



# INSTALLATION INSTRUCTIONS

## MSD FI Enhancer for 2006 Suzuki LTR450 PN 4172

### Parts Included:

1 - MSD FI Enhancer  
1 - Wire Tap  
1 - Wire Ties

2 - Velcro® Strips  
1 - Alcohol Swab  
1 - Rev Extension Plug

**WARNING:** During installation, disconnect the battery cables. When disconnecting, always remove the Negative cable first and install it last.

### OPERATION

The MSD FI Enhancer is preprogrammed with four base fuel curves. The curves are selected using the switch labeled BASE. These curves adjust fuel delivery based on throttle position and rpm, providing the right amount of fuel under all conditions. The four fuel curves correspond to varying levels of performance modifications. These levels of modification are broken down into the following groups:

**Curve 1** - Stock exhaust or slip on, stock or aftermarket air filter.

**Curve 2** - Full exhaust and stock or aftermarket air filters.

**Curve 3** - Exhaust systems and aftermarket air box.

**Curve 4** - The fourth curve has all of the fuel adjustment values zeroed out. This curve is selected by moving the rotary switch to any position other than Base 1, Base 2 or Base 3. This curve is useful for those wanting to just modify the fuel delivery with the potentiometer adjustment, without having any other adjustments.

**NOTE:** Any position other than 1, 2 or 3 represents Curve 4.

In addition to the four curves, there are three potentiometers that allow you to fine tune the curve you select. These potentiometers allow you to adjust the fuel curve from +20% to -20% in three different rpm ranges. The rpm ranges are:

**Low** - Idle - 3,500 rpm

**Mid** - 3,500 - 7,000 rpm

**High** - 7,000 - 10,500 rpm

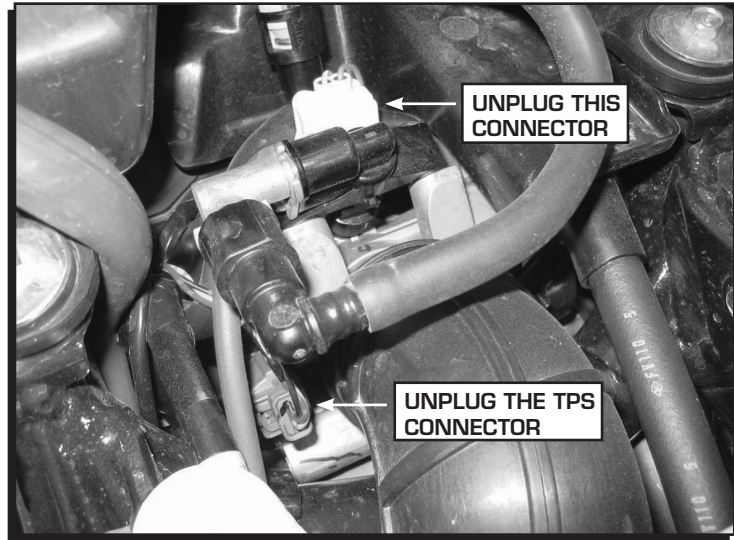
To add fuel, turn the potentiometer clockwise. To subtract fuel, turn the potentiometer counterclockwise. With the potentiometer pointed straight up at the thick indicator mark (towards the MSD logo), that is 0% adjustment. Fully CCW is -20%, and fully CW is +20%. Adjusting the potentiometer between these points will result in adding or subtracting an amount of fuel proportional to how far the knob was moved from zero.

### LED

The FI Enhancer has an LED that will illuminate when there is power to the unit.

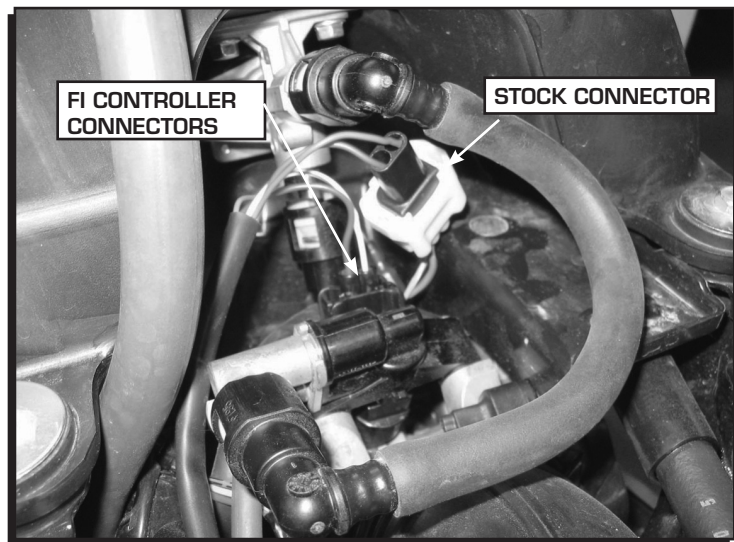
## **INSTALLATION**

1. Remove the seat. Remove the plastic shroud around the fuel tank. Lay the FI Controller in the tail section. Route the wiring harness from the FI Controller towards the throttle body. Unplug the stock wiring harness from the injector and the Throttle Position Sensor. (Figure 1).



