



INSTALLATION INSTRUCTIONS

MSD Blaster FI Fuel/Ignition Controller PN 4248

Parts Included:

- 1 - Fuel/Ignition Controller
- 1 - Micro-USB Cable
- 1 - MSD View CD-Rom

WARNING: When installing the Blaster FI, disconnect the battery cables. When disconnecting, always remove the negative cable first and re-install it last.

WARNING: The Blaster FI Controller is a performance device that allows the vehicle or engine to operate at increased power and speed. Follow all OEM safety recommendations and use extra care when operating at increased power and speed.

CAUTION: The Blaster FI Controller can raise the maximum rev/speed limit of the engine. Note that factory components may not be designed for the increase in rpm and may require modifications to achieve the best performance and durability.

Note: Do not plug the MSD into PC until the MSD View Software has been installed first.

INTRO

The Blaster FI system has been designed to install directly on Yamaha 700cc Raptors (Model year 2006 – 2011). This is an in-line (“piggy-back”) system that plugs directly in to the factory wiring harnesses. Using the Blaster FI the Raptor can be retuned with custom maps for ignition timing and fueling options. In all nine custom tunes can be created and saved to the device. A 10th tune remains as a stock setting that cannot be edited.

MSD VIEW

The MSD View software controls all of the functionality of the Blaster. The following information gives a brief explanation of each function or feature in the system as well as the settings that control it. While using the program, hover the mouse over a Function to display a brief explanation.

When the system controller is connected to a PC via USB MSD View will automatically recognize it and load the settings stored in it.

Note: Insure that MSD View is installed on the PC prior to connecting the Blaster FI.

INSTALLATION OF THE VIEW SOFTWARE

DO NOT CONNECT THE UNIT TO YOUR PC PRIOR TO INSTALLING THE SOFTWARE!

1. Insert the installation CD Rom into the CD drive, wait up to 30 seconds, the CD will auto run, IF THIS DOES NOT OCCUR:
Locate and open the CD Drive.
Double click on the Setup file.
2. Select "Click here to Install Version X.XX".
3. Once loaded, your monitor will have an MSD View X.XX logo. Accept the agreement. Drive the installation to your program files folder, press the enter key. The installation will complete, select OK.
4. A window will be opened with two aliases, double-click on the MSD View alias to launch the software.
5. Connect the system controller via USB. If the software does not recognize the controller and auto-connect, manually select the Blaster FI in the popup window and click Connect.

SAVES AND TRANSFERS

Using the Blaster changes are in real time if the computer is linked to the ignition.

You can create and save numerous files on your PC and transfer them for testing purposes or to use for various locations and conditions.

The following instructions will go through a general description of the use of the Blaster following the tab system that you will see in the software.

INSTALLATION

The Blaster FI system is a piggy back system that will plug directly into the stock electronic system. The unit can be placed on the side of the air box near the OE ECU mounting location.

1. Remove seat
2. Remove tail-light cover panel (bottom of bike)
3. Disconnect tail-light
4. Unplug stock ECU
5. Remove air box (Four bolts and the front clamp will loosen the box. Once the box is loose the Crank Case Breather tube will be removed from the bottom.)
6. Remove stock ECU
7. Mount MSD Blaster FI unit using supplied mounting plate, supplied hardware, and some OE hardware as depicted in Figure 1
8. Select initial tune
9. Replace air box
10. Plug Blaster in-line with OE ECU
11. For best results a small hole can be drilled in the tool box (just behind the air box) to mount the OE ECU
12. Reassemble bike

Note: There is a second connector on this unit. It is for future features and is not used at this time.

