



Thank you for choosing the Technusion Electronic Jet Kit, the TFI. This controller is “ONLY” usable for the following fuel injected Harley Davidsons Models:

- 1995-2006 Touring Models**
- 2000-2006 Softail Models**
- 2004-2005 Dyna Models**

**THE FOLLOWING MODELS REQUIRE INSTALLATION OF O2 BYPASSES SOLD SEPARATELY:**

- 2006-2011 Dyna Models – Requires O2 bypass 910100117**
- 2012-2013 Dyna Models – Requires O2 bypass 950099018 (OX-018)**
- 2007-2011 Softail Models – Requires O2 bypass 910100117**
- 2012-2013 Softail Models – Requires O2 bypass 950099018 (OX-018)**
- 2007-2013 Sportster Models– Requires O2 bypass 910100117**
- 2007-2009 Touring Models – Requires O2 bypass 910100117**
- 2010-2013 Touring Models – Disconnect Oxygen Sensors. NO BYPASS REQUIRED**

The TFI will work in conjunction with Harley Davidson’s street legal downloads. The controller is a great fit for stock bikes or for stage 1 (exhaust and intake mods) applications.

**Due to the complexity of the newer motorcycles, dealer install may be required.**

**If you have any questions during installation or tuning please call tech support.**

**Toll Free: 877-764-3337**

**USA: 406-388-2377**

**Business Hours: 8am-5pm MST Monday-Friday**

## INSTALLATION PREP

### ➤ Required Tools For:

- Removing your seat
- Side cover and bags

### ➤ Recommended Tools:

- 10mm Wrench, for Negative Battery Terminal
- Needle Nose Pliers, for grabbing wires and clamping the T-Tap
- Wire Cutters
- Small Flat-Head Screwdriver

## **Installation Instructions:**

1. Before installing the controller you must first disconnect the negative lead from the battery.
2. Determine a location for the controller. Suggested locations are as follows: Behind frame side cover or under the seat.
3. Remove seat to locate orange/white wire at the taillight harness. The taillight harness is located at the rear fender. Install/clamp T-tap connector to the orange/white wire. Install insulator and crimp the supplied spade connector to the red power wire on TFI, be sure to install the insulator BEFORE you crimp the spade connector to the TFI lead. Connect the red wire from the controller to the T-tap on the taillight harness.
4. Locate the ECU. In the ECU harness, locate the white/yellow and the dark green/gray wires. Using four (4) T-taps, attach two (2) T-taps approximately two inches apart to the white/yellow wire and two (2) T-taps approximately two inches apart to the dark green/gray wire each lead.
5. Install insulator and spade to the solid yellow and white/yellow wires on TFI. Connect the solid yellow wire from TFI to the T-tap closest to the ECU on the white/yellow wire on the motorcycle. Connect the white/yellow lead from TFI to the T-tap closest to the engine on the white/yellow wire on the motorcycle.
6. Install insulator and spade to the solid gray and green/gray wires on TFI. Connect the solid gray wire from TFI to the T-tap closest to the ECU on the green/gray wire on the motorcycle. Connect the green/gray wire from TFI to the T-tap closest to the engine on the green/gray wire on the motorcycle.
7. Cut the wires in between the t-taps, like what is in the diagram. Then after cutting the wires heat shrink the ends of the wire.
8. Crimp the ring terminal to the black wire on TFI. Connect the ground lead to the negative terminal of the battery along with the factory ground lead. Tighten the ground connection.
9. \*\*\*\*\***MOTORCYCLES EQUIPPED WITH OXYGEN SENSORS:**\*\*\*\*\*
  - a. The Front factory Oxygen Sensor connector location: (see owners' manual for help if needed)  
 DYNA and SOFTAIL –Oxygen Sensor connector is located behind the voltage regulator assembly inside a plastic connector caddy attached to the backside of the voltage regulator. You will need to remove the voltage regulator to gain access to the plastic connector caddy and the factory front Oxygen Sensor connector.  
 TOURING - Oxygen Sensor connector is zip tied to the cross member/down tube area on the front portion of the frame behind the front tire.  
 Disconnect factory O2 connection and plug in O2 bypass. The factory O2 sensor can be removed from the exhaust pipe and replaced with a pipe plug and/or coil up original harness and secure.
  - b. The Rear factory Oxygen Sensor connector location: (see owners' manual for help if needed)  
 DYNA - Under the seat, inside the frame opening.  
 TOURING - Follow the Oxygen Sensor harness from the rear head pipe down to the starter.  
 SOFTAIL - Under the oil tank on the right hand side.  
 Disconnect factory O2 connection and plug in Cheap Shot bypass. The factory O2 sensor can be removed from the exhaust pipe and replaced with a pipe plug and/or coil up original harness and secure.
10. Turn the key on (**do not start bike**) and check for a flashing green LED. If a flashing green LED is visible, go to next step. If there is no flashing green LED, re-check power and ground wiring.
11. Start the bike. The green LED should now be on steady and the yellow will flash rapidly for about 15 seconds, and then go out. If the green or red LEDs continue flashing after startup, an injector wiring error is indicated. Green LED flashing indicates the yellow and/or yellow/white wire has an incomplete connection. Red LED flashing indicates the green and/or green/gray wire has an incomplete connection. **MAKE SURE** you have the correct wires selected in the stock harness. **DO NOT PROCEED UNLESS YOU HAVE A STEADY GREEN LED.**

