TWO STROKE PERFORMANCE

ERM User Guide

September 2024

1. Product Overview

The TSP ECU Reflash Module (ERM) is a powerful handheld tuning and diagnostic tool packed full of features. The ERM works with the OEM ECU and allows you to perform the following functions:

- Save a copy of the Original Tune from the ECU
- Flash a copy of a TSP Tune to the ECU unlimited times
- Store up to two different TSP Tunes plus the Original Tune on the ERM at the same time
- Make simple but effective changes to the TSP Tune through **Basic Tuning**. This allows changes to fuel, ignition and power valve (power valve: TBI models only)
- Flash the Original or TSP Tune to the ECU in approximately 15 seconds.
- Make more advanced changes to tune using **Pro Mode** or **Pro+ Mode** (paid additional features)
- Read and clear fault codes
- View live engine data such as rpm, throttle, voltage, coolant temperature, map selection and power valve position.

1.1 Quick Start Guide

Please follow the guide below to successfully get your ERM paired to your bike! To begin with, here is some additional information that can help with understanding the ERM device:

- Do not leave the ERM plugged in when not using your bike. The ERM will still use a small amount of battery power while asleep and it may drain the battery after 1-2 weeks depending on battery condition. It is best to always disconnect after use.
- Avoid contact with water when possible. The ERM is rated IP54. This means that the ERM has moderate water resistance, but it is not waterproof. Water ingress may damage the ERM. Do not pressure wash. Do not submerge the ERM in water.
- When setting up your ERM, always save backup of the original tune once the ERM has been paired; this will allow easier recovery of your stock tune in the future in case of ERM damage.
- When using the ERM on the bars, treat it like any other valuable electronics device; it can handle a small amount of moisture, vibration, and impact but it is **not** bulletproof. It is advised to use it as intended for tuning & data logging, but otherwise it is safer to keep it off the bars unless required.
- Warranty – For a full breakdown of the TSP warranty, please visit the warranty & legal sections. Water damage, impact damage and normal wear & tear are **not** covered under warranty.

Please see below the installation videos for the TSP ERM. Ensure you watch the entire playlist below to get all the information required to set up your ERM. These videos will automatically play one after another.

Getting Started 1 - Unboxing the ERM

We strongly advise you watch the video above in full, but a quick summary of the video is as follows:

1. Power your ERM from a computer using the supplied USB cable
2. Note the device ID and Verification number (Please note these must be 100% accurate or you will not gain access to the website)
3. Visit www.tsp-erm.com
4. Create a customer account
5. Once your account is activated go to 'My Devices' and register your new device with the Device and Verification IDs noted down before. You will then be asked to put in your bike's information – Ensure you do this correctly as you will only have access to Tunes to suit your bike
6. Under 'My Devices', press 'Device Info' and then 'Download Registration File'. Save this file to your PC.
7. Under 'My Devices', press 'Maps' and download the relevant TSP Tune to your PC. Ensure you take your time to select the correct tune for your bike setup, as you are only allocated one free tune with your ERM.
8. Go to the 'Software Downloads' and download the latest version of the ERM Manager software.
9. Run 'ERM Manager Setup'
10. Once the ERM Manager is open, press 'Refresh'. Select your ERM when it appears on the list, and press 'Connect' and wait a moment.
11. After ERM manager has connected to your ERM, press the 'Registration' tab, and then press 'Upload Registration'. Select the registration file that you previously downloaded from tsp-erm.com and press OK. Your registration details should now appear on the Registration screen in the ERM Manager application.
12. Now go to the 'Tunes' tab, press 'Upload Tune', select the tune which was downloaded from the website earlier, press OK. The device will download the tune you've uploaded to ERM Manager and reboot. If successful, ERM Manager will reconnect automatically when it's finished.
13. Your ERM Is now registered with your tune and you are ready to plug it into your bike!
14. When plugging it into your bike, the device is powered by a black 6-pin plug behind the head light which is standard on all TPI & TBI bikes.
15. Once the device is powered, it will ask you to Pair to your ECU. This will take a copy of your stock ECU tune in this process. Important note: The ERM can only be used against one bike at a time, and it will lock to your ECU unless an unlock code is purchased
16. **TBI Models Only:** Before pairing the ERM requires an active internet connection. This is required to gain access to your ECU for the first time only. This can either be to your home wifi network, or to a mobile phone using wifi tethering.
17. After the device has finished pairing to your ECU, you are free to use the device! This is a good time to go into the options and flash the downloaded TSP Tune to your ECU.

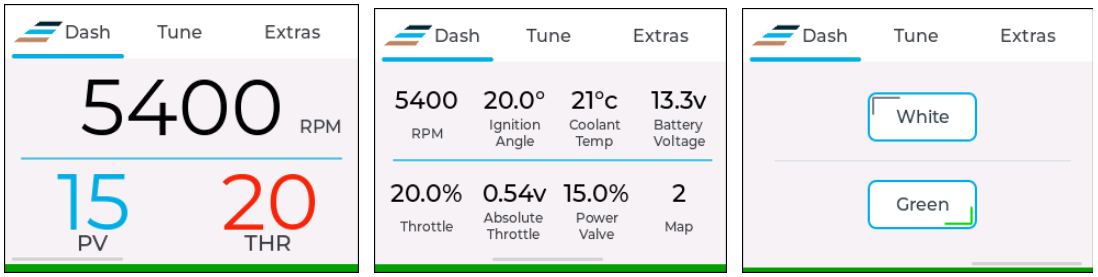
2. Care Instructions

- **Do not** leave the ERM plugged in when not using your bike. The ERM will use a small amount of battery power while asleep and it may drain the battery after 1-2 weeks depending on battery condition. It is best to always disconnect after use.
- **Avoid** contact with water when possible. The ERM is rated IP54. This means that the ERM has moderate water resistance, but it is not waterproof. Water ingress may damage the ERM. Do not pressure wash. Do not submerge the ERM in water.
- When setting up your ERM, **always** save a backup of the original tune once the ERM has been paired; this will allow easier recovery of your stock tune in the future in case of ERM damage.
- When using the ERM on the bars, treat it like any other valuable electronics device; it can handle a small amount of moisture, vibration, and impact but it is not bulletproof. It is advised to use it as intended for tuning & data logging, but otherwise it is safer to keep it off the bars unless required.
- Warranty – For a full breakdown of the TSP warranty, please visit the warranty & legal sections. Water damage, impact damage and normal wear & tear are not covered under warranty.

3. Dash Pages

3.1 Dash Overview

The Dash feature on the ERM gives you live data from your engine laid out in different formats. You can use the information on the dash screens to assist with tuning of the engine, performing service items such as setting TPS voltage, checking crank pressure sensor readings, checking battery or charging voltage, changing maps, or viewing coolant temperature. The Dash feature comprises three different screens for TBI models and two different screens for TPI models. Each Dash screen can be accessed by half-swiping across the screen from any other Dash screen.



TBI Dash 1, Dash 2 and Dash 3 shown in order from left to right

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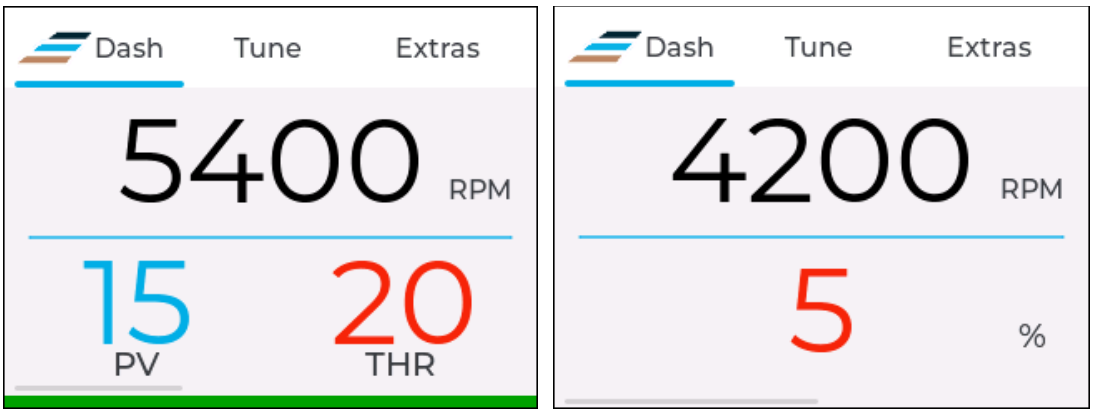
3.2 Dash One Screen



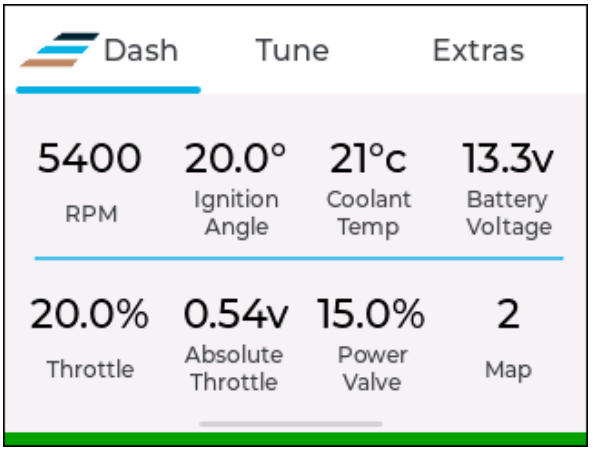
TBI & TPI Dash One

To get to Dash One, press the Dash label at the top left corner of the ERM screen. This will take you to the Dash area and will display Dash One. This screen features large text and allows you to view basic info like RPM, Throttle and Power valve. It is intended for use while riding so that with a quick glance you can see the current state of the engine. This is particularly helpful when tuning the engine. For example, if there is an area where the engine feels rich you can make a quick check of rpm and throttle while riding and then use this info to make effective changes to that zone using our Tune feature. Knowing basic info about which

throttle position, rpm or power valve position the engine is operating at makes tuning much easier and quicker.

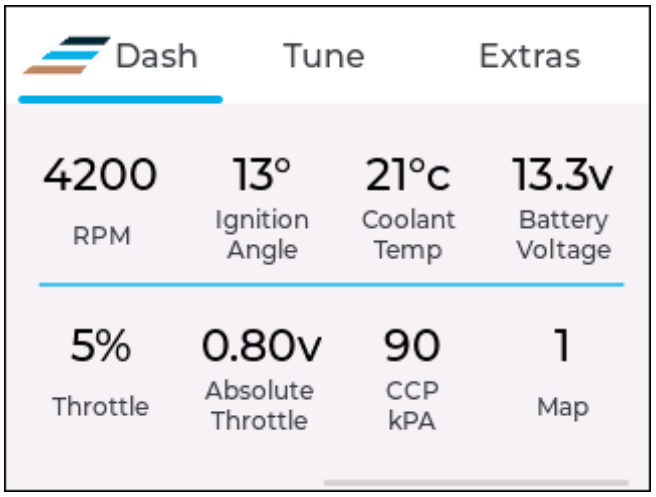
3.3 Dash Two Screen (TBI Models)

Dash two is positioned to the right of Dash one and can be accessed by doing a half swipe from right to left from Dash one. This screen shows more detailed engine data as follows:



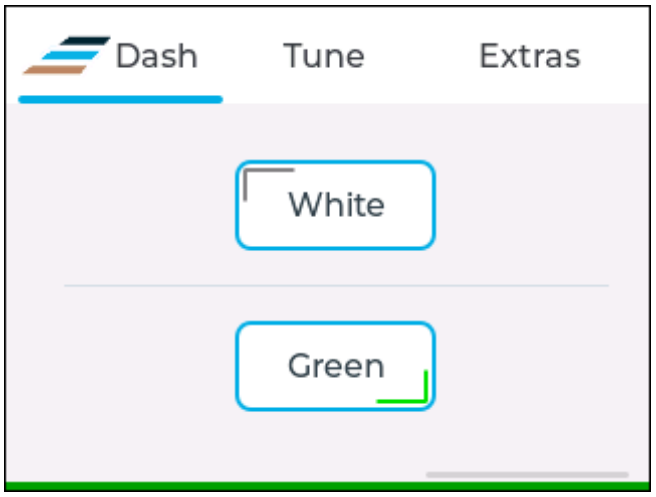
- **RPM:** Engine rpm
- **Ignition Angle:** Ignition advance angle in degrees
- **Coolant Temp:** Coolant temperature in degrees celsius or Fahrenheit
- **Battery Voltage:** With the engine off this shows the battery voltage, with the engine running it shows charging voltage.
- **Throttle:** Shows the throttle from 0→100% where 0 is the idle closed throttle position, not fully closed throttle. The upper and lower limits can be set under Extras → Device →Calibrate Throttle. Throttle calibration only affects the ERM display of throttle, it does not change the ECU in any way
- **Absolute Throttle:** TPS voltage from 0→5v
- **Power Valve:** Shows the position of the power valve from 0→100% open
- **Map:** Shows the current selected map
- **Map Indicator:** At the bottom edge of the screen, displays Grey or Green to highlight the chosen map. Grey = White Map, Green = Green Map.

