

September 2005

## Software Installation and operating instructions:

**General Note:** To use this product, you must have basic understanding of PC computers, installing software and manipulating programs. If you are proficient in using programmable ignitions, EFI or data acquisition programs you will not have problem with this product.

1. Insert the CD that came with your Progressive Timer/Controller package into the CD player in your computer
2. Select Windows menu/My Computer.
3. In the “Devices with Removable Storage” section, double click the “Controller” CD that was inserted in the drive.
4. Double click on the file named “Progressive Controller”.
5. The Progressive Controller setup wizard window will appear, click on “Next”.
6. The License Agreement window appears. After reading the license agreement, and if this acceptable to you, click on the “I agree” button and then click on “Next”.
7. The Select Installation folder window appears. The default selection will create a “Progressive Controller” folder in the programs folder in the main hard drive. Usually this is acceptable. If so, select “Next”. If not, select the Browse button and select the location for the program folder. Then select “next in the bottom of the screen.
8. The Confirm Installation window will appear. Select “Next” to install the program.
9. The Installation Complete window will appear. Select Close.
10. Restart your computer.

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## Software and controller programming operating instructions:

**WARNING:** For safety considerations, when programming the Progressive Timer/Controller, make sure that the engine is not running. If using nitrous oxide, make sure that the bottle valve is turned off. Until you are confident of using this Progressive Timer/Controller, you should manually actuate this Progressive Timer/Controller and monitor the output status LED's (Y0-Y5) on top of the Progressive Timer/Controller. Use an auxiliary relay when driving high powered devices such as solenoids or damage will occur to the Progressive Timer/Controller.

1. After you have restarted you computer, attach the included serial cable to your computer and the Progressive Timer/Controller, **Port 2** as shown in *picture 1*.



Picture 1.

2. Make sure that power is applied to the Progressive Timer/Controller.
3. Make sure that the Run-Terminal-Stop switch is in the Run or Term position. The Progressive Timer/Controller will not operate in the Stop position.
4. On your computer, select Start, programs, Progressive controller, Progressive controller. A window appears as shown in *Figure 2*.