## **Tuning Instructions - please call tech support for any assistance**

**Green LED pot (1<sup>st</sup>):** Air fuel mixture screw adjustment.

With controller installed and the **BIKE FULLY WARMED UP** (10-15 Minutes at Idle), screwdriver in hand, locate the green LED and the pot right below it. Using the throttle raise the RPM to a high idle or about 2000-RPM. Once there, slowly turn the green pot clockwise from the 1:00 position (off) until you achieve the highest RPM and smoothest running sound (like a mixture screw on a carburetor). You should find the best setting between 2:30 and 4:00 o'clock. If you turn the green pot clockwise and the engine does not accept any more fuel (RPM drops when adding fuel) you may have one or more of these problems (See troubleshooting **Motorcycle**).

**Yellow LED pot(2<sup>nd</sup>):** Acceleration fuel adjustment.

Anytime the LED is on, this pot is adding fuel. In neutral raise the RPM slowly up through the mid range and see no yellow LED. However, opening the throttle quickly from idle you "should" see the yellow LED come on. Fine tuning: Start with the suggested setting and then add one clock position at a time until the bike says too much (hesitation) then back off 2 clock positions, if adding makes it worse go opposite direction. The yellow pot adds its fuel below 70% of maximum RPM. If no yellow LED there is not enough load to turn it on. At that point the street or dyno will be able to show the difference.

**Red LED pot(3<sup>rd</sup>):** Main jet fuel adjustment.

Controller adds about 5 points of main jet fuel with every clock position. For example, one clock position is the same as 150 to 155 main jets. Fine tuning: Start with the suggested setting and then add one clock position at a time until the bike says too much (hesitation) then back off 1 clock position, if adding makes it worse go opposite direction. The red pot adds most of its fuel above 70% of maximum RPM.

**RPM pot(4<sup>th</sup>):**

- 1.) Sets RPM that the red LED pot (main jet fuel) turns on. All Harley. One clock position is roughly 1000 RPM. This pot should be set to about 70% of redline. (For example: Harley Softail redlines at 5600 rpm and 4000 is roughly 70% of redline which would be 4:00 o'clock). Verify setting by raising the RPM in neutral, look for green and yellow LEDs to shut off and the red to turn on at the chosen RPM or refer to suggested settings if you have no tachometer.
- 2.) Shuts off idle fuel. In some cases modified engines can produce a richer than normal idle mixture. 1:00 o'clock through 6:00 o'clock sets RPM that the red LED pot (main jet fuel) turns on. When the 4<sup>th</sup> pot is turned to 7:00 o'clock the software is instructed not to add fuel until 1250 RPM. Also, when setting the 4<sup>th</sup> pot at 7:00 o'clock the software automatically defaults to 4000 RPM (internally) to switch to the red LED pot (main jet fuel).