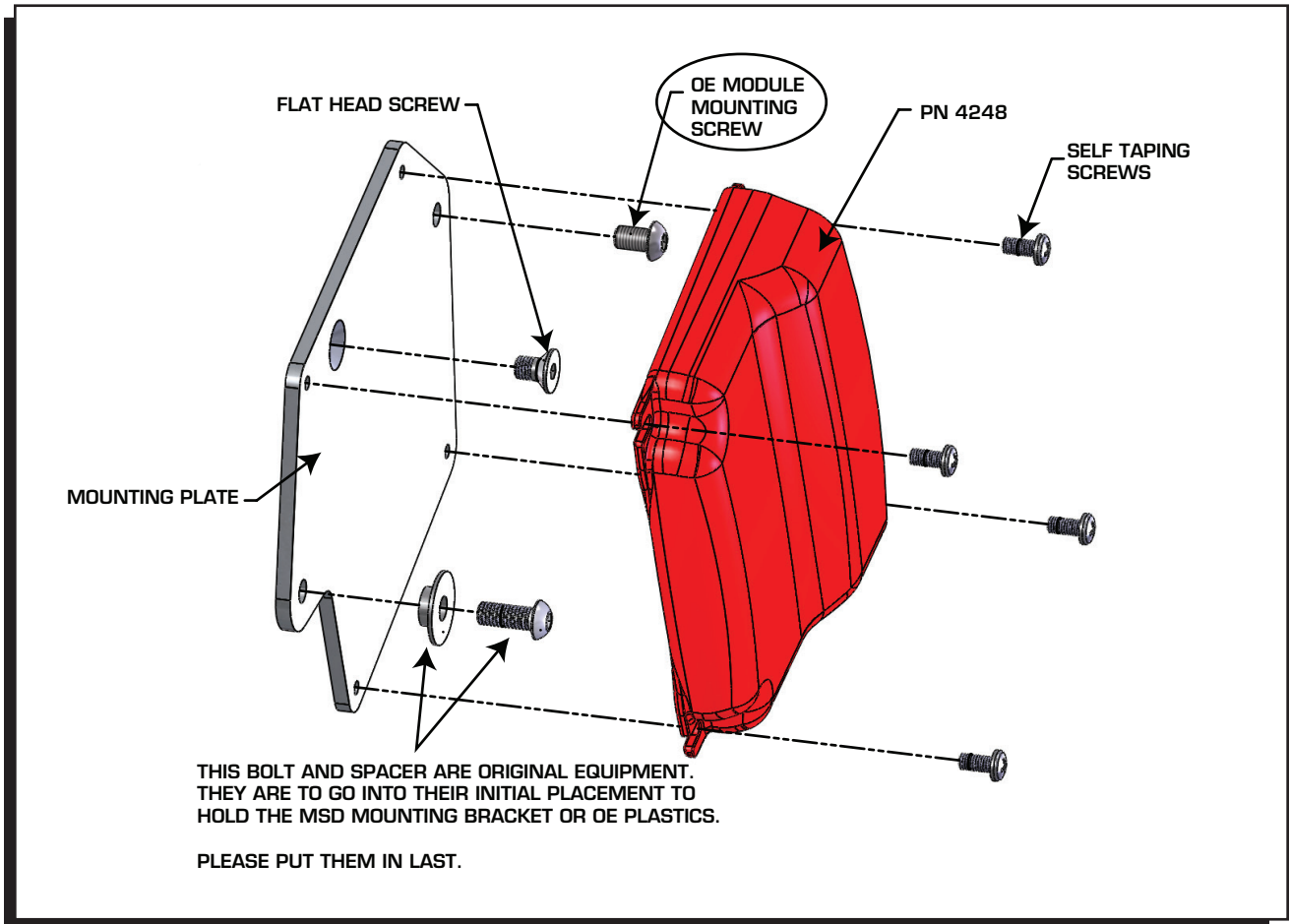


Figure 1

PROGRAMMING

When MSD View is installed, opened, and connected to the Blaster FI, PN 4248, setting options will immediately appear. To start, the user will see 10 tunes (0-9) as tabs across the top of the screen. Each tab represents a Tune that has the same setting and table options. Tune 9 matches the machine's stock settings to act as a bypass and is closed to editing. Tunes 0 – 8 are each programmed to meet the needs of a variety of riding styles. Users can select one of the pre-programmed base tunes right out of the box, or they can edit those tunes as preferred.

To select a specific tune, turn the White knob of the end of the Blaster FI unit so that the engraved arrow points to the desired tune number. The White knob is easy to mar, be gentle while adjusting tunes so that the arrow will be able to be read the next time it is needed.

PREPROGRAMMED TUNES

Below each tune on the 10-position dial is described so that you can select which is the best starting point. All tunes are editable except for the last position (9) so that the vehicle can always be returned to stock.

Dial Position	Pre-Set Tuning Changes	Recommended for vehicles with:
0	No Changes (Stock)	Any
1	Ignition Timing Advanced, High-gear retard eliminated	Stock parts. Factory exhaust insert and air box lid in place. Premium Fuel Required.
2	Ignition Timing Advanced, High-gear retard eliminated, Fuel added	Stock parts. Factory exhaust insert and air box lid removed. Premium Fuel Required.
3	Ignition Timing Advanced, High-gear retard eliminated, Fuel Added, Fuel-Accel increased	Factory air box lid removed. Full aftermarket exhaust installed. Premium Fuel Required.
4	Stock Timing, High-gear retard eliminated	Stock parts. Factory exhaust insert and air box lid in place. Recommended if Premium fuel is not available.
5	Stock Timing, High-gear retard eliminated, Fuel Added	Stock parts. Factory exhaust insert and air box lid removed. Recommended if Premium fuel is not available.
6	Stock Timing, High-gear retard eliminated, Fuel added, Fuel-Accel increased	Factory air box lid removed. Full aftermarket exhaust installed. Recommended if Premium fuel is not available.
7	No Changes (Stock)	Any
8	No Changes (Stock)	Any
9	No Changes (Locked)	Bypass or Diagnostic needs