3.4 Dash Two Screen (TPI Models)



- **RPM:** Engine rpm
- **Ignition Angle:** Ignition advance angle in degrees
- **Coolant Temp:** Coolant temperature in degrees celsius or Fahrenheit
- **Battery Voltage:** With the engine off this shows the battery voltage, with the engine running it shows charging voltage.
- **Throttle:** Throttle from 0→100% where 0% is the idle closed throttle position, not fully closed throttle. The TPI ECU will relearn the 0% throttle position by itself as long as the closed throttle position is set within normal limits, usually under 0.67v. Usually a good idle setting is around 0.52v→0.58v. If this value never shows 0% then the ECU has not been able to relearn the closed position and idle adjustment is required.
- **Absolute Throttle:** TPS voltage from 0 → 4.45v
- **CCP:** Crankcase pressure reading in kPa
- **Map:** Selected map

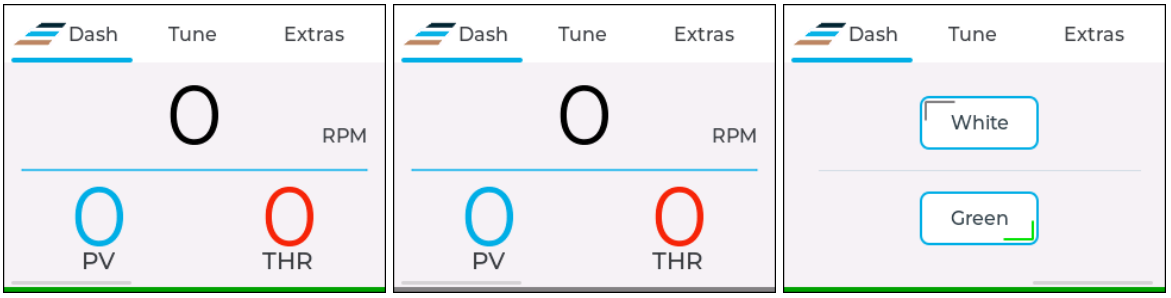
3.5 Dash Three Screen (TBI Models)



Dash Three is positioned to the right of Dash Two and can be accessed by doing a half swipe from right to left from Dash Two. This screen features buttons which allow the user to change between the White and Green Map on the ECU.

3.6 Map Indicator Bar (TBI Models)

All 3 Dash screens for the TBI models feature a map indicator bar at the bottom of the screen. Thai bar changes from grey to green to indicate if the White map or Green map have been selected. It makes it very easy for users without a factory map switch to know which map they are in at any given time.

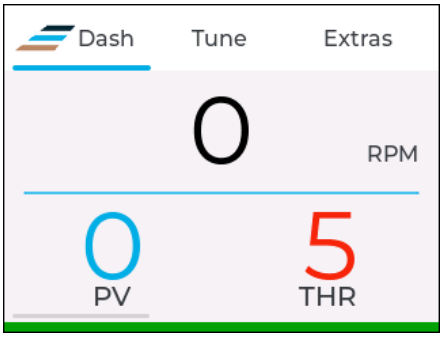


Green Map ***White Map*** ***Map Selection***

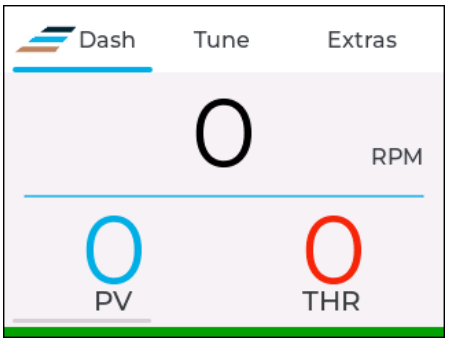
3.7 Dash Throttle Calibration (TBI Models)

TBI models have a throttle calibration feature which allows the user to set the upper and lower limit of throttle movement on the ERM. Calibrating the ERM throttle in this way ensures that the correct 0→100% throttle range is shown on the Dash screens. It has no impact on how the ECU uses throttle readings. The reason for calibration is so that the user can accurately identify the throttle setting they are using if making tuning adjustments. If the throttle on Dash One shows a value other than 0% at closed throttle then the throttle

calibration should be performed. See Extras → Device → Throttle Calibration for the full procedure.



Before Calibration

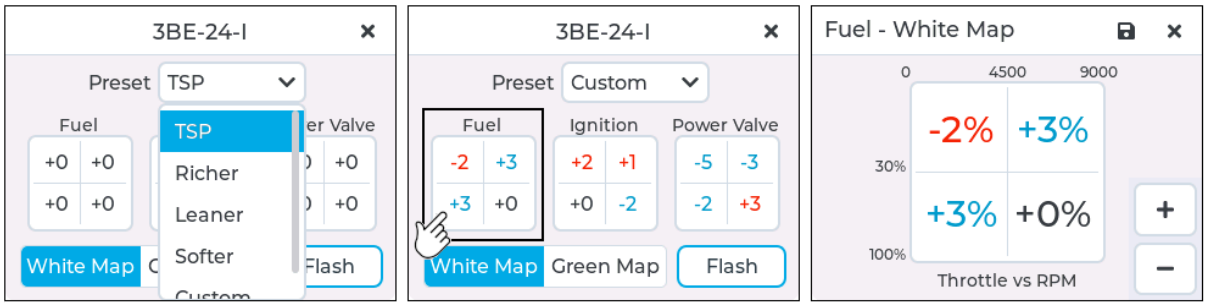


After Calibration

4. Tune Overview

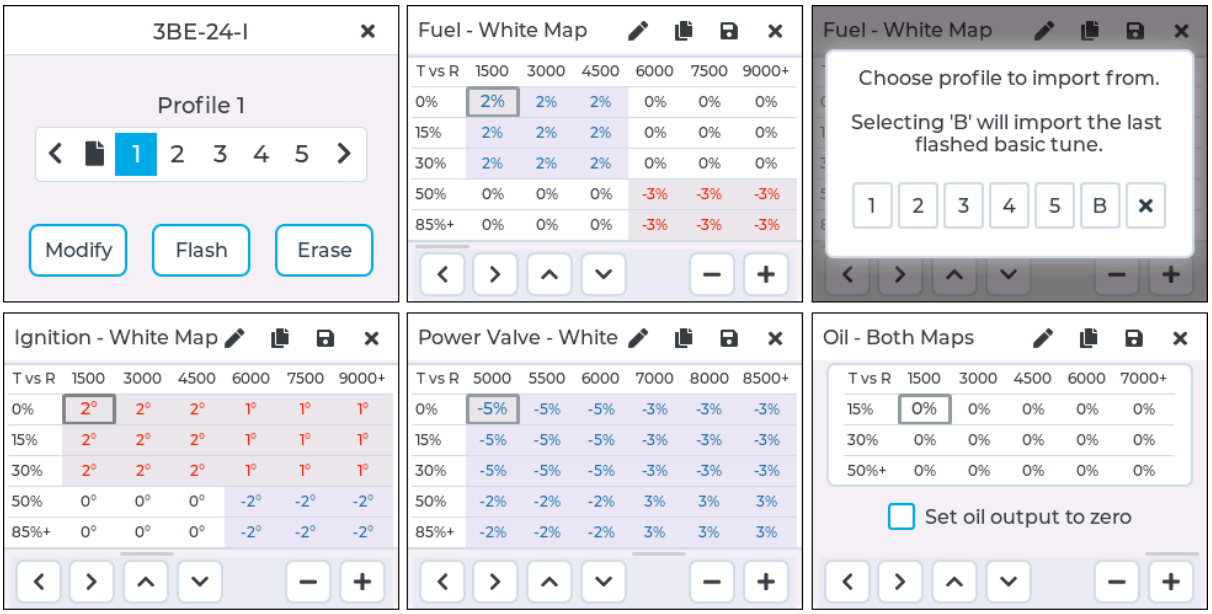
The Tune section of the ERM is one of the most powerful features of this device. It allows you to flash a tune to the ECU (Original, TSP Tune 1 or TSP Tune 2) in as little as 15 seconds plus allows you to modify either of the stored TSP Tunes to suit your riding style and conditions. When modifying a tune you have a choice of three different modes - **Basic, Pro and Pro+**.

Basic Mode comes free with every ERM and allows the user to make simple but effective changes to the mapping based on rpm and throttle. It offers four cells of adjustment based on low/high throttle and low/high revs.



Preset Options | Customised Changes | Fuel Table Selected

Pro Mode is a paid extra and allows the user to make changes based on rpm vs throttle to a much higher resolution than Basic Tuning. It offers 30 cells of adjustments across multiple rom and throttle points. Pro mode is limited by min/max adjustment values for fuel, ignition, power valve and oil. Pro Mode can be used by novice through to experienced users.

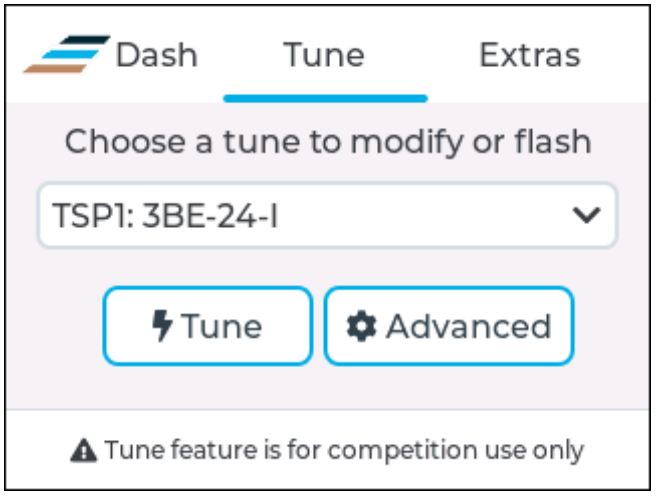


*Power Valve TBI Models Only

Pro+ Mode is a paid extra and offers the same resolution as Pro Mode (30 cells) but has no limitations on the size of the changes. Pro+ Mode is intended for experienced users only.

4.1 Navigating to the Tune section

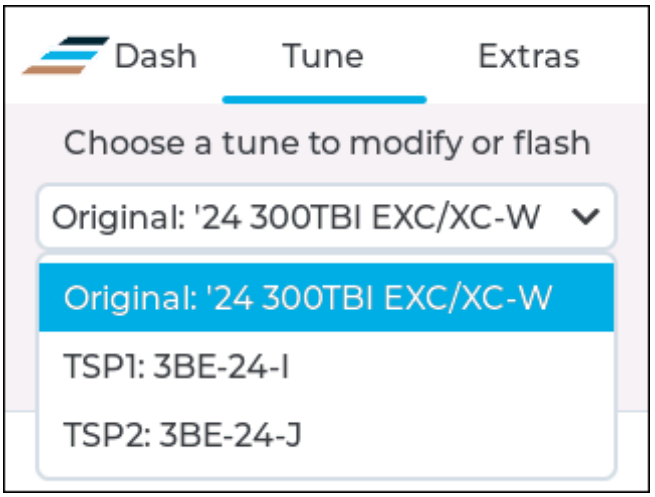
To get to the Tune feature press the 'Tune' label centre-top of any ERM screen. This will take you to the first Tune screen which shows a drop down menu of all the available maps (see below).



4.2 Tunes

The ERM is capable of storing up to three different tunes that can be used unlimited times on the ECU that the ERM is paired to. The ERM comes with one free TSP Tune but others can be purchased and downloaded from the ERM website then saved to the ERM.

The dropdown menu on the first Tune screen shows the tunes available on the ERM to flash or modify:



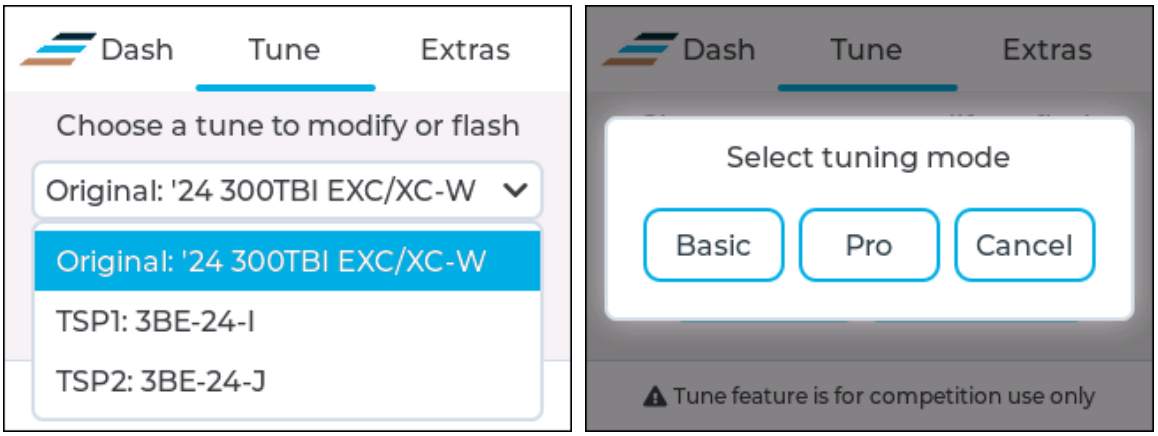
Original: This is the original tune that was copied from the ECU during ERM pairing. It is assumed that this will be the stock factory tune for your bike, however if the ECU has previously been tuned it may already be a modified tune. The ERM will treat any tune that is on the ECU during pairing and the 'Original Tune'. The tune saved as the Original Tune can be flashed back to the ECU at any time but it cannot be modified.