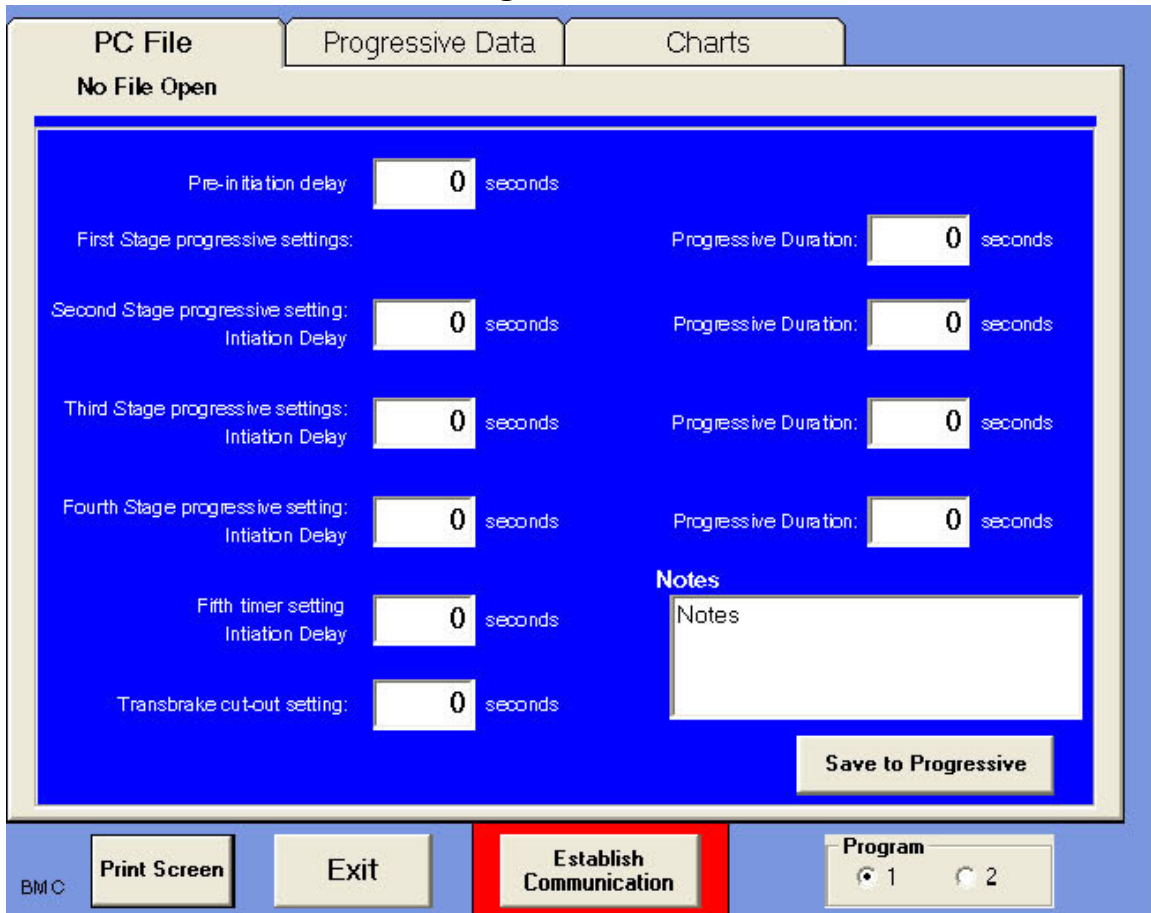


Figure 2

5. Establish communication by clicking the “Establish Communication” button. When you are successful, this button will change from red to green. IF not, select port and change the port number until you are successful.

**Note:** If you are using a USB to DB9 port adapter, you have to set the port value to 1, 2, 3, or 4 or you will have problems. Make sure that you configure your port replicator setting from Windows Device Manager in My Computer Properties. The vendor that supplied you with the USB to DB9 adapter can assist you with this. Until you establish communication, you cannot program the Progressive Timer/Controller. We do not provide a USB to DB9 adapter but they can be purchased at [www.cablestogo.com](http://www.cablestogo.com) product #26886.

**NOTE:** The Progressive Timer/Controller is initiated by supplying voltage to X0 and reset by supplying voltage to X1. Program 1 is selected by default and Program 2 is selected by applying voltage to X2. All outputs Y0-Y5 are 12vdc when actuated.