## **Troubleshooting:**

### **General:**

It is important you understand that all modern day fuel injected bikes have a big advantage over carbureted bikes. Fuel injected bikes all have the same exact fuel curve and is corrected everyday by the on board weather station. Nothing is leaner than a stock Harley map, 1800 RPMs in neutral. So with our box on and the bike fully warmed up, if you slowly turn on the green pot and the engine does not accept any more fuel (RPMs drop when adding fuel) then you have one or more of these problems. (Order from most common to less common)

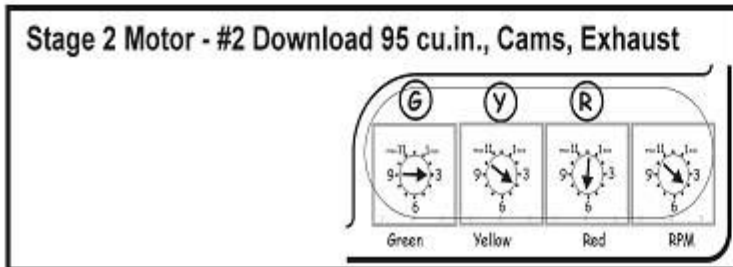
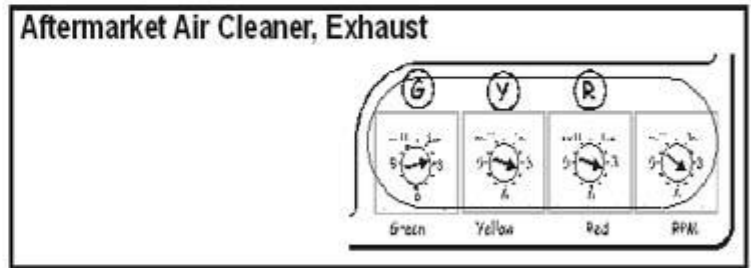
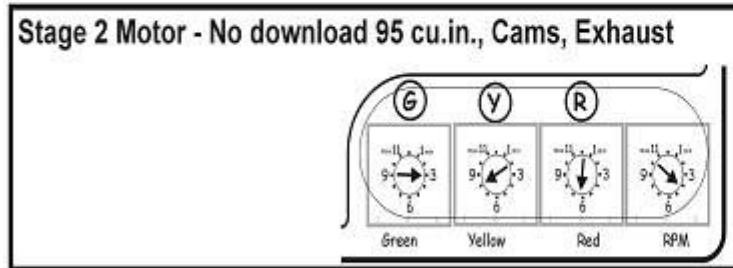
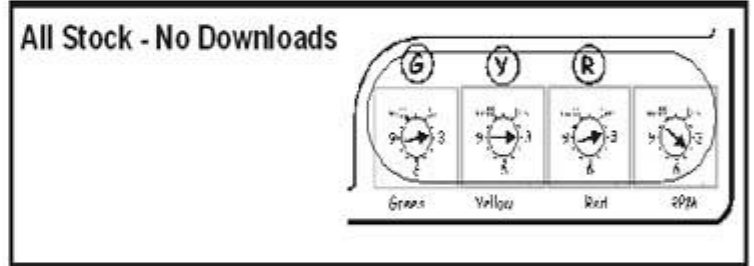
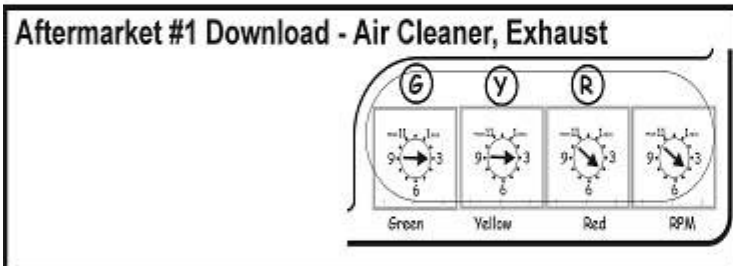
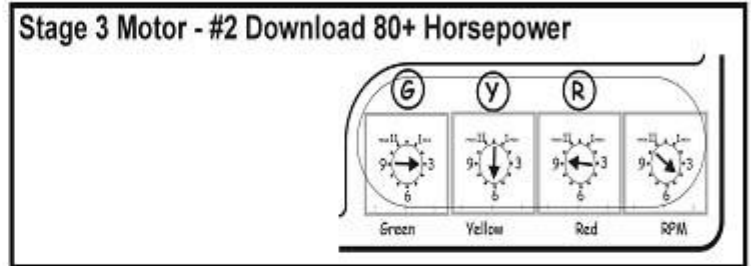
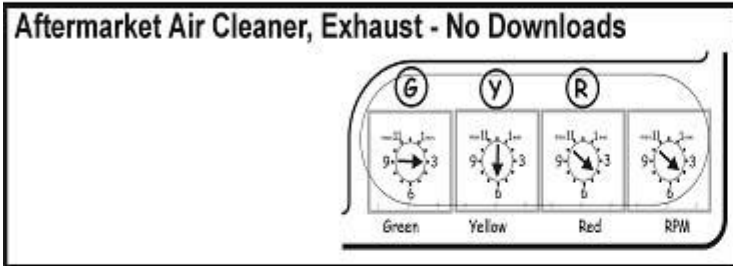
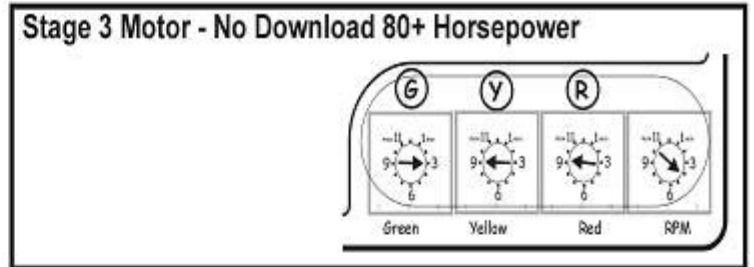
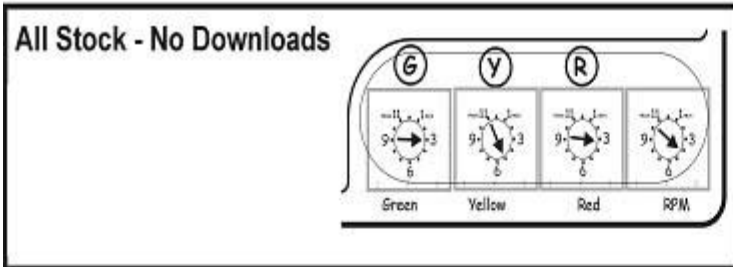
1. Engine not fully warmed up.
2. A vacuum leak on the intake.
3. High lift cams affecting map at light loads and low RPMS.
4. The loss of TPS and ECU sync. Only on 2001 and earlier fuel injected Harley's.
5. Cylinder head temp sensor malfunction.

