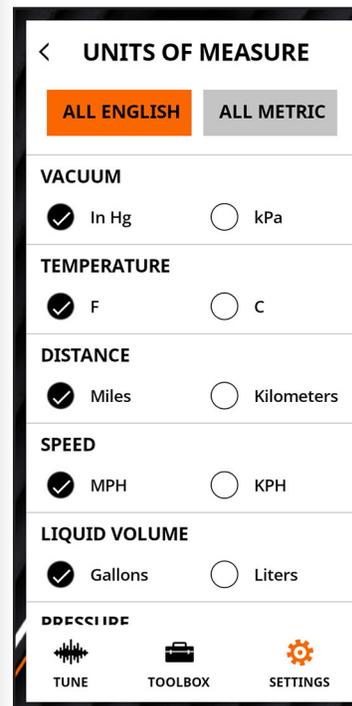
**LANGUAGE SETTINGS** allows the user to pick the preferred language for both the screens and generated reports.



When done, hit the back arrow to return to the **SETTINGS** menu.

## Units of Measure

**UNITS OF MEASURE** sets the app to be either All English or All Metric at the top, or the user can individually pick the units of measurement for each category.



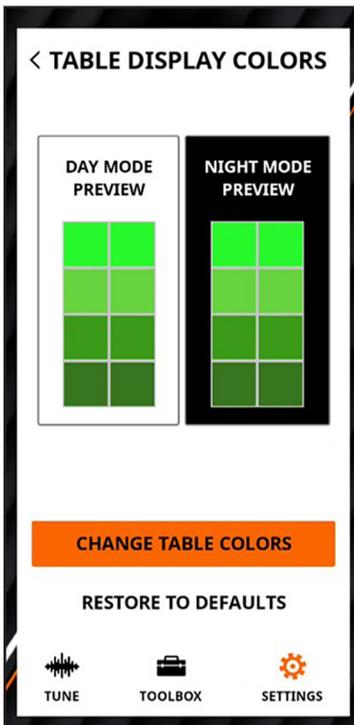
When done, hit the back arrow to return to the **SETTINGS** menu.



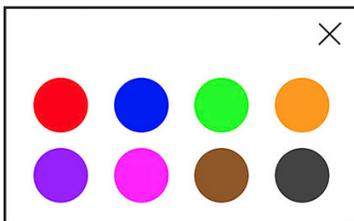
## Table Display Colors

The **TABLE DISPLAY COLORS** setting offers the user a variety of different colors to choose when filling in the cells during a smart tune.

Press **CHANGE TABLE COLORS** to choose a different color, or **RESTORE TO DEFAULTS** to reset to the app default colors.



A color options dialog box appears.

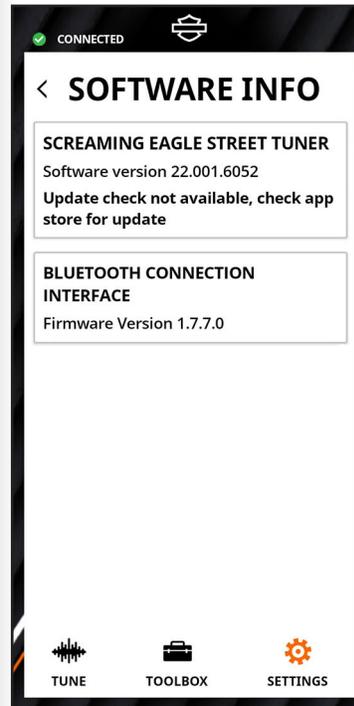


When done tap the X to close the box and hit the back arrow to return to the **SETTINGS** menu.

## Software Info

**SOFTWARE INFO** displays the current software and firmware version.

When done, hit the back arrow to return to the **SETTINGS** menu.



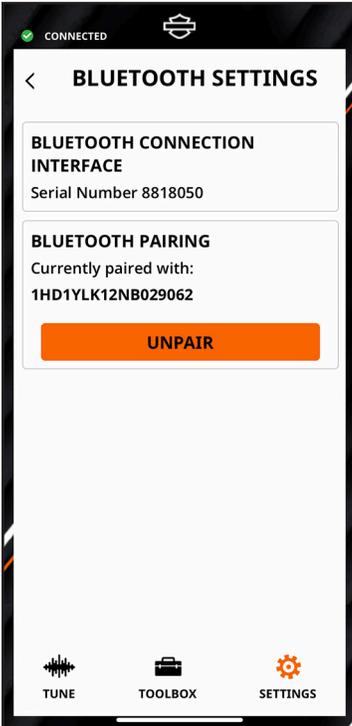
## Reset Gauges

Pressing **RESET GAUGES** will reset any changes made in the configure gauges part of the app. All the previous gauge configurations will be reset to the original app configuration.



# Harley-Davidson Pro Street Tuner App User Manual

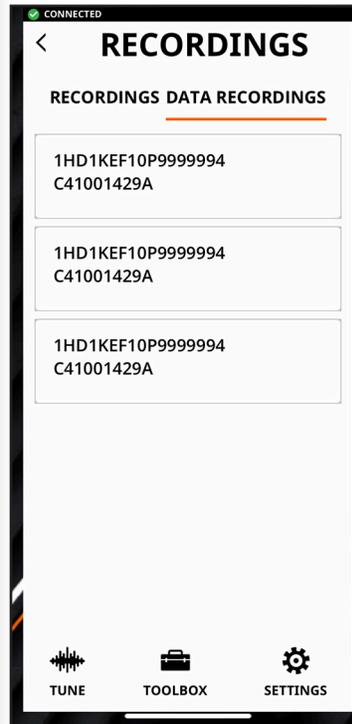
## Bluetooth Settings



The Final setting is **BLUETOOTH SETTINGS**.