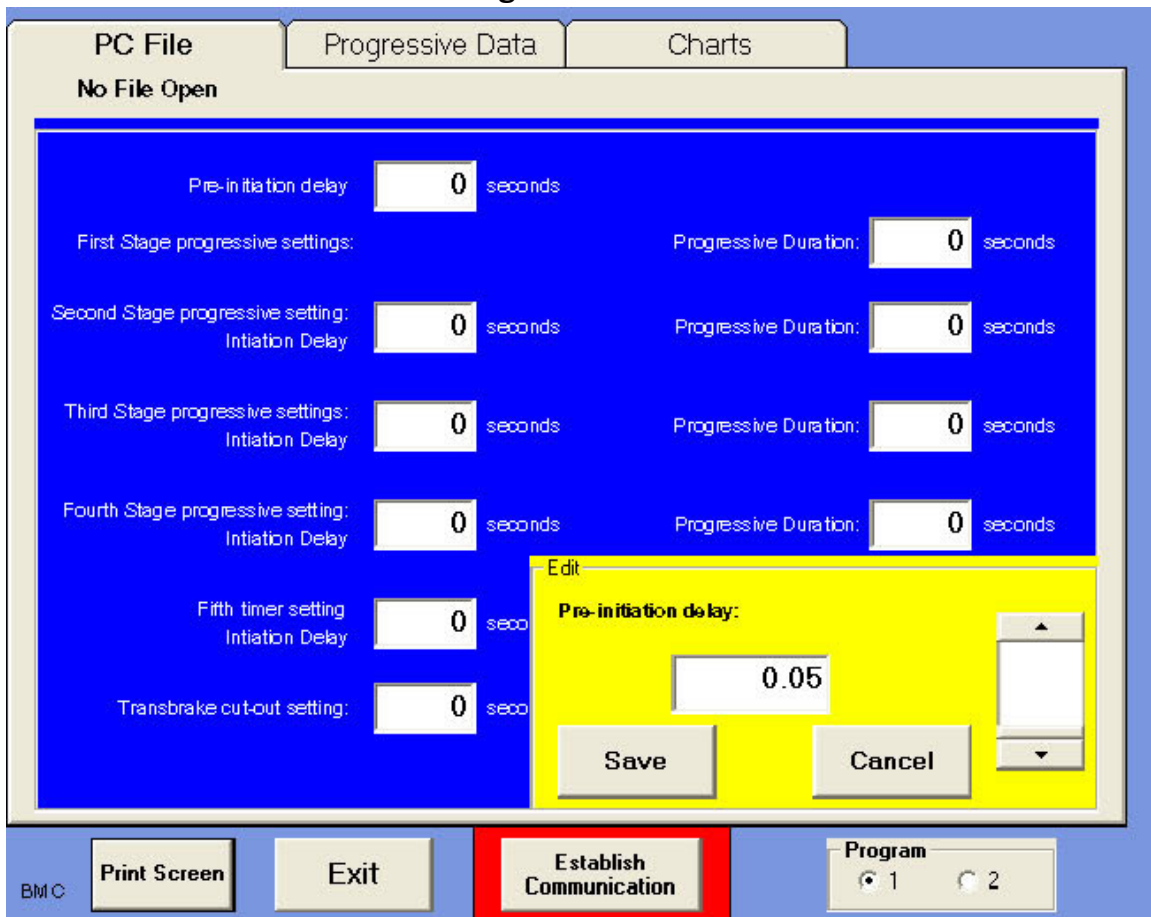


Figure 3.

6. In the programming screen in *figure 2*, select File, open, new.
7. The Progressive Timer/Controller values are displayed. Setting each value is done by clicking on the value then adjusting the slider screen as shown in *figure 3*. The value will have a yellow background until the program is saved to the computer or progressive.
  - a. Pre-initiation delay: This is the waiting time before the Progressive Timer/Controller sequence is started. Range is 0-10 seconds in 0.01 second increments.
  - b. First Stage progressive settings: progressive duration: This is 20hz output on Y0. Range is 0-10 seconds in 0.01 second increments. To have this output come on instantly, set this value to 0.00
  - c. Second stage progressive setting: Initiation delay: This is the elapsed time after the pre-initiation delay that the second stage comes on. The progressive duration is the amount of time that the 20hz progressive control is actuated at the beginning when the second stage comes on. These values control Y1 output. Range is 0-10 seconds in 0.01 second increments. To have this output come on instantly, set this value to 0.00

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- d. Third stage progressive setting: Initiation delay: This is the elapsed time after the pre-initiation delay that the third stage comes on. The progressive duration is the amount of time that the 20hz progressive control is actuated at the beginning when the third stage comes on. These values control Y2 output. Range is 0-10 seconds in 0.01 second increments. To have this output come on instantly, set this value to 0.00
- e. Fourth stage progressive setting: Initiation delay: This is the elapsed time after the pre-initiation delay that the fourth stage comes on. The progressive duration is the amount of time that the 20hz progressive control is actuated at the beginning when the fourth stage comes on. These values control Y3 output. Range is 0-10 seconds in 0.01 second increments. To have this output come on instantly, set this value to 0.00
- f. Fifth timer setting: This is the elapsed time after the pre-initiation delay that the fifth timer comes on. This value controls Y4 output. Range is 0-10 seconds in 0.01 second increments. This is this is a normally open contact and is typically used to directly control a timing retard at 1000ft. This output can directly drive an electronic ignition controller only.
- g. Transbrake cutout setting: This is a special, normally closed output to prevent transmission damage or interrupting the Progressive Timer/Controller sequence after the pre-initiation delay. This controls Y5 output. Range is 0-10 seconds in 0.01 second. Again, this is this is a normally closed contact and is typically set to 0.25 sec.
- h. If you like you can save notes into the Notes about your settings.
- i. Hit the Save to Progressive button, a message will appear if you are successful.

**A BIG CAUTION HERE! You have to put a value in the first row of timer windows or the Yx outputs will change state the moment you activate the unit. If you don't program initial values, the transbrake circuit does not work and/or all units come on immediately when you activate the carb switch.**

- 8. After all timer values are inserted into the timer windows and you have "Saved to Progressive" select File, Save, then give the Progressive Timer/Controller program you just created a name and hit the save button. Congratulations, you have just created your first timing profile, loaded the values to the Progressive Timer/Controller and saved the file to PC. You can only save to Progressive Timer/Controller from the "PC File" tabbed window.

9. Referring back to *Figure 2*, note that in the lower right corner, there are program 1 and 2 buttons allowing you to have 2 different profiles in the Progressive Timer/Controller that can be separately selected while in the car by applying voltage to terminal X2. This is extremely useful if you are in the staging lanes and the track conditions change while you are waiting.
  - a. To configure program 2, select the program 2 button.
  - b. Repeat the setup of timer values in steps a-i in paragraph 5 and save the values as described in paragraph 6.