The Original Tune is automatically given a name based on the bike details used during registration of the ERM. Eg. '24 300TBI EXC/XC-W

TSP1 & TSP2: These are the TSP Tunes loaded using ERM Manager. You may not have a TSP2 option if you have not loaded a second tune. TSP tunes can be flashed to the ECU or modified using Basic, Pro or Pro+ Modes. There are no limits on the number of times they can be flashed or modified. The name shown on the dropdown menu is the name given by TSP for that particular tune. Eg. 3BE-24-I

4.3 Selecting a Tune to Flash or Modify

Choose a tune from the dropdown menu, then press **Tune**. You will then be given a choice of **Basic**, **Pro** or **Cancel**.



Note: Changes cannot be made to your original tune

Basic: Takes you to the Basic Tuning section where you can flash a TSP Tune to the ECU. You can also use this feature to make quick and effective changes to a TSP Tune to suit individual riding conditions or bike setup. It offers 4 cells of adjustment based on low/high throttle and low/high revs.

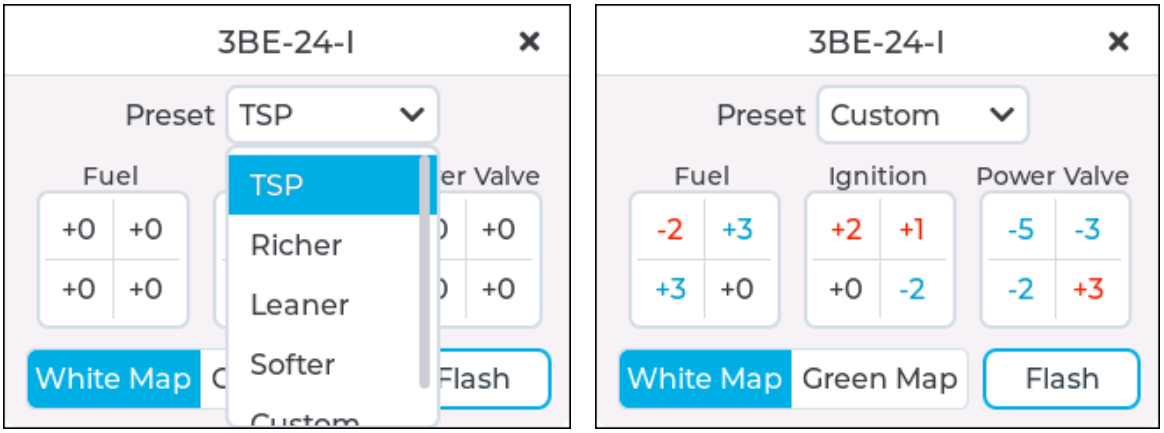
Pro: Takes you to Pro Mode where you can make higher resolution changes than Basic allows. Pro Mode is a paid feature which can be activated on the ERM website. It offers 30 cells of adjustments across multiple rpm and throttle points. Pro mode is limited by min/max adjustment values for fuel, ignition, power valve and oil.

Cancel: Takes you back to the tune selection dropdown menu

5. Basic Tuning Overview

Basic Tuning is a new feature introduced in ERM Firmware v2.0. It's an extremely powerful yet simple feature which allows the user to modify fuel, ignition and power valve (TBI models only) on either of the TSP Tunes stored on the ERM. Basic Tuning is available to all ERM v2.0 users with no additional cost. It is intended to allow users to make simple but highly effective changes to the TSP Tunes to suit individual riding conditions, fuels or bike setups.

To reach the Basic Tuning feature select a tune from the dropdown menu and press **Basic**. This will open the main **Basic Tuning** screen:



5.1 Basic Tuning Tables

Basic Tuning features 4×4 tables for fuel, ignition and power valve (TBI models only). These tables can be quickly and easily adjusted using one of the available presets, or create custom tune changes by adjusting the individual 4×4 table values.

5.1.1 Fuel Table

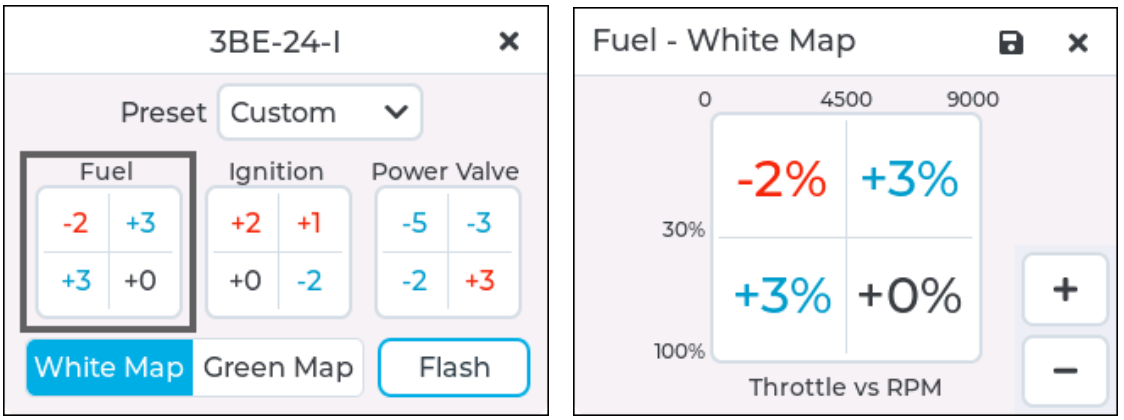
The fuel table shows an overview of the changes that will be made to the fuel map if it is flashed to the ECU. The rpm and throttle axis labels have been left off from this view to simplify the screen. In order to adjust these settings or view the axis data press anywhere on the table and you will be taken to an enlarged version of the table which allows changes to the individual values.

Fuel values can be changed from -10% to +10%. Negative values appear in red (possible risk) and will reduce fuel to the engine, making it leaner. Positive values will appear in blue (usually safe) and will increase fuel to the engine, making it richer.

BEWARE: Reducing fuel always has some risk. The TSP Tunes are already highly developed and should not require large changes. If an engine is rich to begin with, reducing fuel up to a point will make more power and make the engine smoother and better to ride. Reducing fuel further beyond this point may make the engine lean and increase the risk of damage. A lean

engine will generate more heat and may be at risk of failure. When reducing fuel, only make small changes of -1% to -2% at a time, then test before making larger changes.

IMPACT OF % CHANGES: Changes to the fuel map in % will increase or decrease the fuel amount set in the TSP Tunes by that percentage. For example a value of -5% entered in a cell will result in the new fuel amount being 95% of the current fuel amount at that rpm/throttle point. Likewise a value of +10% will result in a new fuel amount of 110% of the current fuel amount.



5.1.2 Ignition Table

The Ignition table shows an overview of the changes that will be made to the ignition map if it is flashed to the ECU. The rpm and throttle axis labels have been left off from this view to simplify the screen. In order to adjust these settings or view the axis data press anywhere on the ignition table table and you will be taken to an enlarged version of the table which allows changes to the individual values.

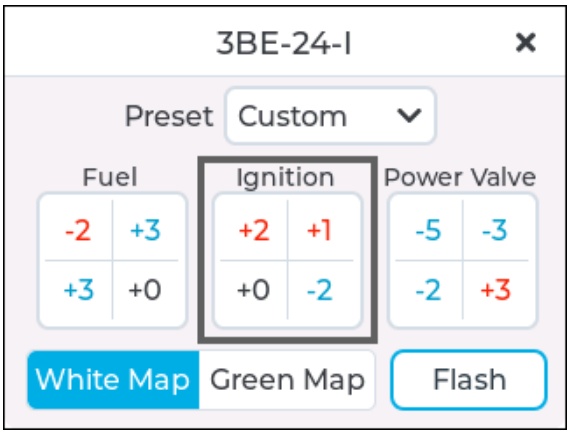
Ignition values can be changed from -5 degrees to +3 degrees. Negative values appear in blue (usually safe) and will reduce ignition advance to the engine, usually making power delivery softer. Positive values will appear in red (possible risk) and will increase ignition advance to the engine, usually making power delivery more aggressive.

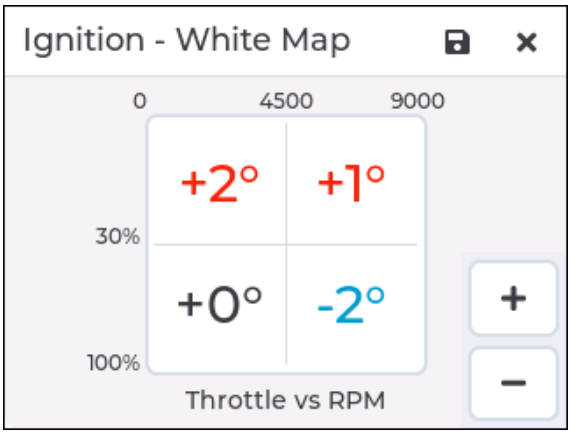
BEWARE: adding ignition advance always has some risk. The TSP Tunes are already highly developed and should not require large changes. If an engine has a soft ignition setting to begin with, adding more advance up to a point will make more power and the bike will feel better/stronger to ride. Adding more ignition advance beyond this point usually won't add any more power but may increase the risk of engine damage. An engine with too much ignition advance will generate more heat and will have a higher risk of detonation, especially when under load. When adding ignition advance, only make small changes of +1 degree at a time, then test before making larger changes.

IMPACT OF CHANGES: Changes to the ignition tables are a straightforward addition or subtraction to the underlying values in the TSP Tune. You can check the current ignition advance at any time on the Dash screens. Ignition advance is expressed in degrees of crank

rotation before top dead centre. Normal values will be around 10-15 at idle, 15-30 through the midrange and under power, 12-15 near peak power and 8-12 in the overrev.

If a value is entered in one of the 4×4 table cells it will simply increase or decrease the current underlying value in the TSP Tune. For example, if -3 is entered into one of the cells the ECU will give 3 degrees less ignition advance. That is, if the current ignition advance was 20 degrees before top dead centre the new advance value will be 17 degrees before top dead centre.





5.1.3 Power Valve Table (TBI models)

The power valve table shows an overview of the changes that will be made to the power valve map if it is flashed to the ECU. The rpm and throttle axis labels have been left off from this view to simplify the screen. In order to adjust these settings or view the axis data press anywhere on the power valve table table and you will be taken to an enlarged version of the table which allows changes to the individual values.

Power valve values can be changed from -10% to +10%. Negative values appear in blue and will lower the power valve position at that rpm/throttle position, generally making power softer. Positive values will appear in red and raise the power valve position at that rpm/throttle position, generally making power stronger.

NOTE: there is minimal risk to having the power valve set too high or too low. Generally there is an ideal opening position for each rpm/throttle point and anything higher or lower than this value will just make less power at that point. The ideal power valve opening is mostly determined by the exhaust pipe being used.

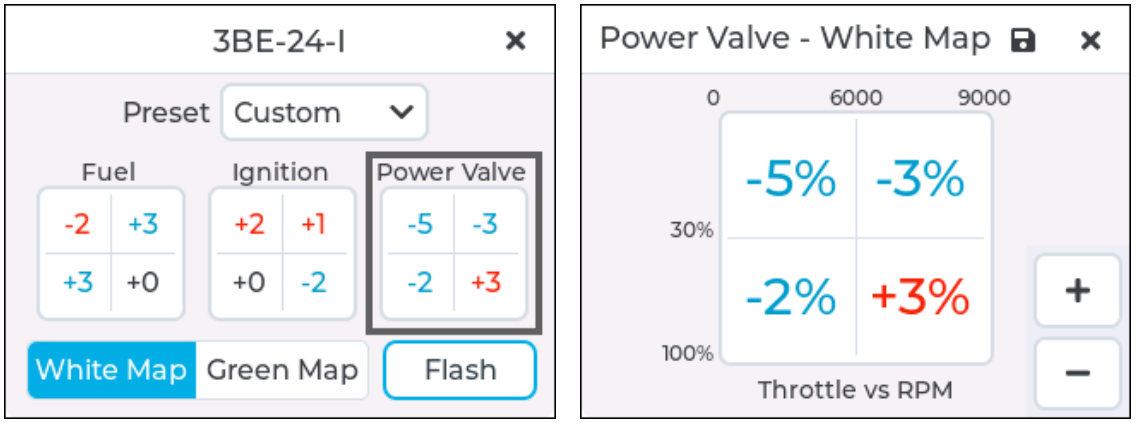
The most likely scenario for adjusting the power valve table is to soften the power delivery of the TSP Tune (do this by using a negative number in the required cells) or to change the power valve opening to suit a different aftermarket pipe… for example a pipe that revs much higher than the stock pipe will need the power valve to open slower through the midrange (otherwise power will dip in the mid). Likewise a pipe that makes much better bottom end

power, but signs off earlier may benefit from opening the power valve faster in the midrange in order to make the most of the extra power provided by the pipe.

IMPACT OF % CHANGES: The ECU commands the power valve to be at a certain position for each rpm/throttle point. The range of movement is from 0-100%, with 0% being fully closed and 100% being fully open. You can check the current open position on the Dash screens.

