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## **Instructions for Throttle & Battery Filling Pump Set Up**

**Version: 800  
After March 2007 with  
Version 8.00U Software**

## Instructions for Throttle & Battery Filling Pump Set Up

For systems set up after March 2007 with Version 8.00U software

With Key **OFF**, Select Forward Direction, Release Parking Brake, Press and hold the “Menu” Button, then turn the Key “**ON**”. Hold Menu Button until “Program” appears on the Dash Display, then release.

### **If the car has a brake pedal switch:**

Use the Brake Pedal to cycle through the options. Have the Golf/Street Mode switch set to “Street Mode”, (MPH), to change parameters.

### **If the car does not have a brake pedal switch:**

Select “Golf Mode” and press the “Menu Button” to cycle through the options.

### **To change a parameter in any of the options:**

Select “Street Mode” and press the “Menu Button” to change a parameter or activate an option.

**Volts**: This sets the voltage applied to the Battery Filling System Pump. 12 or 24-volt pumps are normal.

**Time**: Sets the amount of time the Pump will run in seconds. Usually 25 to 30 seconds. The Filling System will now water the batteries every 5<sup>th</sup> time they are charged.

**BFS Test**: This allows testing of the Battery Filling System, after setting time and volts, press the “Menu” Button and the pump will run, and the display will show “Pump ON”.

**T Type**: This is the Throttle Pot Type Parameter. For 0-to-5k, 2-wire throttle pots, set to type 3. For 3-wire throttle pots or EZ Go with ITS converter box, set to Type 2. The default is Type 2.

**Throttle**: This allows the Throttle range to be calibrated. With “Throttle” on the Dash Display, select Street Mode, Press the Accelerator Pedal to the floor (Max Throttle), with the pedal pressed, press the “Menu” Button, the display will show “**HoldMenu**” with the Throttle and the Menu Button Pressed, wait until the display reads, “**Turn OFF**” now turn off the Key, DO NOT release the accelerator pedal or the Menu button before turning OFF the Key. The Throttle is now calibrated. Using this procedure will ensure full throttle range; if this procedure is not performed the calibration will be at to a default setting. Use this set up procedure for 2-wire, 0-to-5k, three wire throttle or EZ Go with ITS converter box types.

## Set up Continued;

**Rst:** This is the BDI reset voltage per battery cell. Adjust only if there is a problem with the BDI resetting to 100% when the batteries are below 85% and have not been charged or not resetting after a charge. To increase the parameter, select “Forward” and “Street Mode”, then press the Menu button. To decrease, select “Reverse” and “Street Mode”, then press the Menu button. The default is 2.125 volts per cell; this should work fine in most applications.

**Mode:** Sets the Motor Control Mode. Mode 1 is Speed Control. Speed Control means the accelerator pedal controls the actual speed of the vehicle. For example: In Speed Control Mode if you set the accelerator pedal to half, you will go half speed, uphill, downhill or on flat ground. Speed Mode is great if you are looking for controlled descents down hills and want to use the brakes a little as possible. It does however have more of a jerky feel when changing speeds with the accelerator pedal. Mode 2 is Torque Control Mode. Torque control is the same type of control method a DC motor has. The accelerator pedal controls the amount of torque the motor produces. This gives a much smoother feel when changing the accelerator position. Brakes will be used more in downhill descents.

**Brk%:** Only available if the Mode is set to “2”. This sets the amount of Regen when the Brake Pedal is pressed. To increase the parameter, select “Forward” and “Street Mode”, then press the Menu button. To decrease, select “Reverse” and “Street Mode”, then press the Menu button. If the default braking level is desired, leave this set to Zero. The Default is 40%. So, setting to 1% would be the lowest setting and give almost no Regen.

# Instructions for using On Board Diagnostics

With the Key **OFF**, Select Reverse Direction, Press and hold the “Menu” Button. Turn Key the “**ON**”, hold Menu Button until “Diagnose” appears on the Dash Display, then release the Menu Button. Pressing and releasing the menu button will scroll through the Diagnostic options. The cart can be driven during diagnostic checks.

**T Sw:** This monitors the state of the Throttle Switch. With the pedal in the idle position the display should read “**OFF**”, when the pedal is pressed the display should change to “**ON**”. If “**OFF**” is always displayed there is a problem with the switch on the throttle pedal. This test can be performed in “Neutral” or with either direction selected.

**TPV:** This is the raw Throttle pot voltage. This test should be performed with the car in “Neutral”. .2 volts is normal for idle position, at full throttle, 3.5 volts for 2 wire pots, and 5.0 volts for 3 wire pots.

**T Max:** This is what the Max Throttle Voltage Parameter is set at. For example: If the Parameter is set at 4.5, then the TPV will need to reach 4.5 for full speed to be obtained. Use the Throttle calibration procedure if adjustments are necessary.

**Req %:** This is the amount of throttle being requested of the controller. This should be a number from 0 to 100% when the car is being driven.

**Brk:** On or Off. Checks to ensure brake switch signal input to the controller. Should be ON when the brake pedal is pressed and OFF when the brake pedal is released.

**CapV:** This is the voltage on the Capacitor Bank inside the controller. This voltage should be at or near the voltage of the Batteries. When the Throttle is pressed, this sends a signal to the controller to pre-charge the Capacitor Bank and turn the Main Solenoid ON. If this voltage is low or at 0, this means there is probably a failure in the Pre-Charge circuit and the controller will need to be repaired or replaced.

**EncA & EncB:** These are the Motor Encoder signals shown in RPM. This can be used to troubleshoot either an Encoder failure, or a problem in the Encoder wiring. If the motor turns slow and in the proper direction, check the RPM of both signals. If EncA has no signal, the Display will read Zero. The same applies to EncB. EncA involves with White, (sometimes Brown), wire on the encoder connector, EncB is the Green wire. On an EZGO, these colors are reversed.

### **Diagnostics continued;**

**Main:** This is the state of the Main Solenoid, see table below:

0 = Open, Solenoid not turned on.

1 = Pre-charge.

2 = Weld check, the controller is checking for welded contacts.

3 = Closing Delay

5 = Closed, the Solenoid coil is energized and the contacts should be closed.

6 = Open Delay, after the cart is stopped there is a delay of about 5 seconds for the Solenoid to open.

**OS:** This is the Version of the Operating System in the controller.

**Build:** This is the Build number of the Operating System.

**Ver:** This is the VCL (vehicle control language) version number

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**D/C:** This is the date when the controller was manufactured. 6123=the 123<sup>rd</sup> day of 2006.

**S/N:** This is the unique serial number of the controller.

**Faults:** If any, will be displayed.

### **Fault Codes:**

Fault codes will display on the Dash Display when they happen, the “Wrench” on the display will also light up.

Code 12, Controller Over Current

Code 13, Current sensor fault

Code 14, Precharge Failure

Code 16, Controller Over Temperature

Code 17, Severe Undervoltage

Code 18, Severe Overvoltage

Code 25, 5-volt power supply failure

Code 36, Encoder Fault, see diagnose, EncA & EncB.

Code 37, Motor Open or Open Phase on controller fault

Code 38, Main Solenoid welded

Code 39, Main Solenoid not closing

Code 73, Stall detected, No encoder signal, see diagnose, EncA & EncB.

Code 29, Motor Temperature Sensor Fault. Motor temp sensor is bad.