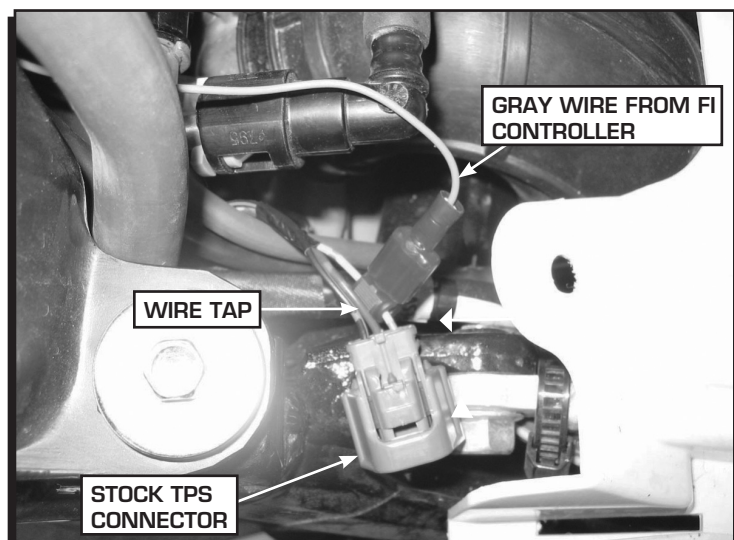
**Figure 1 Accessing the Battery.**

2. Plug the connectors from the FI Controller in-line of the stock wiring harness and fuel injector.



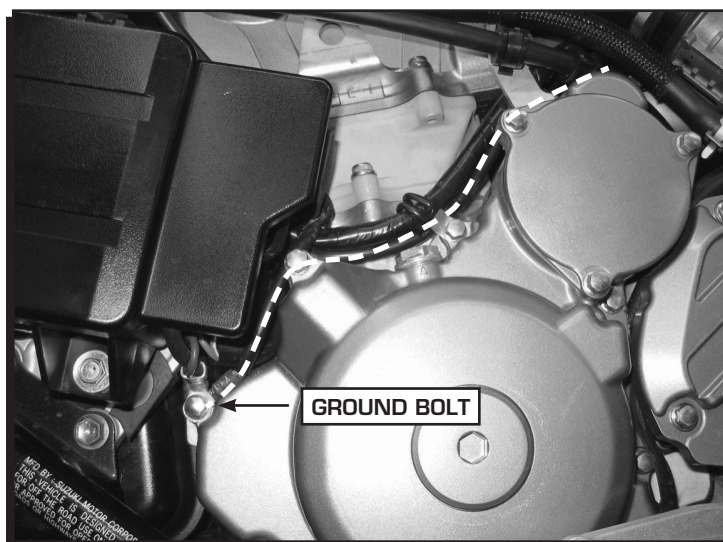
**Figure 2 Routing the Harness.**

3. Crimp the supplied wire tap to the Yellow wire of the stock TPS connector. Plug the Gray wire from the FI Controller into the wire tap. It is recommended to use dielectric grease on these connections. Plug the TPS connector back onto the throttle body.



**Figure 3 Injector Connections.**

4. Attach the ground wire from the FI Controller to the common ground on the left hand side of the engine. Follow the stock wiring harness.



**Figure 4 Ground Connection.**

5. Install the FI Controller to the rear fender as shown in the image. Position the FI Controller so it does not interfere with the foam pads on the bottom of the seat. Use the supplied velcro to secure the FI Controller in place. Clean both surfaces with the alcohol swab before attaching.



**Figure 5 Mounting the FI Enhancer.**

6. The FI Controller can also be installed inside the airbox if you are running with the airbox lid removed.
7. Locate the White 6-pin diagnostic connector behind the headlight. This connector is covered with a rubber boot. Plug the Rev Extension plug into this connector. The Rev Extension plug increases the RPM limiter by 1000 RPM.



**Figure 6**



# INSTALLATION INSTRUCTIONS

## **CALIBRATION**

To select the right curve, start by making sure that all three of the rpm pots are set to zero adjustment. Then select the base curve which corresponds to your bike's level of modification. This should make the bike run better through all rpm.

Once you have selected the correct curve, then you can fine tune any problems with the map by using the potentiometers. With the arrows on the pot straight up and down, the pots are at 0% adjustment. To add more fuel, turn the pots clockwise. To subtract fuel, turn the pots counterclockwise. **Do not attempt to adjust while riding!**

## **TROUBLESHOOTING**

If the STATUS LED does not come on when the ignition is switched On, there is no power to the FI Enhancer. Make sure that you have the ground connected properly either directly to the battery ground, or to a lug on the frame that is grounded.

If the LED comes on, but does not run on one or both cylinders, double check all connections at the injector, making sure the connectors are seated properly.

### **Service**

In case of malfunction, this component will be replaced free of charge according to the terms of the warranty. When returning components for warranty, Proof of Purchase must be supplied for warranty verification. After the warranty period has expired, replacement service is charged based on a minimum and maximum charge.

**All returns must have a Return Material Authorization (RMA) number** issued to them before being returned. To obtain an RMA number please contact MSD Customer Service at (888) 258-3835 or fax a request to (915) 858-3496. Send the unit prepaid with proof of purchase to the attention of: **MSD Powersports, Customer Service - RMA #, 12120 Esther Lama, Dock 5, El Paso, Texas 79936.**

When returning the unit, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle.

A replacement unit will be returned as soon as possible after receipt, COD/Cashiers Check for any charges. For more information, call the MSD Powersports Customer Service Line **(888) 258-3835**. MSD Powersports technicians are available from 8:00 a.m. to 5:00 p.m. Monday - Friday (Mountain Time).

### **Limited Warranty**

MSD Powersports warrants this product to be free from defects in material and workmanship under its intended normal use\* and if properly installed, for a period of one year from the date of original purchase. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD Powersports. Any item that is covered under this warranty will be returned free of charge through standard shipping methods. If faster service is required the customer has the option of paying for this service.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD Powersports. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD Powersports or its suppliers be liable for special or consequential damages.

\*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD Powersports. Any modifications to this item or if it is used on an application other than what MSD Powersports markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD Powersports will accept no liability for custom applications.