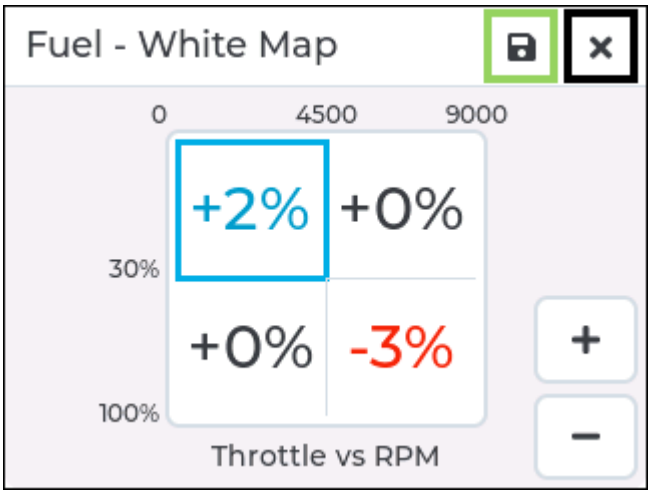
The best way to think about these positions and the impact of changes to the cells in the 4×4 table is to remove the % sign and just treat them as normal numbers from 0-100 which can be increased or decreased. If a value of +5 is entered into a cell it will increase the open position by 5. Likewise if -10 is entered into a cell it will reduce the open position at that point by 10. As an example the TSP Tune may have a value of 20% set for a particular rpm/throttle point. This can be seen on the Dash screens if the engine is held at that specific rpm/throttle point. If +5% was now entered in the 4×4 table then the new power valve position would be 20 + 5 = 25% at that same rpm/throttle point.

Note that final values cannot be outside the range of 0-100 so in the example above if the underlying value was already at 98%, not 20%, and the change was +5 then the ERM would only add +2 to give the maximum of 100 at that point.



5.2 Changing Table Values

In order to change the values of a particular table, first select either White Map or Green Map in the bottom left corner, then press anywhere on the table you wish to modify. This will open a larger version of the table which allows the four individual cells to be modified. In order to change the values press on one of the four cells. The chosen cell will become highlighted with a blue border. Press the + or – buttons to increase or decrease the value in the selected cell.



- Red numbers indicate that the change may involve possible risk
- Blue numbers indicate that the change is usually safe.
- Black is used whenever 0% is chosen. This indicates that no change will be made to the cell, that is the values in that area will be the same as the values in the TSP Tune that has been selected.
- To save the values shown in the table, press the floppy disk icon at the top right corner of the screen.
- To cancel any changes and close the window press the cross icon at the top right corner of the screen.

5.3 Presets

The Preset dropdown menu allows you to select from several preset map adjustments. These presets are a great way to learn and feel how making changes to the map influences the performance of the engine… Richer, Leaner or Softer will all make a noticeable change to the performance of the engine and often guide the user in the direction they should proceed if they are unsure what their engine needs.

In most cases the TSP Tune will be the most powerful and smoothest option, however you can make further changes using one of the presets, or create your own custom tune by adjusting the values in the 4×4 tables as explained in section 3.5

Presets include:

- **TSP:** this has all cell values set to 0% and so it makes no change to the TSP Tune. Use this preset and press Flash if you just want to use the TSP Tune without further changes.
- **Richer:** this preset adds fuel everywhere. Best suited to bikes running in deep sand or used as a guide to determine the effectiveness of adding fuel before creating your own custom changes.
- **Leaner:** this preset reduces fuel everywhere and can be used for bikes that are running too rich with the standard TSP tune. It can also be used as a guide to determine the effectiveness of reducing fuel before creating your own custom changes.

BEWARE: Reducing fuel always has some risk. A lean engine can be at higher risk of damage. Always make small changes and test before making bigger changes.

- **Softer**: this preset adds fuel, reduces ignition advance and reduces power valve opening, all of which will reduce power and soften the tune. Use this preset to soften an aggressive tune to your liking. It can also be used as a guide to determine the effectiveness of the changes before creating your own custom changes.
- **Custom**: this can be setup with any changes the user likes. Any time another preset is selected and then cells altered those changes will automatically be moved to the Custom setting.

5.4 Map Selection

In this section 'Map' is referring to the Selected Map in the Map Terminology note below.
The map selector in the bottom left corner of the Basic Tuning screen allows the user to select the changes they want for either map on the ECU. The chosen map is highlighted in blue, like the example below where the White Map has been selected and a custom preset created.

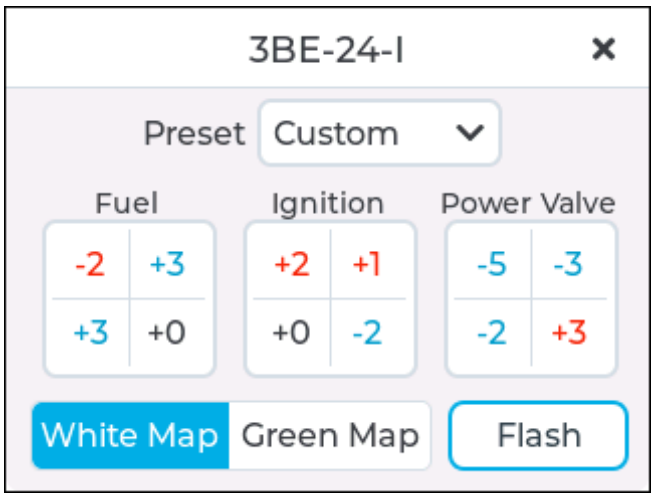
MAP TERMINOLOGY: The word 'Map" can be used to describe three different things when it comes to ECU tuning…

Tuned Map: 'Map' can sometimes be used to describe the complete tune which is loaded onto the ECU. This is the data which is sent to the ECU when flashing. We refer to these as either **TSP Tune**, or **Original Tune** in this user guide.

Selected Map: 'Map' can also refer to the map chosen while riding to change the performance of the engine using a switch or button. Each TSP Tune and each Original Tune contains two different selected maps that can be chosen via a switch on the bars or on the ERM. These are referred to as Map 1 / Map 2 for TPI models and White Map / Green Map for TBI models.. Usually one of these maps is aggressive and the other map is softer.

Every TSP Tune has two maps built in:

- **TPI:** Map 1 and Map 2. Usually Map 1 is the aggressive map and Map 2 is the softer/richer map.
- **TBI:** White Map and Green Map, usually the White map is softer/richer and the Green map is more aggressive (this is correct for 250/300 TBI models)



Basic Tuning allows you to make different changes to each map. The preset selected under White Map can be different to the preset selected under Green Map. As a result it's possible to make completely different changes to either map within the same tune. One map could be made richer, the other leaner if necessary.

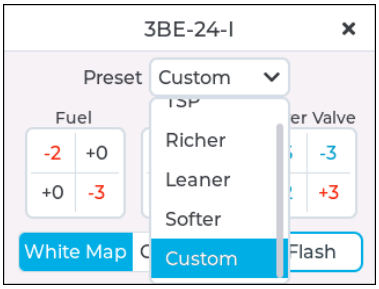
Tip: Pressing the Flash button will always flash both White & Green maps (TBI models) or Map 1 & Map 2 (TPI models)

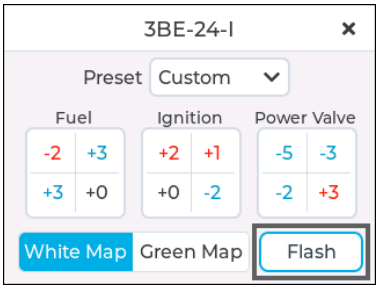
5.5 Flashing a TSP Tune to the ECU

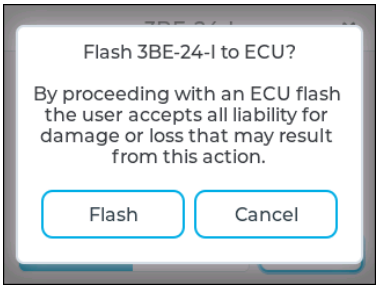
The full process for flashing a TSP Tuned Map to the ECU is as follows:

1. Select the **TSP Tune** from the Tune page dropdown menu
2. Select **Basic**
3. Press **Map 1 / White Map**
4. Select the changes you wish to make to this map using the available presets, or create a custom preset. If no changes are required select TSP as the preset

5. Press **Map 2 / Green Map**
6. Select the changes you wish to make to this map using the available presets, or create a custom preset. If no changes are required select TSP as the preset
7. Press **Flash**
8. Accept the warnings and proceed with flashing the ECU







6. Pro/Pro+ Mode

Pro and Pro+ Mode are powerful paid extras and allow the user to make changes based on rpm vs throttle to a much higher resolution than **Basic Tuning**. They offer 30 cells of adjustment across multiple rpm and throttle points for fuel, ignition and power valve and 15 cells of adjustment for oil.

Both modes allow the user to save multiple sets of changes in 'Profiles'. There are five Profiles for each TSP Tune, with each Profile storing a full set of changes for fuel, ignition, power valve and oil for both Map 1 and Map 2 (or White/Green). Profiles can be backed up and are specific to the TSP Tune they are created with.

6.1 Pro Limitations

Pro mode is limited by min/max adjustment values within the ERM for fuel, ignition, power valve and oil. It can be used by novice through to experienced users to make significant changes to the performance of an engine. **Pro Mode** limitations are:

- Fuel: -10% to +10
- Ignition: -5 degrees to + 3 degrees
- Powervalve (TBI only): -10% to +10%
- Oil: -50% to +100%

6.2 Pro+ Limitations

Pro+ Mode allows unlimited adjustment and is designed for very experienced users making large changes to highly modified bikes. Pro+ Mode limitations are:

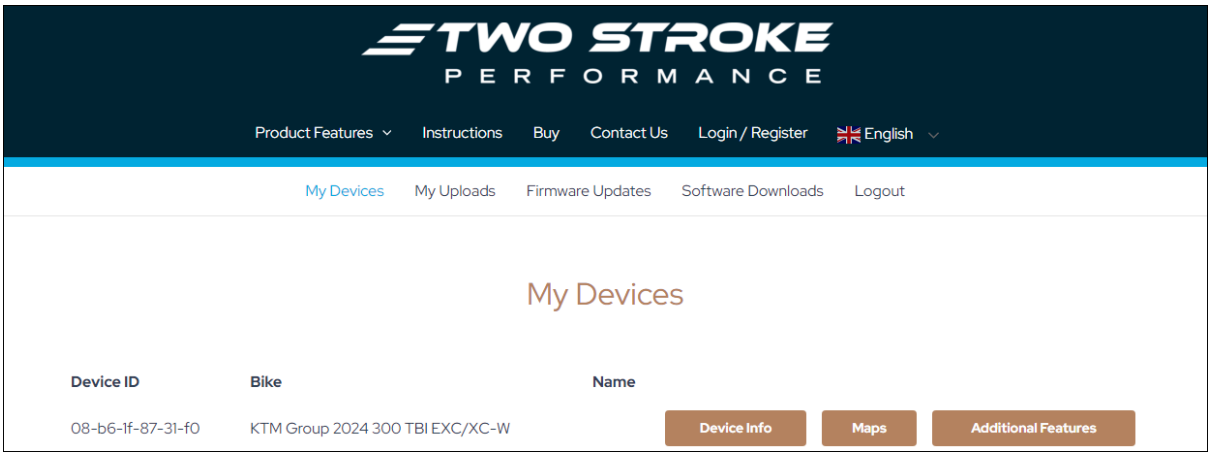
- Fuel: -100% to +100%
- Ignition: -100 degrees to +100 degrees
- Powervalve (TBI only): -100% to +100%
- Oil: -100% to +100%

6.3 Activating Pro/Pro+ Mode

Any user can enter Pro mode and explore the user interface and experiment with modifying profiles, however only users who have paid to activate Pro or Pro+ can actually flash a modified map to the ECU using Pro Mode. In order to activate Pro Mode you will need to do the following:

1. Login to your account on the ERM website (www.tsp-erm.com)
2. Go to **My Devices**

3. Press the Additional Features button next to the device you want to activate



4. Beside **Pro Mode** or **Pro+ Mode** press **Purchase**
5. Enter your payment details
6. Go back to **My Devices**
7. Press **Device Info** next to the device you want to activate
8. Press **Download Registration File** at the bottom of the page. Remember where the file is saved to.
9. Run **ERM Manager** on your PC or Mac (always check the ERM website to make sure you are using the latest version) See section 8.0 for more info on ERM Manager
10. Connect to the ERM.
11. Press the **Registration** tab on the left side
12. Press **Upload Registration**
13. Select the Registration File you saved in step 8 and press OK
14. Once the new registration file has been uploaded to the ERM you should now be able to use the full functions of Pro/Pro+

6.4 Profiles

In Pro mode a Profile is a set of changes to fuel, ignition, power valve or oil that can be overlaid onto one of the TSP Tunes and then flashed to the ECU. In total there are five Profiles available for each TSP Tune, allowing the user to save different tunes for different conditions.

Each Profile can be individually named and Profiles can be imported from one another allowing easy development of new tunes. For example, the user may have developed a good tune using Profile 1 but may wish to experiment with more changes. Rather than modify Profile 1 further and risk losing a good tune, they can open Profile 2, import Profile 1 into Profile 2 and then continue making changes in Profile 2. This process can continue in Profiles 1-5 until the tune has been fully developed with the user knowing that they can always go back to the previous best tune without the risk of losing a good tune due to bad changes.