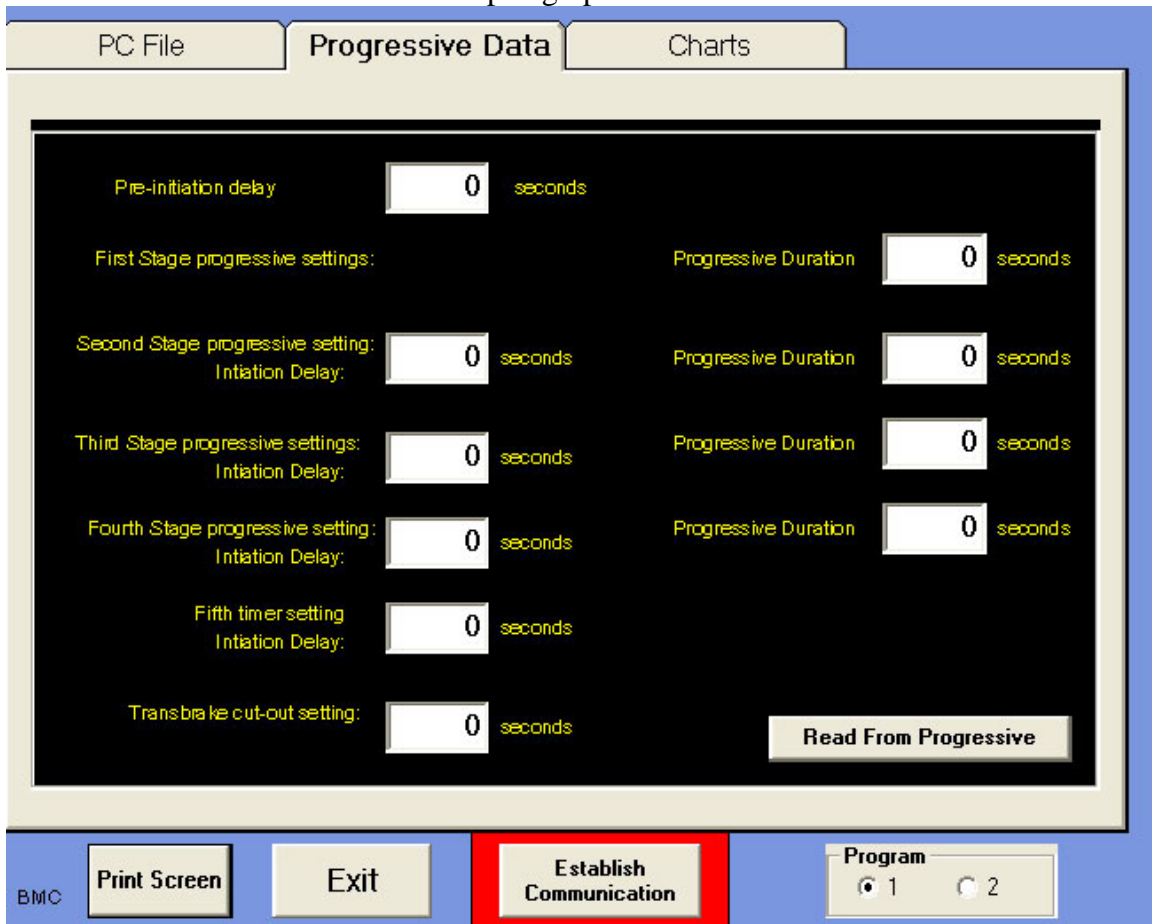


Figure 4

10. Select the "Progressive Data" as shown in *Figure 4*. This allows you to see the timer values that are loaded into the Progressive Timer/Controller. Depending on which program button (1 or 2) is selected in the lower right hand corner, you can see the timer values for that program (1 or 2) by selecting the "Read From Progressive" Button. You can edit and save the timer values to PC by selecting File, Save as, then type in a new name then hit the save button.