Unpair the BCI by simply pressing the **UNPAIR** button. Unpair also allows the user to connect to another device. After unpairing, if the message appears, “paired to another mobile device,” refer to the Troubleshooting section on page 29.

## Recordings



The last section of the app is **RECORDINGS**. When selected from the main menu, It allows the user to rename, share, and delete recordings without being connected to the BCI.

Refer to pages 12-14 and 21-22 on how to access and use the various recording functions.



Follow the instructions at the top of the screen then press **NEXT**. See section on connecting the BCI on page 6.

## Firmware Update



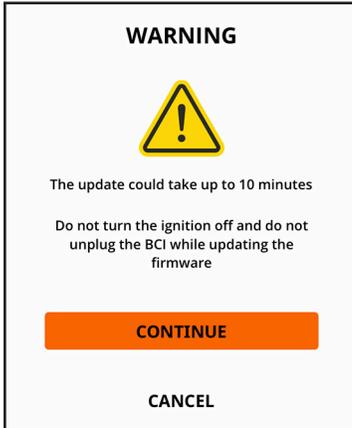
**Note:** The entry/exit from the popup screen is dependent on where the user is when the popup is displayed. This can happen any time when the BCI connects to the mobile device. Automatic reconnection could happen during any screen.

Tap **Yes** to begin the update. Choosing **No** returns the user to the previous screen.

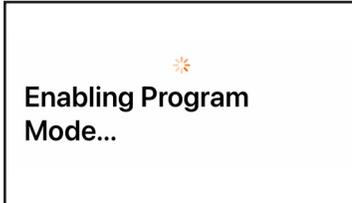


# Harley-Davidson Pro Street Tuner App User Manual

When proceeding with the firmware update, a **WARNING** screen displays. Read and follow the instructions on the screen, then select **CONTINUE** or **CANCEL**.



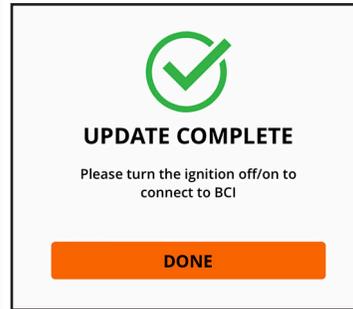
Continuing will see an **ENABLING PROGRAM MODE** before the update starts.



Firmware begins updating.



A screen will display indicating the firmware update is complete. Follow the instructions on the screen to cycle the ignition off/on. Pressing **DONE** will remove the screen and let the user continue in the application.





## Trouble Shooting

### 1. Bluetooth and Location Services:

It is important to verify that Bluetooth and location services are turned on. The location services are used to locate Bluetooth devices in the area. These features should be enabled for both the phone and the Street Tuner application in your device's settings.

### 2. Internet Connections:

The Street Tuner application uses a cloud-based database and therefore requires an internet connection to retrieve data specific to the motorcycle. Poor internet connections may cause data to be lost or corrupted during transfer.

### 3. Unpairing:

To unpair the motorcycle, if receiving the message "paired to another mobile device," follow these instructions: Turn the ignition off for 30 seconds. Turn the ignition on with the engine off, then quickly turn the twist grip to 100% and back to 0% repeatedly until the LED performs a series of quick flashes. After that, the LED will begin to flash at 1 second intervals indicating the BCI is waiting to be paired.

### 4. Error Codes:

The application may display error codes if a failure in certain areas of the functionality is recognized. The below chart is a list of the error codes and likely solutions.

Value	Name	Meaning	Solutions
1	CalDataRecordsNull	Calibration data records are null.	Note calibration ID and see dealer.
2	UtilitFileReflashFail	Utility File reflash is failed.	Make sure phone is within 20 feet with line-of-sight to the Tuner , cycle key on the bike, and retry.
3	ErrorUnlocking	Error in unlocking the ECM for programming mode.	Verify strength of internet connection and retry.
4	ErrorWithFileDownload	Error with file download.	Verify strength of internet connection and retry.
5	ErrorDownloadingFilesToBCI	Error downloading the files to BCI.	Bluetooth Connection Error. Make sure phone is within 20 feet with line-of-sight to the Tuner and retry.
6	ErrorWritingTunedBit	Error writing the Tuned bit.	Verify strength of internet connection and retry.
7	ErrorSendingPayload	Error sending the Payload file.	Make sure phone is in within 20 feet with line-of-sight to the Tuner, cycle key on the bike, and retry.
8	ErrorReflashingUtility	Error while reflashing the Utility file.	Make sure phone is in within 20 feet with line-of-sight to the Tuner, cycle key on the bike, and retry.



# Harley-Davidson Pro Street Tuner App User Manual

Value	Name	Meaning	Solutions
10	ErrorReadingDOUT	Error in reading the DOut information.	Verify strength of internet connection, confirm bluetooth is connected, and retry.
11	ErrorWritingDOut	Error writing the DOut information.	Verify strength of internet connection, and retry.
12	LowBatteryVoltage	Vehicle Battery Voltage low after file transfer to BCI.	Charge battery and retry.
13	HighBatteryVoltage	Vehicle Battery Voltage high after file transfer to BCI.	Identify and fix source of high voltage and retry. Voltage must be below 14.5V.
14	ErrorTurningOffHeadlamp	An error occurred turning off the headlamp.	Retry flashing calibration to bike.