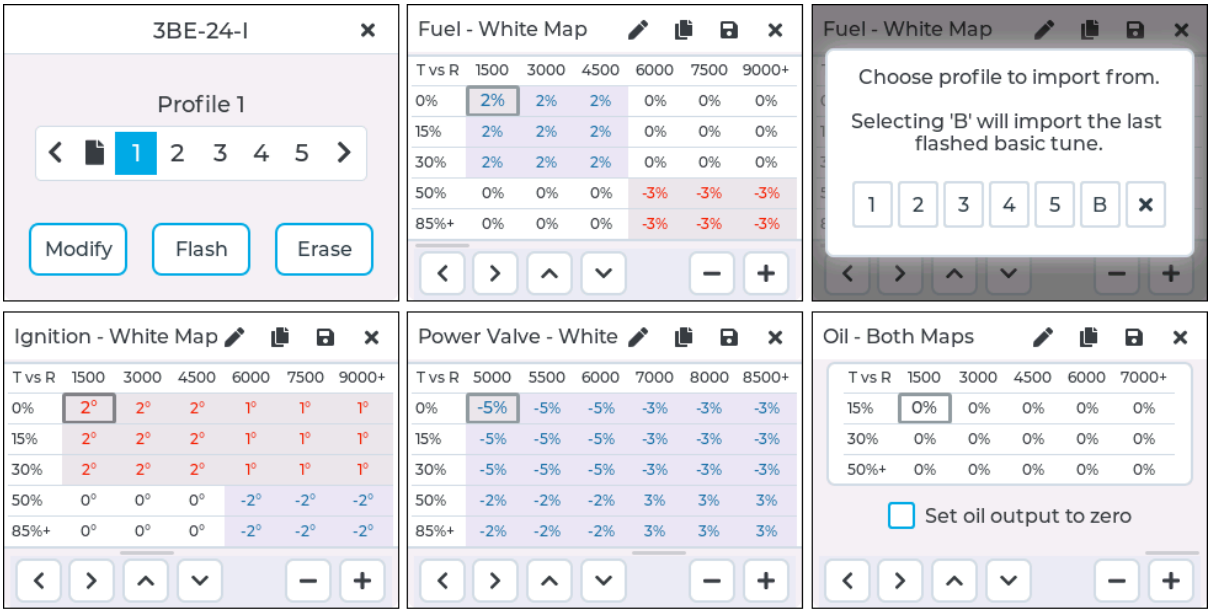
Alternatively each Profile can be named and used for different track or riding conditions. Eg Sand Track, Hard Enduro, Soft Map, Ethanol fuel, etc. Each Profile allows the following adjustments:

TPI models:

- Fuel Map 1: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Fuel Map 2: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Ignition Map 1: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Ignition Map 2: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Oil Map 1 & 2 together: 15 cells of rpm vs throttle, limits set by Pro/Pro+, plus pump off toggle

TBI models:

- Fuel White Map: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Fuel Green Map: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Ignition White Map: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Ignition Green Map: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Power valve White Map: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Power valve Green Map: 30 cells of rpm vs throttle, limits set by Pro/Pro+
- Oil Map White & Green together: 15 cells of rpm vs throttle, limits set by Pro/Pro+, plus pump off toggle



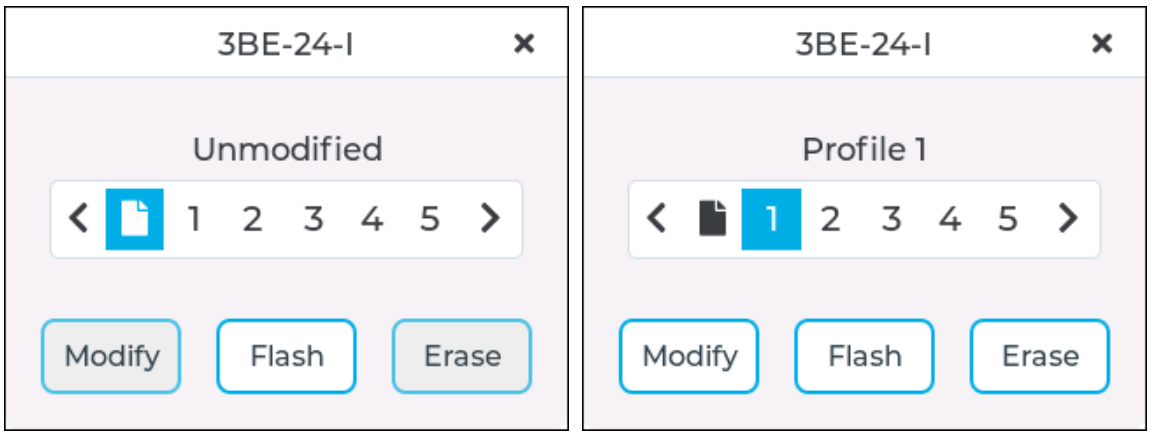
*Power Valve TBI Models Only

6.4.1 Profile Selection Screen

After selecting a map from the Tune dropdown menu, then pressing Pro you will be taken to the Profile Selection Screen.

The Map name you have chosen is displayed at the top of the screen. In the example below one of the TSP Tuned Maps called 3BE-24-E was selected from the Tune dropdown menu in the earlier step.

The selector in the centre of the screen allows you to choose either 'Unmodified' (indicated by the blank page icon) or Profiles 1 through to 5. The choice here determines what actions the 3 buttons at the bottom of the screen will perform:



Flash: pressing the **Flash** button will flash the selected tune (TSP or Original) to the ECU with the selected profile overlaid.

- If the 'Unmodified' blank page icon is selected it will flash a copy of the selected tune with no changes made.
- If one of the profile numbers 1-5 is selected then it will flash a copy of the map with the profile changes saved to that profile overlaid onto the map.

For example, if you had made changes in Profile 1 and wanted to flash those changes to the ECU you would highlight the number 1 and then press **Flash.** Likewise if you wanted to go back to the unmodified TSP Tune you would highlight the blank page icon and then press **Flash**.

Modify: If a Profile number from 1 to 5 is chosen the **Modify** button will open that profile and allow the user to make changes to fuel, ignition, power valve and oil tables. The **Modify** button does not work when the 'Unmodified' blank page icon is selected.

Erase: this button will erase all data in the selected profile if 1-5 are highlighted. This cannot be undone. **Erase** does not work when the 'Unmodified' blank page icon is selected.

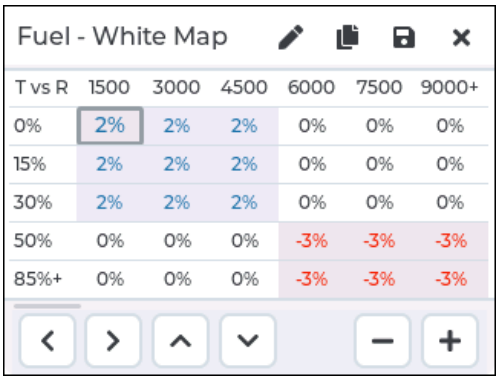
6.4.2 Profile Modification Table Overview

After selecting the profile number and pressing Modify you will see the first modification table appear. For TPI models this will be Fuel – Map 1 and for TBI models this will be Fuel –

White Map. Swiping to the left several times will take you through the various modification tables including fuel, ignition, power valve and ending with oil.

The Fuel, Ignition and Power valve Modification tables allow 30 cells of rpm vs throttle changes. The Oil Modification table allows 15 cells of rpm vs throttle changes.

Each cell is selected using the arrow buttons on the bottom left corner of the screen. Adjusting each cell is done using the + and – buttons on the lower right corner of the screen.



T vs R	1500	3000	4500	6000	7500	9000+
0%	2%	2%	2%	0%	0%	0%
15%	2%	2%	2%	0%	0%	0%
30%	2%	2%	2%	0%	0%	0%
50%	0%	0%	0%	-3%	-3%	-3%
85%+	0%	0%	0%	-3%	-3%	-3%

- Red numbers indicate that the change may involve possible risk
- Blue numbers indicate that the change is usually safe.
- Black is used whenever 0% is chosen. This indicates that no change will be made to the cell, that is the values in that area will be the same as the values in the TSP Tune that has been selected.
- The pencil icon at the top of the screen allows you to give the profile and name
- You can name the profile from any one of the modification table screens. The name will be saved to the profile and then appear in the previous profile selection screen when the profile number is highlighted.
- The double page icon at the top of the screen allows you to import data from another profile into the current profile
- Each import brings across the complete data set from that profile. For example importing while in the Fuel – Map 1 screen will also bring across the data for the Ignition, Power valve and Oil tables from the chosen profile.
- The disc icon saves the current profile and any changes that have been made
- You can save the profile from any modification table screen. You do not have to save each screen individually. Pressing save once from any screen will save the entire set of tables in the profile.
- The cross icon exits the profile screen without saving any changes made.
- Pressing this icon in any of the modification table screens will exit the profile modification screens and any changes made in any of the tables will be lost.

6.4.3 Fuel Changes

The fuel tables in each profile show an overview of the changes that will be made to the fuel map if the selected profile is flashed to the ECU.

Fuel values can be changed from -10% to +10% in Pro mode and changes are unlimited in Pro+ Mode.

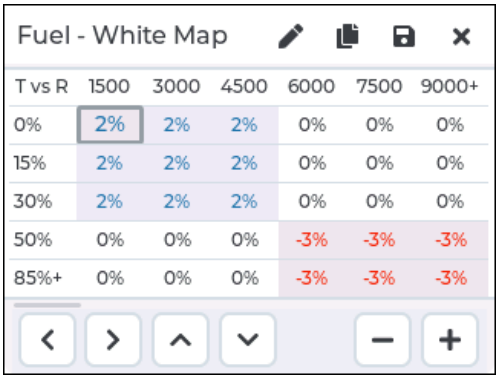
Negative values appear in red (possible risk) and will reduce fuel to the engine, making it leaner. Positive values will appear in blue (usually safe) and will increase fuel to the engine, making it richer.

In order to make the most effective changes it is best to ride with the ERM on the bars during testing. When the bike is acting rich or lean use the Dash screens to get a quick glance at the current rpm and throttle position. This helps to quickly determine the areas where changes are required.

As an example, while riding a 2020 KTM 300 TPI it's noticed that at 25% throttle and 3500 RPM the bike is acting rich and blubbery. The rider selects the TSP Tuned Map they are using, opens Pro Mode, selects the necessary fuel map and then makes changes to the closest cell(s). In this example it would be 30% throttle and 3000rpm. They enter -3% in that cell and flash the profile to the ECU. The bike is better but not perfect so they go back and make small changes in the surrounding cells as well, in this case -1% at each of 15%/3000 RPM, 15%/4500 RPM as well as 30%/4500 RPM.

BEWARE: Reducing fuel always has some risk. The TSP Tunes are already highly developed and should not require large changes. If an engine is rich to begin with, reducing fuel up to a point will make more power and make the engine smoother and better to ride. Reducing fuel further beyond this point may make the engine lean and increase the risk of damage. A lean engine will generate more heat and may be at risk of failure. When reducing fuel only make small changes of -1% to -2% at a time, then test before making larger changes.

IMPACT OF % CHANGES: Changes to the fuel map in % will increase or decrease the fuel amount set in the TSP Tune by that percentage. For example a value of -5% entered in a cell will result in the new fuel amount being 95% of the current fuel amount at that rpm/throttle point. Likewise a value of +10% will result in a new fuel amount of 110% of the current fuel amount.



T vs R	1500	3000	4500	6000	7500	9000+
0%	2%	2%	2%	0%	0%	0%
15%	2%	2%	2%	0%	0%	0%
30%	2%	2%	2%	0%	0%	0%
50%	0%	0%	0%	-3%	-3%	-3%
85%+	0%	0%	0%	-3%	-3%	-3%

6.4.4 Ignition Changes

The Ignition table shows an overview of the changes that will be made to the ignition map if the selected profile is flashed to the ECU.

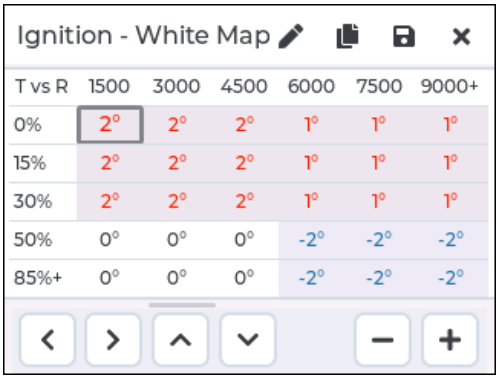
Ignition values can be changed from -5 degrees to +3 degrees in **Pro Mode** and unlimited in **Pro+**.

Negative values appear in blue (usually safe) and will reduce ignition advance to the engine, usually making power delivery softer. Positive values will appear in red (possible risk) and will increase ignition advance to the engine, usually making power delivery more aggressive.

BEWARE: adding ignition advance always has some risk. The TSP Tuned Maps are already highly developed and should not require large changes unless the engine is heavily modified. If an engine has a soft ignition setting to begin with, adding more advance up to a point will make more power and the bike will feel better/stronger to ride. Adding more ignition advance beyond this point usually won't add any more power but may increase the risk of engine damage. An engine with too much ignition advance will generate more heat and will have a higher risk of detonation, especially when under load. When adding ignition advance only make small changes of +1 degree at a time, then test before making larger changes.

IMPACT OF CHANGES: Changes to the ignition tables are a straightforward addition or subtraction to the underlying values in the TSP Tune. You can check the current ignition advance at any time on the Dash screens. Ignition advance is expressed in degrees of crank rotation before top dead centre. Normal values will be around 10-15 at idle, 15-30 through the midrange and under power, 12-15 near peak power and 8-12 in the overrev.