Our first step to diagnosing any problems is to inspect the controller wire harness for any possible pinches or breaks in the wire. If none are found then try disconnecting the ground wire from the controller. Your bike will properly pass through the injector signals as if the controller was not even installed on the bike. If your problem persists then you will need to inspect other components on your motorcycle. If the problem goes away then you may need to contact tech support for additional assistance.

### **Poor Fuel Mileage:**

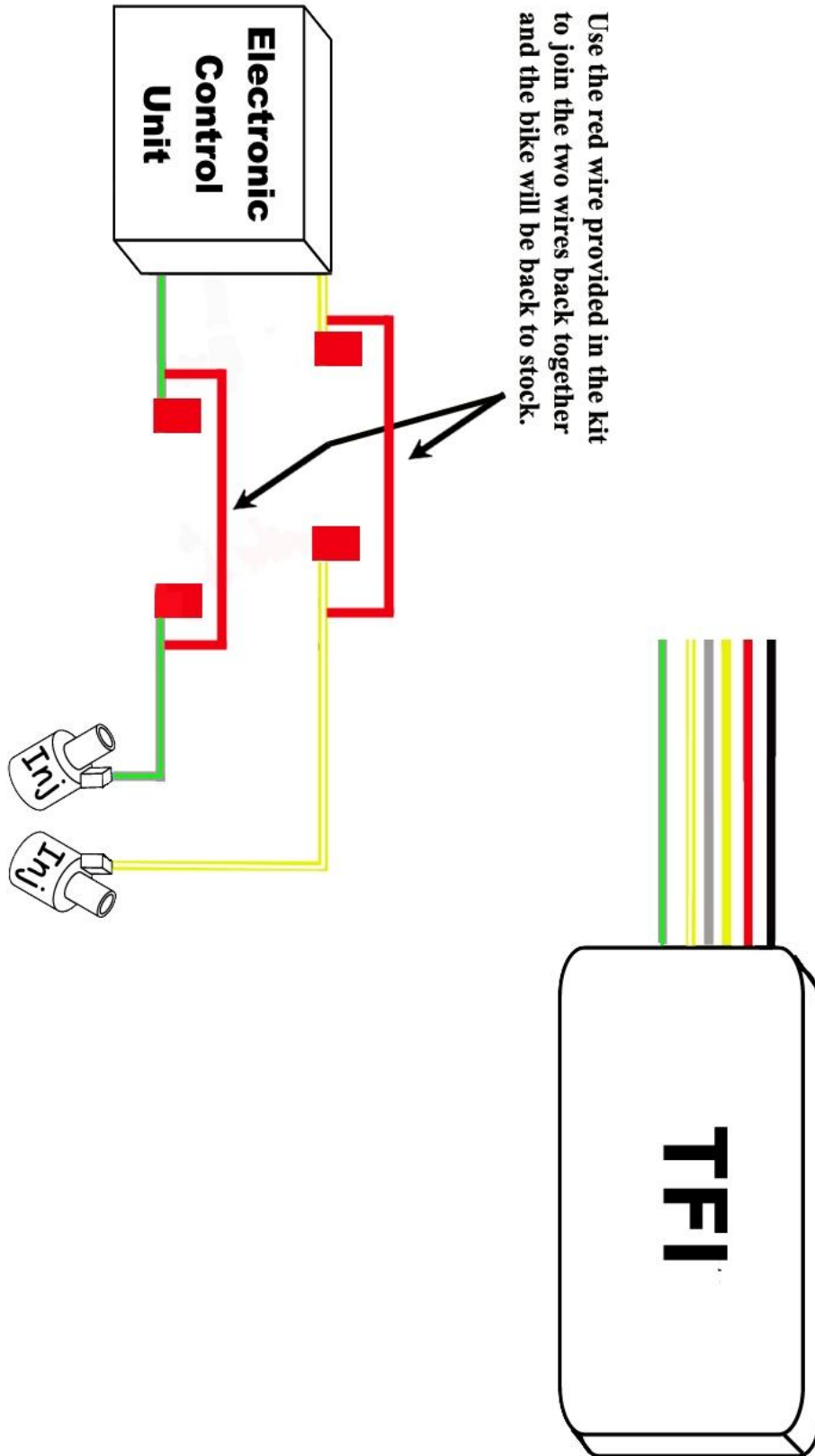
Please remember that fuel mileage and maximum performance can not both be achieved at the same time. A user typically has to decide on a compromise between the two and set up their bike correspondingly.

1. Check your **GREEN** pot setting. In the thousands of installs performed, we have never gone beyond the 4:00 setting. Try backing down this setting a half to a full clock position to improve fuel economy.
2. The RPM pot is adjusted too low. Make sure it is at least at the 4:00 setting. This means the main jet fueling comes in at around 4000 rpm. Make sure your engine passes the 1800-RPM test at the beginning of the troubleshooting chapter.





**WIRING DIAGRAM FOR RETURNING BACK TO STOCK:**







**Techlusion Corporation dba Dobeck Performance warrants that this product carries a warranty for 2 years from date of purchase against original defects in materials and workmanship to the original purchaser. Should this product fail to perform for either of the above reasons, Techlusion will repair or replace it with an equivalent product at no charge except for postage.**

**To obtain the benefits of this warranty, the purchaser must first call Techlusion to obtain a Return Merchandise Authorization (RMA) number. The purchaser can then send the product with proof of purchase date to:**

**Dobeck Performance  
Attn: Warranty Department  
157 Progressive Drive  
Belgrade, MT 59714**

**Toll Free: 877-764-3337  
USA: 406-388-2377  
Business Hours: 8am-5pm MST Monday-Friday**