KX250F_23 VORTEX X10 ECU
INSTALLATION INSTRUCTIONS

Thankyou for purchasing your Vortex X10 ECU (Engine Control Unit). We hope you will enjoy the benefits of our product. Please read and follow the below mounting and operation instructions carefully.

Step 1: Remove the bikes front number plate and 10mm bolt holding the diagnostic connectors in front of the standard ECU.

Step 2: Wash and Remove any dirt around the standard ECU box and connector with detergent and a low pressure hose. Allow to dry or blow off any excess water with high pressure air. **Give extra attention to any dirt near the connector housing as any dirt that enters the connector when it is unplugged can cause permanent damage to the wiring harness.**

Step 3: Remove the Standard ECU and rubber boot from the standard mounting bracket. **CAREFULLY** unplug the 33Way connector on the ECU **Note: These connectors have a locking tab that needs to be pressed before carefully unplugging the connector. DO NOT PULL ON THE WIRING HARNESS WHEN UNPLUGGING THE 33 WAY CONNECTOR.**

Step 4: Remove the Vortex ECU from its package and slide into the Rubber Mounting Boot supplied as per the below picture.

Step 5:.Slide the VORTEX ECU and rubber mounting boot onto the mounting bracket as per the below.

Step 6: Carefully plug the 33 Way connector onto the VORTEX ECU and push firmly until the locking tab clicks. Bolt the small bracket and 2 std diagnostic connectors previously removed back into place with the 10mm bolt. Route the black Vortex ECU Programming harness (with rubber cap) in front the ECU and zip tie to the standard diagnostic connectors as per the above picture.
NOTE: Do not over tighten zip ties on any wiring
NOTE: The Vortex 8 Way Options Cable is also the connection for the optional handlebar switch.

Step 7: Check there is clearance for the fork legs by moving the handlebars from side to side. The handlebars should move freely with no interference from wiring or the Vortex ECU.

Step 8: Replace the front number plate. Installation of the Vortex ECU is now **complete!**

MAP SELECTOR & FUEL TRIM Switch Operation

The Vortex X10 ECU has 10 Pre-programmed Power settings from "Mild to Wild". By changing the position of the X10 Switch on the ECU the user can change the type of power delivery for different rider styles or track conditions. See Map listing chart for explanation of the power type expected from each setting. In addition there are three switches which will modify the fuel supplied to the motor through the EFI system. These switches are divided as follows:

LO: 5-25% Throttle …..(Like a Pilot Jet on a Carby)
MID: 33-66% Throttle ….(Like a Needle Jet on a Carby)
HI: 75-100% Throttle …..(Like a Main Jet on a Carby)

Each switch position is either + or – fuel in 2.5% increments. The base position is "5,5,5" with position 6 through 0 adding fuel and position 4 through 1 is subtracting fuel from the selected X10 Map. For example if a fuel trim switch is on position 6 then 2.5% fuel is added to the selected map. If a fuel trim switch is in position 3 then 5% fuel is subtracted from the selected map.

NOTE: It is not advisable to go leaner on any setting unless you are an experienced engine tuner or are monitoring the Air/Fuel ratio with a wideband sensor / reader. Air / Fuel Ratios great than 15:1 can cause serious engine damage.

NOTE: This model bike has a gear position switch and the Vortex ECU will use MAP 9 for the Neutral gear position. This has a lower rev limit to prevent over rev under no load free revving.

LAUNCH CONTROL OPERATION (TIMER MODE)

The Vortex X10 ECU has a launch control algorithm and Mapping that can be operated using the Standard Launch Switch. To activate Launch Mode put the bike in first or second gear, press the Launch Button for 2 seconds. **Note: If the button is pressed for 3 seconds then the launch mode will disable.** When in launch mode the indicator LED will flash rapidly.
The intended method for starting in Launch Mode is to have the bike in second gear and hold the throttle so that the engine is on the rev limiter. When the gate drops feed the clutch out normally controlling the power. When the ECU detects launch a timer will be activated then will de-activate when the pre-programmed time has expired. Normal operation will then resumed. See map listing for further details.

DYNAMIC TRACTION CONTOL

The Vortex X10 ECU has an exciting new feature called Dynamic Traction Control (DTC). As the name suggests this is a form of Traction Control. When this DTS is turned on the ECU will monitor rear wheel acceleration and when the programmed acceleration is exceeded will change parameters to reduce engine power and therefore wheel spin.

Activating DTC (Dynamic Traction Control)

Engine Running in Neutral – Press the same as button as Launch once.

When DTC is active the Launch LAMP will display a short flash with longer delay.

Note: This fast flash should not be confused with the Fault Flash Codes provided to indicate a faulty sensor. The Fault codes display as a slow flash with a long break between counts. See included Fault Flash Codes sheet for a description of these codes.

TPS END-POINT SETTING

This Vortex X10 ECU-8E can set the TPS (Throttle Position Sensor) endpoint voltages without the need for a PC or any other device. It may be necessary to set the TPS endpoints when you first install the ECU or after the ECU is re-programmed, the TPS is replaced, or the Idle Stop has been adjusted. To set follow the following steps:-
1/ With the THROTTLE CLOSED :- PRESS and HOLD the KILL SWITCH at the same time as pressing the STARTER BUTTON for 1 second. Release all and proceed to step 2.
2/ With the THROTTLE FULLY OPEN :- PRESS and HOLD the KILL SWITCH at the same time as pressing the STARTER BUTTON for 1 second.
3/ TPS endpoints are now set. This process can be repeated at any time as required.

INDEMNITY
Note: This is a performance product and is designed for closed course competition use only. The manufacturer or their distributor accepts no responsibility for damage or injury caused by this product. Because we cannot control the application or use of this product, the buyer assumes all risks of any and all damage that may occur to their self, their machinery or third party due to the use of this product. The product is guaranteed against manufacturing defects.