If a value is entered in one of the 4×4 table cells it will simply increase or decrease the current underlying value in the TSP Tune. For example, if -3 is entered into one of the cells the ECU will give 3 degrees less ignition advance. That is, if the current ignition advance was 20 degrees before top dead centre the new advance value will be 17 degrees before top dead centre.



6.4.5 Power Valve Changes

The power valve table shows an overview of the changes that will be made to the power valve map if the selected profile is flashed to the ECU.

Power valve values can be changed from -10% to +10% in Pro Mode and changes are unlimited in Pro+ Mode.

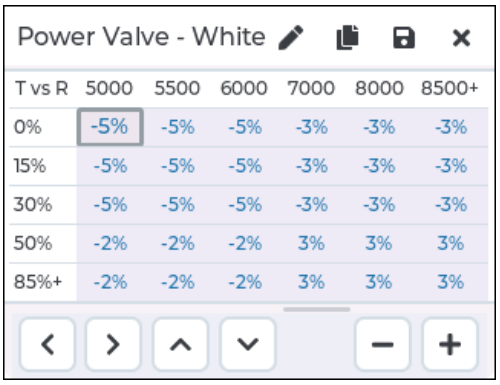
Negative values appear in blue and will lower the power valve position at that rpm/throttle position, generally making power softer. Positive values will appear in red and raise the power valve position at that rpm/throttle position, generally making power stronger, but not always.

NOTE: There is minimal risk to having the power valve set too high or too low. Generally there is an ideal opening position for each rpm/throttle point and anything higher or lower than this value will just make less power at that point. The ideal power valve opening is mostly determined by the exhaust pipe being used.

The most likely scenario for adjusting the power valve table is to soften the power delivery of the TSP Tune (do this by using a negative number in the required cells) or to change the power valve opening to suit a different aftermarket pipe… for example a pipe that revs much higher than the stock pipe will need the power valve to open slower through the midrange (otherwise power will dip in the mid). Likewise a pipe that makes much better bottom end power, but signs off earlier may benefit from opening the power valve faster in the midrange in order to make the most of the extra power provided by the pipe.

IMPACT OF % CHANGES: The ECU commands the power valve to be at a certain position for each rpm/throttle point. The range of movement is from 0-100%, with 0% being fully closed and 100% being fully open. You can check the current open position on the Dash screens. The best way to think about these positions and the impact of changes to the cells in the 4×4 table is to remove the % sign and just treat them as normal numbers from 0-100 which can be increased or decreased. If a value of +5 is entered into a cell it will increase the open position by 5. Likewise if -10 is entered into a cell it will reduce the open position at that point by 10. As an example the TSP Tune may have a value of 20% set for a particular rpm/throttle point. This can be seen on the Dash screens if the engine is held at that specific rpm/throttle point. If +5% was now entered in the 4×4 table then the new power valve position would be 20 + 5 = 25% at that same rpm/throttle point.

Note that final values cannot be outside the range of 0-100 so in the example above if the underlying value was already at 98%, not 20%, and the change was +5 then the ERM would only add +2 to give the maximum of 100 at that point.



6.4.6 Oil Changes

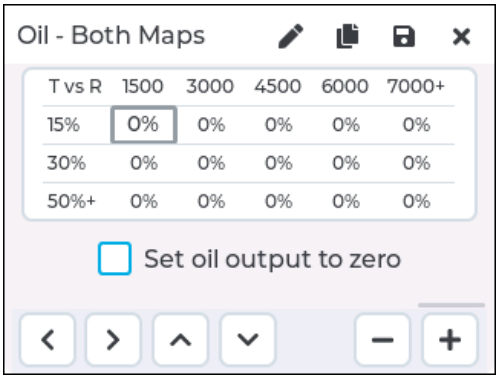
The Oil table shows an overview of the changes that will be made to the oil map if the selected profile is flashed to the ECU.

Oil values can be changed from -50% to +100% in Pro Mode and changes are unlimited in Pro+ Mode.

NOTE: There is often risk in reducing oil so in most cases it is not recommended, however it can be done to tailor a tune to suit the needs of a skilled tuner.

There is minimal risk to adding oil, however all TSP Tuned Map already have a significant amount of extra oil in the mapping compared to stock. As a result it is usually unnecessary to add more oil as all of our TSP Tunes have been proven reliable, however it can be done if desired.

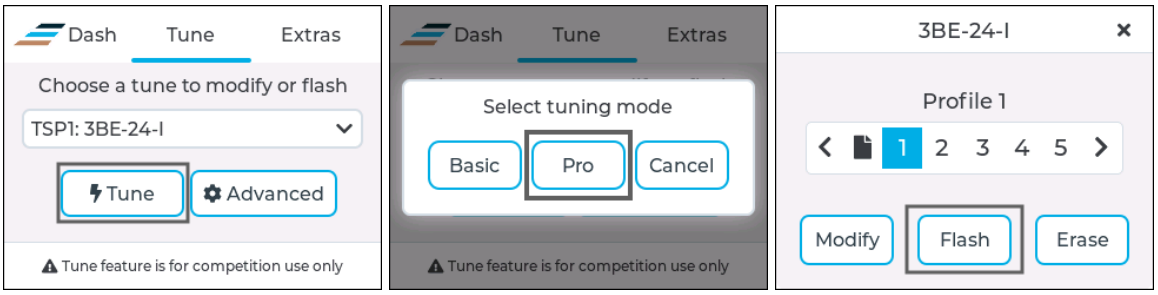
IMPACT OF % CHANGES: Changes to the oil map in % will increase or decrease the oil amount set in the TSP Tune by that percentage. For example a value of -10% entered in a cell will result in the new fuel amount being 90% of the current fuel amount at that rpm/throttle point. Likewise a value of +30% will result in a new oil amount of 130% of the current amount.



6.5 Flashing a Modified TSP Tune using Pro Mode

To flash a modified TSP Tune to your ECU follow these steps:

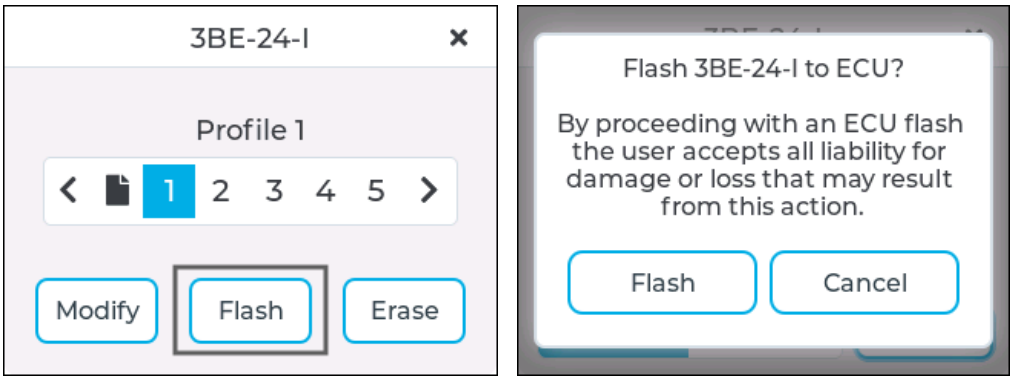
1. Select the TSP Tune from the Tune page dropdown menu
2. Press **Select**
3. Press **Pro**
4. Press the Profile number you wish to use
5. Press **Flash**
6. Press **Flash** again to accept the warning
7. **Do not** start the engine or disconnect the battery while flashing.



6.6 Flashing an Unmodified TSP Tune or Original Tune Using Pro Mode

To flash an Original Tune or a TSP Tune to your ECU without any further changes follow these steps:

1. Select the Original or TSP Tune from the Tune page dropdown menu
2. Press **Select**
3. Press **Pro**
4. Press the blank page icon ('Unmodified' should appear)
5. Press **Flash**
6. Press **Flash** again to accept the warning
7. Do not start the engine or disconnect the battery while flashing.



6.7 Naming a Profile

Each Profile can be named individually and the name given will appear on the Profile Selector when the profile number 1-5 is highlighted. To name a profile follow these steps:

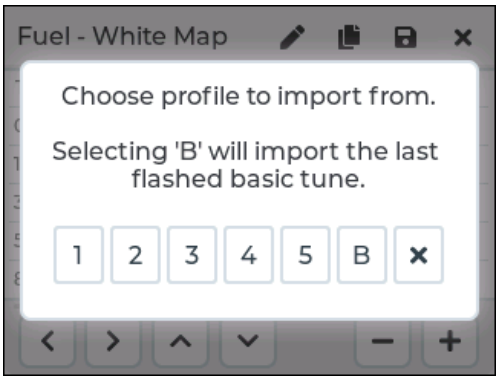
1. Highlight the profile number on the Profile Selector and press **Modify**.
2. From any screen within the Profile Modification Tables press the pencil icon at the top of the screen.
3. Enter the name using the keypad.
4. Press the **Enter** button
5. Press the Save disc icon at the top of the screen
6. Now when you highlight the profile number in the selector you will see the name appear.

6.8 Importing Data from One Profile to Another

It's possible to import data from one profile into another. This is very useful when tuning an engine if you do not want to risk changing one of the current profiles. Rather than making adjustments to the current profile you can import all of its data into a new profile and continue tuning from there. For example, if you had previously created a good tune in Profile 1 and wanted to use that as a basis for a new tune, you would open Profile 2 and then import the data from Profile 1 into it. To import from one profile to another profile follow these steps:

1. Highlight the number of the new profile you wish to begin using on the Profile Selector and press Modify.
2. From any screen within the Profile Modification Tables press the double page icon at the top of the screen.
3. Select the number (1-5) of the profile you wish to import data from.

All data from the selected Profile will now appear in the new Profile. You can now continue to make further changes and then remember to save before exiting the Profile.



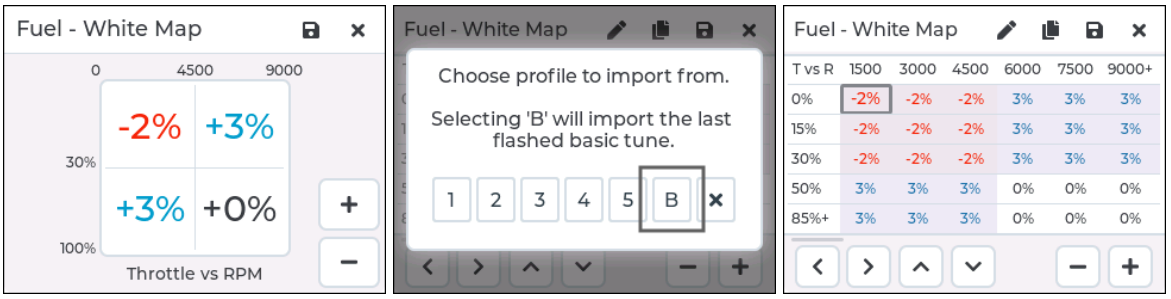
6.9 Importing Data from Basic Tuning to a Profile

It is possible to import that last changes flashed using Basic Tuning into a Profile in Pro Mode. This can be extremely useful if you have been working with Basic Tuning and now want to purchase Pro Mode to make higher resolution changes, or if you just want to learn how Basic Tuning changes appear when viewed in the higher resolution tables of Pro Mode. You can import from Basic Tuning to Pro Mode without needing to pay for the Pro Mode activation, however you can't flash a modified map using Pro mode until the activation has been completed. A quick and easy method of tuning is to start by making broad changes in Basic Tuning and then import those changes to Pro Mode in order to fine tune individual rpm/throttle cells. This will achieve quick results and also is a great way for novice users to learn how to use the knowledge gained in Basic Tuning to further improve their engine with the higher resolution that Pro Mode offers.

To import from Basic Tuning to a Profile follow these steps:

1. Highlight the number of the profile you wish to import Basic Tuning data into using the Profile Selector and press Modify.
2. From any screen within the Profile Modification Tables press the double page icon at the top of the screen.
3. Press the letter B

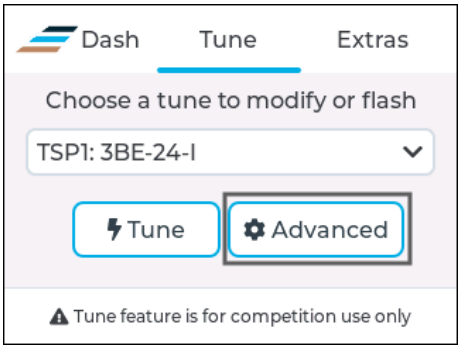
All data from the last flashed tune in Basic Tuning will now appear in the Profile. You can now continue to make further changes, or just swipe through the pages to see how Basic Tuning is broken down into individual cells in Pro Mode. Remember to save before exiting the Profile.



Basic tuning profile imported to pro mode

7. Advanced Tune Settings

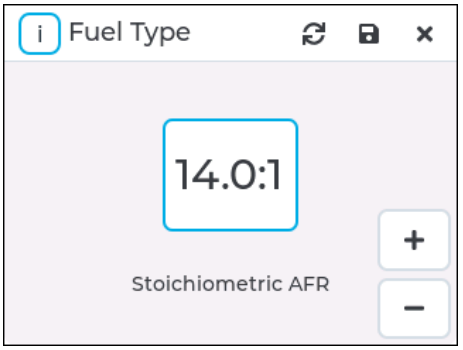
Whilst **Basic** and **Pro/Pro+** tuning allows a high degree of control over engine characteristics, advanced tuning allows changes that are intended to be used in specific circumstances that might not be applicable to all users. Changes to any of these parameters will affect the tune regardless of whether it is flashed with **Basic** or **Pro/Pro+**, and the tune will need to be flashed for changes to be applied.