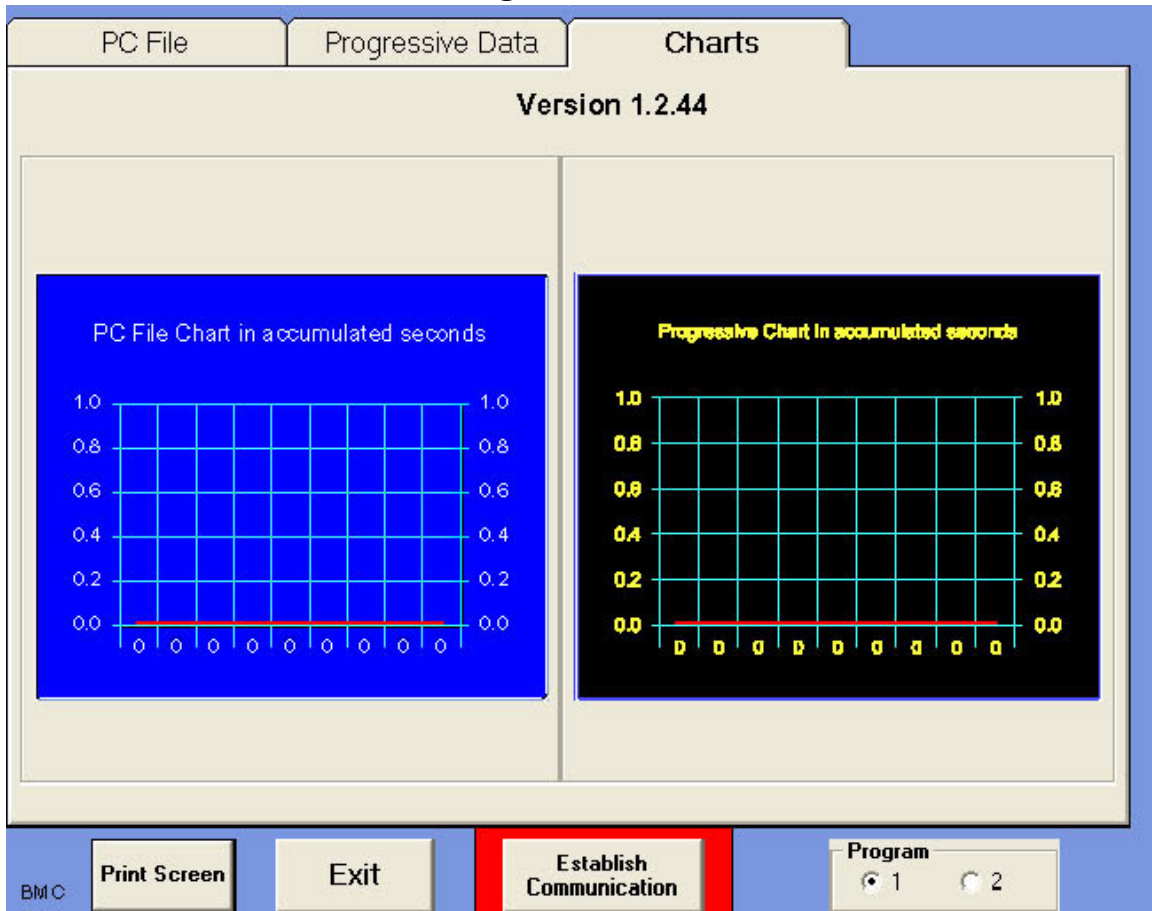


Figure 5

11. The “Charts” tab shown in *figure 5* is a way of visually comparing the PC File timer value program to the Progressive Value timer values program. To properly do this you need to follow this procedure:
  - a. From the PC File tab, select the program 1 button and select file, open, and then select the file that is representative of program 1.
  - b. Select the Progressive Data tab, select the program 1 button and select “
  - c. Read From Progressive” button.
  - d. Select the Charts tab. Both graphs for program 1 should appear the same. If not, there is a difference from what is in the PC and what is in the Progressive Timer/Controller.
  - e. For program 2, repeat steps a-d with the program 2 button selected.

**NOTE:** as a general procedure, cycle the power off & on to the Progressive Timer/Controller before testing or operating. Make sure that the Run-Terminal-Stop switch is in the Run position. The Progressive Timer/Controller will not operate in the Stop position.

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**NOTE 2: If the power has been disconnected to Progressive Timer/Controller for more than 30 days, pre-check the program by activating it without actually running the vehicle. The memory is volatile. This means the programs can be lost over a long period of time and the Progressive Timer/Controller may need reprogramming.**

Disclaimer

Racing is a dangerous sport. If you engage in racing or any activity described in this document, you are acknowledging and assuming responsibility for all risks incurred. The progressive timer controller is not EPA certified and are not to be used on any emission controlled, street driven vehicle. The information herein is for reference only and is not an authoritative document. We are not liable for misuse, accidents, loss of property, personal injury or death.