ADJUSTING TUNES

Each tune has a variety of settings that can be adjusted to customize how the engine handles. Not all tunes will need to be changed for all riders and riding styles. The MSD Blaster FI will prescribe parameters exactly as they are entered by the user. The unit will not protect the engine from damage if setting parameters are made outside of safe operating range.

SETTINGS

In this tab users can put in the basic parameters for the engine.

Engine Speed Limit - This is the overrev limit and is always active in order to help protect the engine from damage. The engine will not be allowed to go faster than this setting at any time.

Vehicle Speed Limit - This is the maximum speed (mile per hour) the vehicle will go. When the ECU sees the given speed a rev limiter will be activated even if it is below the Engine Speed Limit.

Decel Fuel Cutoff - This setting allows the user to automatically shut off the fuel during deceleration. Doing so can help with fuel efficiency, depending on driving habits. The user defines the lowest rpm at which the fuel should be cut off. There are a number of other parameters, such as engine temperature that cannot be controlled by the user. After all parameters are met, the fuel will be shut off when the throttle position is fully closed and the engine is revving over the set speed.

ADVANCE

This tab allows users to set change the prescribed ignition timing for the engine. The table allows changes to be made in single degree increments based on engine RPM per MAP PSIA. Using the table a tuner can adjust the timing anywhere from 30° of retard up to 30° of advance. See “Table Features” below to learn about using and editing data tables in MSD View.

FUEL

The Fuel table in MSD View can add or subtract a percentage of the fuel injection signal based on engine RPM per Throttle Position. All values entered to the table act as a percentage change to the original signal from the ECU. The values in this table can range from -50% to 80%. At the lowest value, fuel will be cut in half. The highest enterable value will nearly double the amount of fuel injected in the engine. See “Table Features” below to learn about using and editing data tables in MSD View.

FUEL ACCEL

The Fuel Accel plot offers users the ability to recreate the functions of a carburetor’s accelerator pump (pump squirt) in a fuel injection system. This feature monitors the signal sent to the fuel injector for changes. Each time the signal increases an extra percentage is added to the prescribed amount to assist the engine in acceleration. The extra percentage, prescribed by the RPM based line in MSD View, lasts only during the time where fuel requirements are rising.

To plot a line, click and hold a dot to drag it to a new location. New dots can be added by right clicking within the plot, or by entering coordinates in the table. The table shows the exact position of each dot and can be found in the lower left corner of the MSD View window. The Fuel Accel plot includes changes in 50 rpm increments and fuel additions of 1% at a time. A maximum of 4 points can be set.

The line designates a percentage of fuel to be added to the fuel system that is originally prescribed by the stock ECU. The highest possible plot, 200%, will add two times the originally designated amount of fuel. With the addition, three times the original amount of fuel will be injected during the specified conditions under the 200% setting.

NOTES

The Notes tab allows users to keep basic information with a particular tune. The notes section works the same way as a simple Notepad program. This area offers the ability to name tunes, explain reasoning for changes, keep notes on the location or conditions when a tune was used or any other plain text items the user would like to enter.

MONITORS AND GAUGES

The pane on the right side of the MSD View window allows users to see a variety of engine parameters in real time. The top of the pane shows selected items in either list or gauge form. The bottom of the pane lists all available items to be checked for monitoring. When the engine is running, users can watch changes occur as they are entered into the software.

TABLE FEATURES

To edit the data in the table users can select a single cell at a time or select a group of cells to all be changed to the same value. A zero in any given cell indicates the MSD unit is making no change to the OE ECU’s output. To change timing or fuel data in a table the sign (+/-) of the new number designates what type of change occurs. Use a negative dash (-) immediately before a number to retard timing or decrease fuel supply. No positive sign (+) is required when entering a number to advance timing or increase fuel supply. When a cell or group of cells is highlighted, use the keyboard to enter the desired number. When a new value is being entered, the Up and Down keyboard arrows will change the entered value by one value, respectively. To finish a change, click in a new cell or press enter.

Data can be copied and pasted from one table to another. To do so, copy the required cells using Edit on the Menu Bar, right click in the highlighted area, or use Ctrl + C on the keyboard. Copied data can be pasted in any table. The data will paste in the cells that correspond to those from which it was originally copied.