7.1 Fuel Type

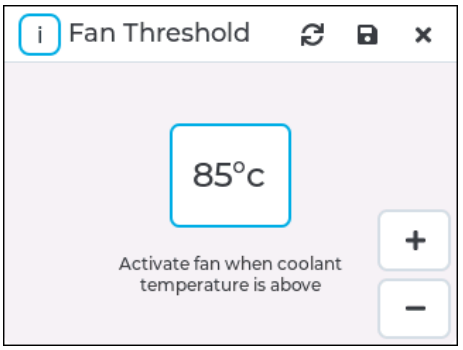
The stoichiometric ratio determines how much air is required in order to burn each unit of fuel. For example, regular unleaded pump fuel has a stoichiometric ratio of 14.7:1, so it requires 14.7 units of air to burn 1 unit of fuel. The lower the stoichiometric ratio the more fuel is required to keep the engine safe.

Useful Examples
Unleaded pump fuel: 14.7 (stock)
E10 unleaded pump fuel: 14.2
E27.5 (Brazil): 13.0
E85: 10.0
VP C12: 14.8
VP MRX02: 13.3
VP T2: 13.5
Renegade SX2: 14.2
Renegade SX4: 13.9
Renegade SX4+: 14.3



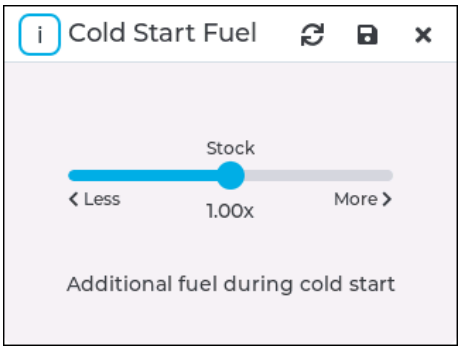
7.2 Cooling Fan

This setting determines the activation temperature of the cooling fan. Stock is 85 - 90°c / 185 - 195°F depending on the model, and the fan will turn off 5°c / 10°F below the on temperature threshold.



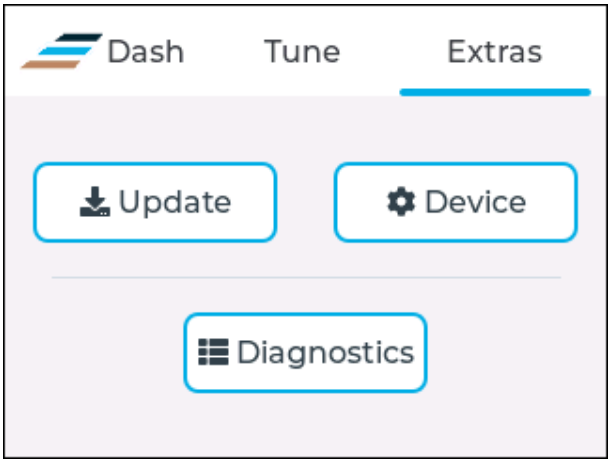
7.3 Cold Start Fuel

At startup the ECU adds extra fuel for the first 1-2 mins when the engine is cold. This setting changes the amount of extra fuel added. When set to zero the ECU will still deliver the normal fuel load, without any additional fuel.



8. Extras

The Extras tab at the top right of any ERM screen takes you to a series of useful screens which allow you to perform service functions or view information about the ERM itself. This is separated into three categories: **Update**, **Device** and **Diagnostics** which can be accessed by pressing one of the corresponding buttons.



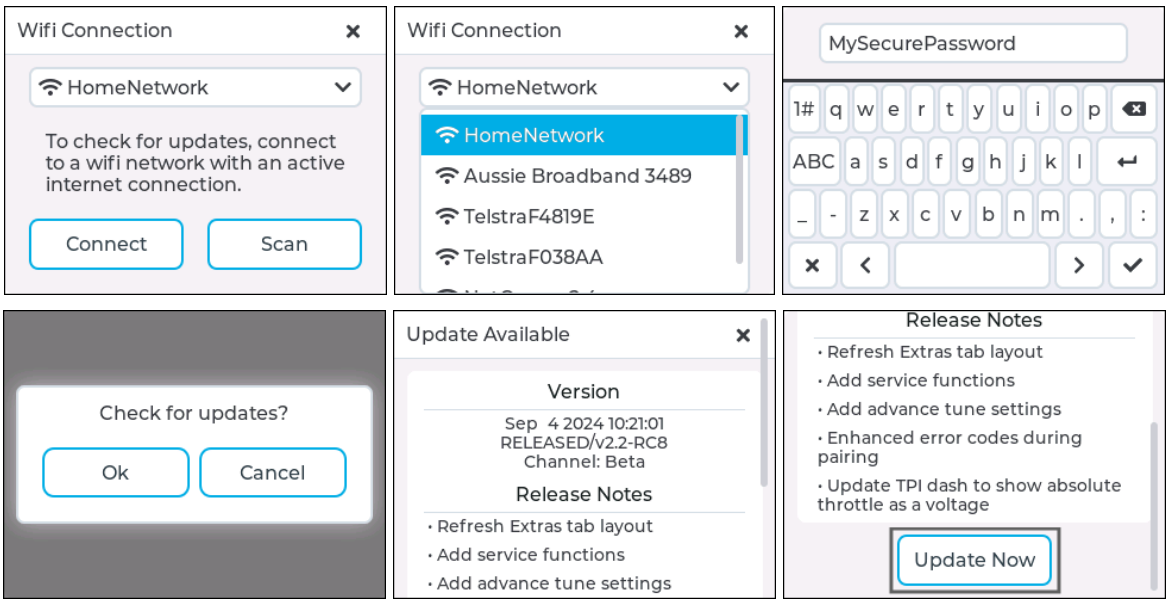
Extras main screen

8.1 Update

This allows you to check for and perform an online firmware update of your ERM. It is recommended to check for updates periodically to ensure you're getting the latest features and improvements.

To check for and perform an online update:

1. Press the **Update** button
2. Choose your home Wifi network, or the Wifi connection from a mobile phone with tethering enabled, and press Connect
3. If a password for this network hasn't yet been saved, enter the password when prompted. Note that the ERM will only store one wifi password at a time.
4. Press **Ok** when prompted to check for updates
5. If an update is available, the information for that release will be shown. Scroll to the bottom and press **Update Now** if you are ready to update.



Update Process

8.2 Device

The device screen covers settings and information relating to the ERM. This includes displaying the Device ID and Verification Code, changing the units of measurement, and performing an ERM transfer if a code has been purchased.

8.2.1 Activation

This screen shows the paid activations that have been purchased for the ERM. These activations can be purchased by logging into the website, buying the necessary activation and then loading a new registration file to the ERM. If the new registration file is not loaded to the ERM then the activations will not function.
Pro Mode: This activation allows the user to flash tunes modified in the Pro section to the ECU. If Pro Mode is not activated the user can still enter Pro Mode and make changes to profiles, but they cannot flash those changes to the ECU.

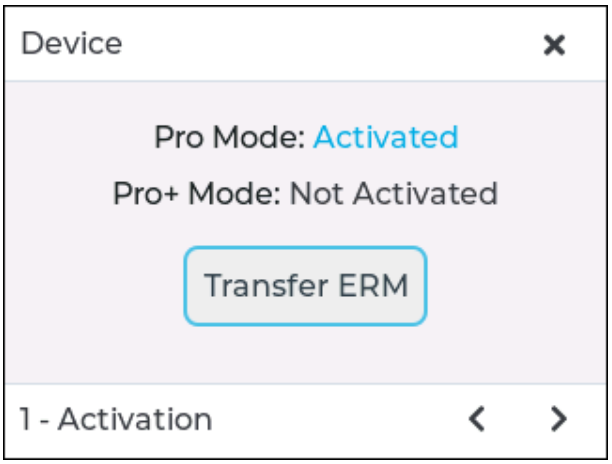
Pro Mode has limitations designed to protect inexperienced users from making changes that may damage the engine. These limitations are as follows:

- Fuel: -10% to +10%
- Ignition: -5 degrees to + 3 degrees
- Powervalve (TBI only): -10% to +10%
- Oil: -50% to +100%

Pro+ Mode: This activation gives the user the same functions as Pro Mode but with no limitations on the changes that can be made to the tunes. Pro+ limitations are as follows:

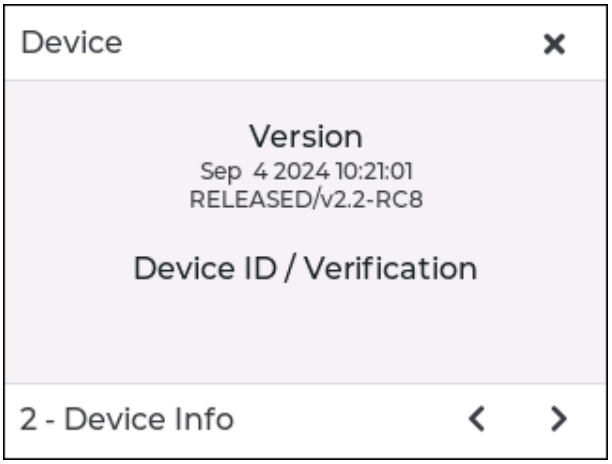
- Fuel: -100% to +100%
- Ignition: -100 degrees to +100 degrees
- Powervalve (TBI only): -100% to +100%
- Oil: -100% to +100%

Transfer: This allows the user to reset the ERM so that it can be re-paired to a new ECU.



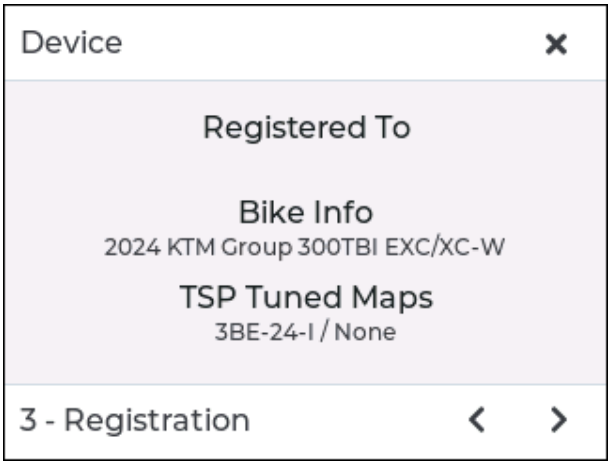
8.2.2 Device Info

This screen shows the ERM firmware version at the top and the ERM Device ID and Verification code at the bottom.



8.2.3 Registration

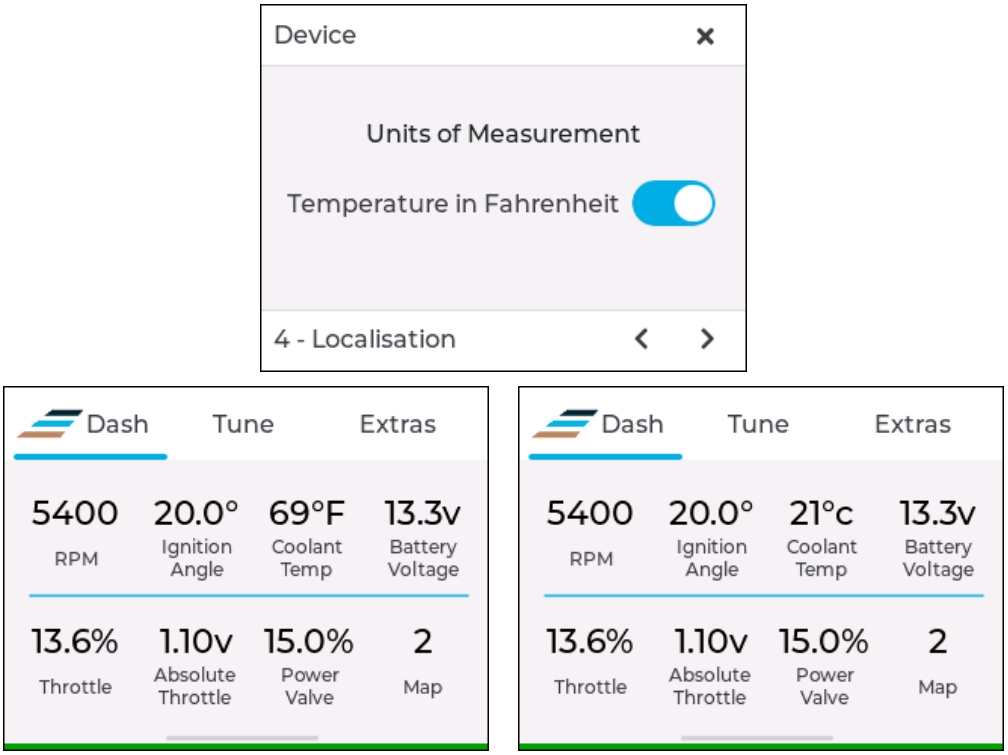
This screen shows the information about the registered user, the make and model of bike the ERM is paired to plus the name of the TSP Tuned Maps currently loaded to the ERM.



8.2.4 Localisation

This page allows you to set up the ERM to suit your preferred units of measurement.

Temperature in Fahrenheit: When enabled, temperature in the dash tab will be shown in fahrenheit, otherwise it will be shown in celsius.



