Energy and Water Solutions

902 West 2010 South, Syracuse, Utah 84075
Voice: 801-825-5580 **Fax:** 801-825-5428
Website: www.ewsews.com **Email:** sales@ewsews.com

Millennium

Software Instructions

These instructions are not the complete instructions that come with your kit. Some of our information is confidential and is only provided with your kit.

Installing the program and connecting to your computer

1. Boot up your computer and have no software showing on your screen.
2. Install the Millennium software program on your computer. This program will not install on 64 bit computers unless they are set to run on 32 bits. Windows 7 starter on a small netbook computer is recommended as it is 32 bit and convenient to use to program vehicles.
3. The rest is confidential information. This rest of the information is only provided with your kit.

Using the Software

Follow the steps above before you run the program the first time. Do not start the engine until you have configured the software for your engine using the steps below.
You do not need to turn the engine on to connect to the software, but to see what the engine and CNG system are doing the engine must be running.
To display what is happening click on the Display Parameters tab. To change settings click on Display Parameters screen or Optional Configurations screen. There are several tabs in the Optional Configurations screen where you can set several different settings. The rest is confidential information. This information is only provided with your kit. The information below will show you what this software can do.

Software Configuration for your Engine

You must configure the software for your engine before starting the engine.

1. **Connect your computer to your Millennium controller and run the software. Do not turn on the ignition or start the engine.**
2. **Click on Vehicle Configuration. Configure your software with the following settings. Not all vehicles have the same characteristics so if you know your engine needs different settings change the settings to the correct settings for your engine. It is important to make sure that the settings are correct for your engine.**

Vehicle Configuration Screen

Ignition Type or Number of Cylinders **Single Coil for Cylinder**
Type of RPM signal **STANDARD**
Type of Petrol to Alt. fuel switch0over **Acceleration**

Petrol to alt. fuel switch-over RPM **Value Shown with your kit**
Duration of Fuel Overlap **Value Shown with your kit**
Type of alt. fuel level indicator **Value Shown with your kit**
TPS type **Linear 0-5V**
O2 Sensor Type **0 -1V**
Lambda Sensor reading delay (Open – Loop) **Value Shown with your kit**
Type of Oxygen Sensor simulation **Standard Square Wave**
Yellow wire utilization **Disconnect Injectors**

Optional Configuration Screen

3. Click on the Petrol-Alt. Fuel Switch-Over Tab. Configure your software with the following settings.

Fuel Switch-Over Temperature **15**
Overrev option **ANABLED Check the box**
Overrev Control Threshold **6000**
Automatic switchover to petrol with low level **ANABLED Check the box**
Alt. Fuel Tank Level to Switch Back to petrol **0-255 Set at 244**

4. Click on the Actuator Tab. Configure your software with the following settings. The Actuator is the stepper motor. The stepper motor has the function of modulating the flow of the alternative fuel taken in by the engine. It maintains optimal values of combustion in all conditions. The Millennium controller processes the THROTTLE POSITION SENSOR, OXYGEN SENSOR, and RPM SIGNALS to provide optimum combustion and performance.

Option default lock **ANABLED Check the box. This is the starting position of the stepper motor and is adjusted as the engine is driven for the optimum operating position.**
Default Lock Value **Value Shown with your kit**
Idle opening steps over default **Value Shown with your kit**
Idle closing steps under default **Value Shown with your kit**
Out–of–idle opening steps over default **Value Shown with your kit**
Out–of–idle opening steps under default **Value Shown with your kit**
Full throttle option **DISABLED Uncheck the box if it is has a check in the box. If used, Incorrect settings can cause the engine to stall.**

5. Click on the TPS Tab. Configure your software with the following settings.

TPS Idle hysteresis **Value Shown with your kit**

6. Click on the Cut-Off Tab. Configure your software with the following settings.

Cut – Off option **DISABLED Uncheck the box if it is has a check in the box. If used, Incorrect settings can cause the engine to stall.**

Diagnosis SCREEN
7. Click on the Diagnosis Screen

O2 Sensor Inoperative **ANABLED Check the box**
O2 Sensor Lean for too Long **ANABLED Check the box**
O2 Sensor Rich for too Long **ANABLED Check the box**

File Management Screen

8. **Click on File Management and then click on Save. Name your file for your engine and save the file. After making any changes to your programming save the file again. Click on upload to load your file into your Millennium controller if your program should ever stop working.**

Software Operation

This is confidential information. This information is only provided with your kit.

DISPLAY PARAMETERS SCREEN

This section is not complete. Complete information is only provided with your kit.
You will view this screen while adjusting and setting up your conversion kit. The right side of the screen is the stepper motor information. The Default Position is the stepper motor starting position. The stepper motor will begin to change after the set delay time. The default position will slowly change over time as needed so the engine starts and operates with the stepper motor in the optimum position. The position at the lower right is the current position of the stepper motor. The stepper motor is fully closed at 0 and is fully open at 255. The light blue vertical bar indicates the minimum and maximum idle range of the stepper motor. The red vertical bar indicates the minimum and maximum out of idle range of the stepper motor. The range can be adjusted for a narrower or wider range if needed.

The RPMs are displayed on the round dial. Make sure the dial is displaying the proper RPMs. If not, change the type of coil or number of cylinders until the reading is correct.

The idle should be adjusted so that the stepper motor position stays near the default position and does not reach either end of the light blue vertical range. If running at higher RPMs the stepper motor should always stay in the red range and not limited to either end of the range. The range can be increased if needed using the Alternative Settings tab.

The O2 sensor voltage is displayed with boxes to the right indicating the values where the left box indicates near 0 volts, the center box is at about .5 volts, and the right box indicates near 1 volt. Make sure the correct voltages are being displayed and the voltages are changing above and below .5 volts as they should. The O2 setting should only be set to 0 to 1 volt.

The TPS voltage is displayed with boxes to the right indicating the values from idle to full throttle where left box indicates idle, and the right box indicates full throttle. Make sure the correct voltages are being displayed. An inverted TPS signal will have opposite voltages with the idle above 4 volts with the voltage decreasing as the throttle is increased. If you have an inverted voltage make sure the software is set for inverted TPS.

We do not have a temperature sensor connected so the temperature reading is disabled.

The gas level indicates the CNG pressure. Zero indicates full (3,000 PSI or higher) and 255 indicates empty.

DO NOT CALL US WITH SOFTWARE OR COMPUTER QUESTIONS. See the Millennium Owner's Manual Operation and Trouble Guide for operating and troubleshooting information.