PHAZER SUPERCHARGER EFI CONTROLLER SETUP

Tools Required: 10mm Wrench
IF YOU ARE RUNNING OUTSIDE 6000 to 9000 feet, you should really have a Wide band O2 gauge, since these settings have not been tested YET. Once we have recommended setting an O2 gauge will not be required.

Installation:

1. See Phazer Supercharger Kit instructions for EFI installation and wiring.
2. Find a convenient location for the controller. This location MUST be out of direct contact with rain & snow. You will want to make adjustments as you personalize the controller for your riding style so the controller buttons must be accessible. It is not typically required that you watch the controllers as you ride. It would be a benefit to leave a little extra wire so that the controllers could be temporally mounted where you can see them if diagnostics is required.
3. AGAIN, DO NOT EXPOSE THE UNIT TO DIRECT WEATHER!
4. **ULTRA IMPORTANT:** Remove one of the 6mm nuts that holds the voltage rectifier to the frame on the upper left side of the snowmobile. YOU MUST GROUND THE BLACK WIRE RUNNING TO CONTROL BOX 1 UNDER THE NUT. Reinstall the 6mm nut with the wire securely in place.
5. Connect the blue silicon hose FROM Box 1 to the supplied "tee". One leg of the Tee connect to the small nipple on the bottom right of the airbox. Another leg goes to the OEM fuel pressure regulator on the top left of the fuel rail. The last leg goes to the blue silicone hose of Box 1.
6. INSURE THAT THERE ARE NO KINKS IN THIS HOSE and that you do not pinch the hose with zip ties or other obstructions.
7. Start the snowmobile. After a couple of seconds you will see all 8 **Green** LEDs scroll across BOX #1 for several seconds. Box #2 will show 1 **Green** LED in the #1 position (the blue LED in #8 may also be on.
8. Reinstall the body parts and headlight, etc. that you removed earlier.

Operation and Tuning: THESE SETTINGS WORK WELL FROM 6000 to 9000ft.
BOX #1 (7 wires)

1. WHILE TUNING ONLY ADJUST ONE SETTING AT A TIME!! It is a good idea to keep notes so that you can always return to where you were. It is typically advisable to make initial adjustments of about 2 numbers so that you can see/feel if you are achieving the desired effect. If you see no effect return the setting to its original setting and move on.
2. With the sled idling you should see #1 LED green. Number 8 LED may or may not appear Blue at an idle. This #8 Blue LED indicates Boost. Working the throttle should make #8 LED light up BLUE. If you never see a BLUE LED in #8 while riding there is a problem. STOP!!! This could be caused by a disconnected or blocked boost signal to the box through the blue silicone hose.
3. There are 8 LEDs and 3 Buttons. Each LED can illuminate Red, Yellow, Green or Blue.
4. Programming LEDs: LED 2 on equals setting 2, LED 2& 3 on equals setting 2.5, LED 3 on equals setting 3, and so on (LED 1 fast blink equals 0.5 and slow blink equals setting 1). The center button is the MODE button. There are 5 user adjustable modes. Pushing the Mode button will advance you through the modes:

a) **Mode 1: Green** – Idle / Cruise Mixture Level – **LEAVE THE SETTING AT 0.5** fast blink.
b) **Mode 2: Yellow** – Needle Enrichment – **Set at 5.** Typically no adjustment is required.
c) **Mode 3: Red** – Main Jet – **Set at 7.** Can be increased to 8 or dropped. BE CAREFUL, YOU CAN ADJUST TOO LEAN!!!! This adjusts WIDE OPEN THROTTLE.
d) **Mode 4: Green/Blue** – Boost Fuel adder. The setting adds addition fuel to the fuel already being supplied in Mode 1,2 or 3. **Set at 5.5.** This is a good adjustment to increase or decrease as you go up and down in altitude. Try up and down in increments of 1 (4.5 or 6.5). THIS EFFECTS PART AND WIDE OPEN THROTTLE. Typically dial in this number for PART THROTTLE operation and then adjust mode 3 for WIDE OPEN THROTTLE
e) **Mode 5: Yellow/Blue** – Accelerator Pump. Adjust to riding style. **Set at 4.0**. Very hard acceleration. Set above 4.0. Softer touch on the throttle try less than 4.0.

5. The programming mode and the operating mode lights do not necessarily mean the same thing. #8 LED as Blue indicates the presence of boost in operating mode.
6. Operating LEDs:
   a) Green (with or without Blue) indicates Idle/Low Cruise mode or Pilot Circuit.
   b) Yellow (with or without Blue) indicates Needle jet enrichment. This circuit is timed and only comes on for 1 second at a time. Typically during medium to hard acceleration.
   c) Red ((with or without Blue) indicates Main Jet / Full throttle.
   d) Blue LED in #8 indicates Boost. You will always have Green, Yellow or Red LEDs on starting at #1.
   e) The greater the number Green, Yellow or Red LEDs the harder you are pushing the sled. The number of LEDs actually represents the amount of Pulse width the OEM computer is providing.

BOX #2 (6 wires)

1. This control box only controls the altitude compensation.
2. There are 2 Software versions for this Control Box. The early version has 5 modes, the later version only has 1 Mode. Both versions of software function identically.
3. Older Version with 5 Modes:
   a. **Mode 1: Green, Mode 2: Yellow and Mode 3: Red** have no impact on this control box! Leave these set at 1 fast blinking.
   b. **Mode 4 & 5: Green/Blue** and **Yellow/Blue**– These MUST ALWAYS BE SET TO THE SAME NUMBER. CAREFUL, if you set this too low you may not be able to restart your snowmobile. If this happens, turn your key and kill switch on, and readjust the setting back up.
4. Newer Version with 1 Mode:
   a. **Mode 1: Green/Blue** CAREFUL, if you set this too low you may not be able to restart your snowmobile. If this happens, turn your key and kill switch on, and readjust the setting back up.
5. Basic Altitude Compensation is **Set at 5.0**. At 6000 feet try 4, at 10,000 less (like 3), At Sea Level try more, like 6.

Notes:

1. Radical changes in the controllers' settings **CAN CAUSE SERIOUS DAMAGE TO YOUR SNOWMOBILE.** If the sled does not act correctly and anything seems out of the ordinary compared to your unit when it was stock (other than it now hauls ass). STOP and seek advice. Advise is free and motors are expensive