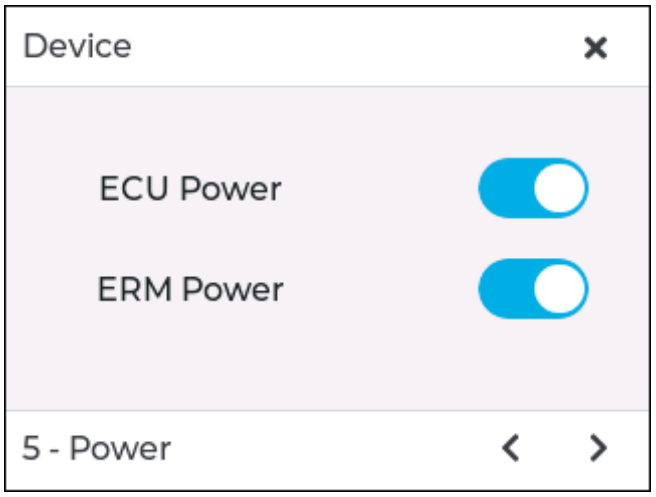
8.2.5 Power

This page shows two toggle switches which control power to the ECU and to the ERM.

ECU Power: pressing this button will deactivate the main power relay on the bike and cut power to the ECU. There is usually a short delay between pressing this button and hearing the relay click to the off position.

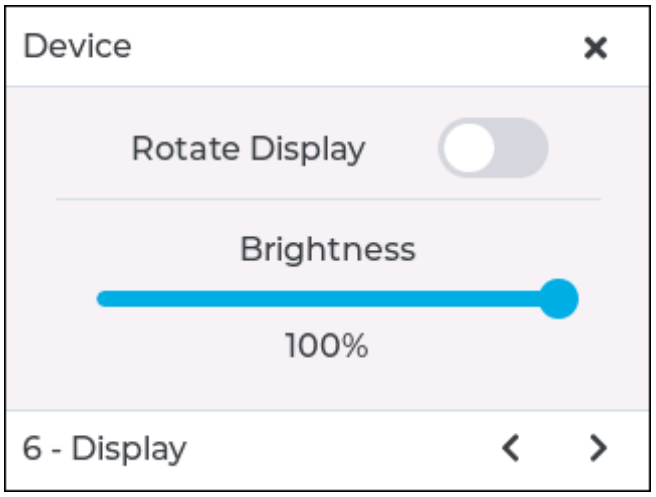
ERM Power: pressing this button will immediately put the ERM to sleep. While asleep the ERM screen will be black and the ERM will not function. To wake the ERM up simply press anywhere on the screen.

NOTE: While the ERM is in sleep mode it will still consume a small amount of power. On most bikes the battery will last 1-2 weeks with the ERM connected but asleep. Its always best to disconnect the ERM from the bike when not in use. The ERM will also fall asleep by itself after a period of inactivity.



8.2.6 Display

Use this screen to adjust the brightness of the ERM display. There is also a toggle switch to rotate the display 180 degrees.



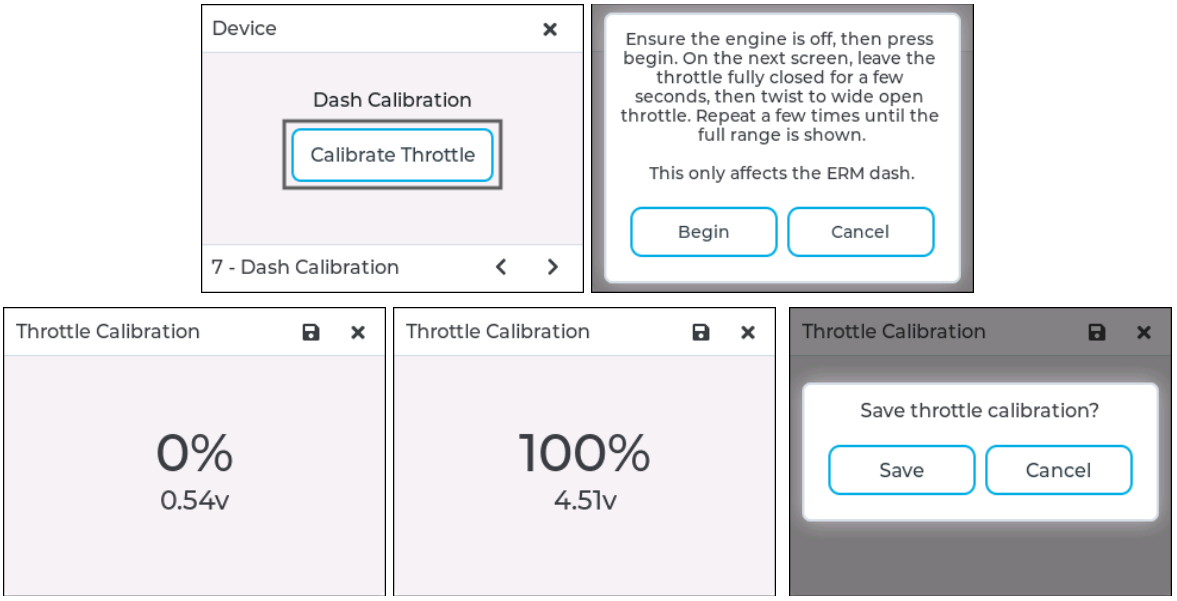
8.2.7 Dash Calibration (TBI Models Only)

This page currently shows on TBI Models only and includes the Calibrate Throttle function TBI models have a throttle calibration feature which allows the user to set the upper and lower limit of throttle movement on the ERM. Calibrating the ERM throttle in this way ensures that the correct 0→100% throttle range is shown on the Dash screens. It has no impact on how the ECU uses throttle readings. The reason for calibration is so that the user can accurately identify the throttle setting they are using if making tuning adjustments. If the throttle on Dash 1 shows a value other than 0% at closed throttle then the throttle calibration should be performed.

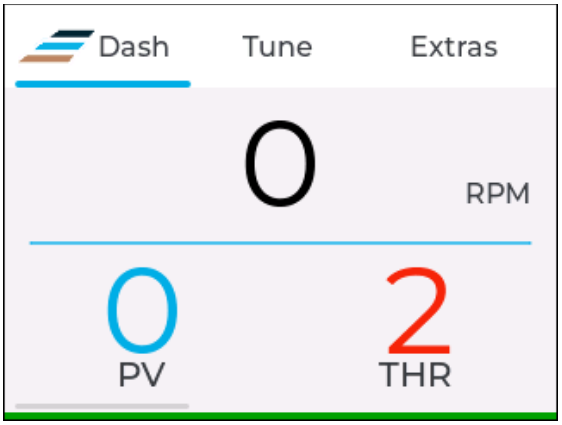
To perform the calibration function

1. Press **Extras**

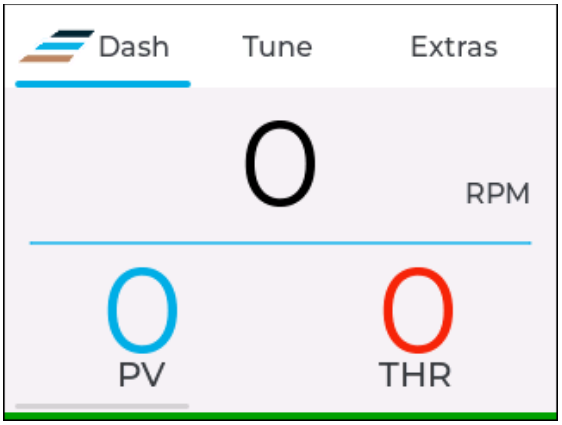
2. Press the **Device** button
3. Swipe to the **Dash Calibration** page
4. Press the **Calibrate Throttle** button
5. Press **Begin**
6. Twist throttle from closed to fully open and back several times
7. Once the screen displays 0% at closed throttle and 100% at fully open throttle press the Save disc icon at the top right of the screen.
8. Then press **Save**
9. Now check the main Dash screen to make sure the throttle shows 0→100% correctly.



Calibration Process



Before Calibration



After Calibration

8.3 Diagnostics

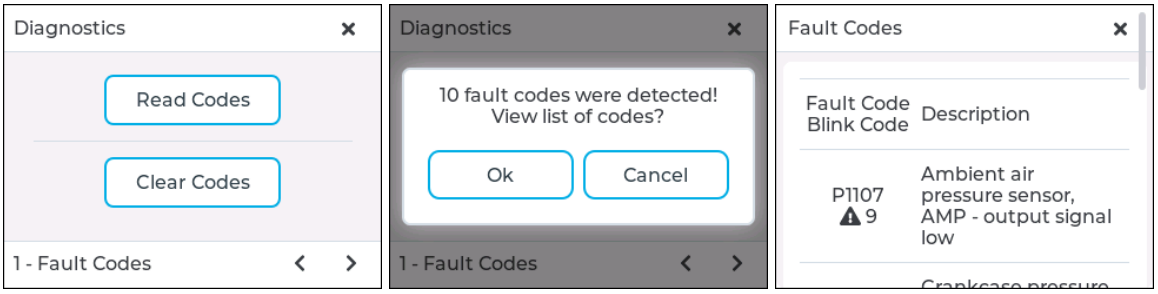
The diagnostics screens allow you to investigate issues with your bike or ECU. This includes the ability to both read and clear fault codes, performing service functions such as running the fuel pump or firing injectors, and also taking a complete read of your ECU to send to TSP to investigate any suspected issues with the ECU or tune.

8.3.1 Fault Codes

The Fault Code screen allows the user to read or clear fault codes.

Read: this button will read the codes and display a list of any present codes. The list of codes will include a P code as well as a blink code. For example the image below shows the code P0122 which identifies a Throttle Position Sensor fault, plus it displays the #6 blink code which relates to the number of times the check engine light on the bike's dash will flash when this code is present.

Clear: this button will clear the list of fault codes. If a code persists after pressing Clear there is fault still present that must be identified and repaired.

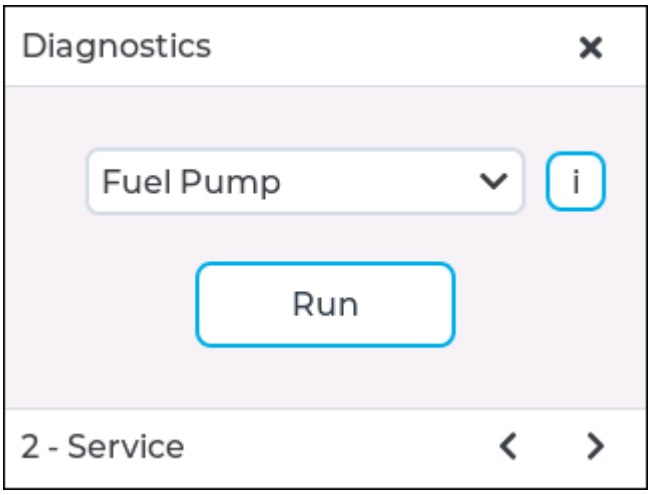


Reading Fault Codes

8.3.2 Service

The service screen allows you to select from, and perform a variety of functions that can assist with setting up and diagnosing faults on the bike. These features include:

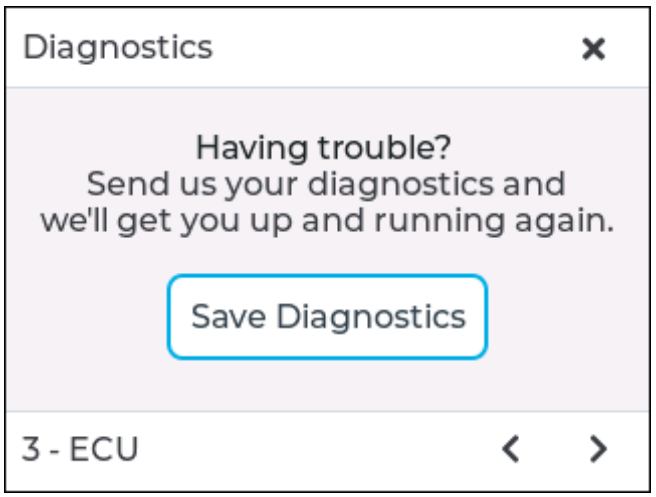
Fuel Pump: Run the fuel pump for several seconds
Ignition: Activate the spark plug 2-3 times. Do **not** touch the spark plug during this test.
Injector 1 / Injector 2: Activate the injector 2-3 times
Oil Pump Prime: Prime the oil pump. Selecting this will open a new window which allows you to stop the priming sequence if necessary
PV Reset (TBI Models): This opens a window which allows you to re-learn the PV servo limits.
TPS Reset (TBI Models): This opens a window which allows you to re-learn the TPS minimum value. It is important to follow the instructions provided closely.



8.3.3 ECU

This screen allows the user to begin the Diagnostic process. Pressing **Save Diagnostics** will initiate a read of the current tune on the ECU, including any modifications that have been made to it. This file will be saved in the ERM and can be downloaded to your computer using ERM Manager.

In the rare event that you are having serious issues with your bike and want to check that the tune is OK you can download the Diagnostic file and email it to TSP for checking. Note that the file is saved in encrypted format and can only be read by TSP.



9. ERM Website & ERM Manager Software

Please watch the video below on how to use the ERM website and our ERM Manager software... they are an important part of getting the most out of your ERM!

Getting Started 3 - ERM Manager software for Windows - Setup

If your ERM is missing features or requires an update, you can update the ERM firmware through ERM Manager