NYTRO SUPERCHARGER GEMS CONTROLLER SETUP

It is **HIGHLY RECOMMENDED** to tune with a Wide Band O2 gauge, changing setting w/o a gauge is like flying through the mountains in an airplane with your eyes closed.

1. There are 8 LEDs and 3 Buttons. Each LED can illuminate Red, Yellow, Green or Blue.

2. **START MODE**: When the unit is 1st started, you will see green LEDs scrolling. This is Boot Mode. The unit is not active while the Lights are scrolling. This delay is provided so that the OEM computer is solely in charge of starting and stabilizing the vehicle.

3. **DRIVE MODE**: Once the unit has completed booting. You will see solid LEDs on. This signifies that your are in Drive Mode.
   a. Green, Yellow or Red LEDs starting on the Right #1 LED means you are adding fuel in green, yellow or red mode respectively. The number of lights indicates the amount of Fuel the STOCK computer is adding, NOT the amount of fuel our Companion GEMS controller is adding.
   b. Green LEDs signify the GEMS unit is operating in Green mode (cruise mode, or light throttle).
   c. Yellow LEDs signify the GEMS unit is operating in Yellow mode (acceleration or middle hard throttle).
   d. Red LEDs signify the GEMS unit is operating in Red mode (Wide Open throttle).
   e. The Blue LED in the far Right signifies the presence of Boost above 1PSI. This means the unit is adding Boost fuel in addition to the fuel being added by Green , Yellow or Red modes.

4. **PROGRAMMING MODE**: Programming Mode is indicated by flashing LEDs.
   a. You are in programming Mode as long as the LEDs are Flashing. After about 4 seconds without pressing any buttons will return you to Drive Mode (solid LEDs).
   b. A single press of the CENTER “MODE” BUTTON will result in a number of Green LEDs flashing.
   c. A second press of the Mode Button will result in a number of Yellow LEDs flashing.
   d. A total of 3 Mode Presses equals Red LEDs flashing.
   e. Programming Modes 1-3 are always present. Some or all of Modes 4 through 6 may not be present based on your exact program. The next 3 items assume you have a six mode user adjustable program.
   f. 4 presses will show Green LEDs flashing on the Left and a Single Blue LED Flashing on the Right.
   g. 5 presses will show Yellow LEDs flashing on the Left and a Single Blue LED Flashing on the Right.
   h. 6 presses will show Red LEDs flashing on the Left and a Single Blue LED Flashing on the Right.
   i. 7 presses will loop back around to Green Mode. (if you have 3 user adjustable modes, the 4th press will loop back to Green, similar pattern applies to 4 or 5 user modes).
   j. LED 2 Flashing equals setting 2, LED 2& 3 Flashing equals setting 2.5, LED 3 Flashing equals setting 3, and so on (LED 1 fast blink equals 0.5 and slow blink equals setting 1).

5. **PROGRAMMING MODE DEFINITIONS**:
   a. **Programming Mode 1: Green** – Cruise Mixture Level – **Factory Set** (v1.0=**1**, v1.1 & v3.1=**1.5**)
   Increasing this setting will richen the vehicle when you are driving and the unit is showing **Green** Lights (with and without the **Blue** #8 on).
   b. **Programming Mode 2: Yellow** – Acceleration – **Factory Set** (v1.0=**5**, v1.1 & v3.1=**4**)
   Increasing this setting with richen the vehicle when you are driving and the unit is showing **YELLOW** Lights (with & without **Blue** #8). **Note**: Yellow Mode Times Out after 1 second causing 1 of 2 reactions; Lighter throttle will drop back to Green while Heaver throttle will advance to Red.
   c. **Programming Mode 3: Red** – Main Jet – **Factory Set** (v1.0=**5**, v1.1 & v3.1=**4**)
   BE CAREFUL, YOU CAN ADJUST TOO LEAN!!!! Increasing this setting will richen the vehicle when you are driving and the unit is showing **RED** Lights (with and without the **Blue** #8 on).
   d. **Programming Mode 4: Green/Blue** – Boost Fuel Adder – **Factory Set** (v1.0=**2.5**, v1.1 & v3.1=**4**)
   The setting adds additional fuel to the fuel already being supplied in Mode 1,2 or 3. This mode is adding fuel when ever the #8 **BLUE** light is on**.**. This is a good adjustment to increase or decrease to increase midrange fuel. Try up and down in increments of 1 (3 or 5).
   e. **Programming Mode 5: Yellow/Blue** – Accelerator Pump. – **Factory Set** (v1.0=**1**, v1.1 & v3.1=**4**)
   Adding to this number will increase the shot of fuel that is provided while the throttle trigger is moving. The Pump is speed sensitive, that is the faster you move the throttle the larger amount of fuel is provided. Try adjusting in steps of 1 to 2 numbers at a time. **NOTE**: The accelerator pump does not function if you open the throttle as fast as humanly possible. Try slowing down the throttle opening rate just a little bit; you will enjoy much smoother results.
   f. **Programming Mode 6: Red/Blue** – Altitude Compensation – **Factory Set** (v1.0, v1.1 & v3.1=**6**)
   Think of this mode in terms of Air Pressure, not Feet above sea level. The Higher the Air Pressure (Sea Level), the Higher the setting. The Lower the Air Pressure (10,000 feet), the Lower the setting. The base setting is usually good around 4000 feet, but remember the Air Pressure changes daily, equivalent to several thousand feet of altitude. TIP: With the Sled Idling, Turn the Mode up to the Higher numbers, then Slowly Reduce the Setting 0.5 at a time. Once the vehicle Stumbles, Increase the Setting 1 whole number.

6. **NOTE:** The Programming Mode and the Driving Mode lights do not necessary mean the same thing. #8 LED as Blue indicates the presence of Boost in DRIVE MODE.

7. **PROGRAMMING HINTS:**
   a. The Most Important Mode is Red Mode (Setting #3); this is WOT Fuel
   b. The Second most Important Mode is Blue/Green Mode (Setting #4); this is additional fuel being added for boost.
   c. You will typically NOT need to adjust Mode 1,2,5.
   d. Adjust WOT Mixture with Red Mode 3 (we call it WOT, but this adjustment effects the mixture any time the box is operating and showing Red LEDs).
   e. Remember that Mode 4 fuel overlaps Modes 1, 2 & 3:
   Example; WOT fuel is great, but you add some fuel to Mode 4 to enrich Midrange and Cruise, you have to reduce Red Mode 3 just a bit.