



# **Twin Tec** *User Instructions for Operating Statistics Software*

**CAUTION: CAREFULLY READ INSTRUCTIONS BEFORE PROCEEDING.  
NOT LEGAL FOR USE OR SALE ON POLLUTION CONTROLLED VEHICLES.**

## **OVERVIEW**

The Operating Statistics program runs under Microsoft Windows 98/ME/XP/Vista. This software allows engine manufacturers and tuners using our motorcycle ignitions to download operating statistics from an ignition module and examine the data to help administer warranty programs. An optional USB Interface or PC link cable is required. The Operating Statistics program is compatible with all our motorcycle ignitions, except for the TC88A module. **For the TC88A module, you must use TC88A Log software.**

The new Twin Tec USB Interface P/N USB-INTF provides PC connectivity for all of our engine controls (ignition and fuel injection systems) and eliminates the requirement for multiple cables or a separate USB adapter if your laptop is not equipped with an RS-232 serial port (9 pin male D-sub connector). The USB Interface is compatible with Windows 98/ME/XP/Vista.

If you do not have the new USB Interface, you will require one of the original RS-232 PC link cables listed below.

All Model 1005 and Model 1006-1007 ignitions for Evolution® series engines require PC link cable P/N 1005-C.

TC88 ignitions for 1999-2003 Twin Cam 88® engines require PC link cable P/N TC88-C.

Please note that Operating Statistics cannot access restricted private label products other than those authorized.

## **PC REQUIREMENTS**

If you are using the new Twin Tec USB Interface (P/N USB-INTF), refer to the supplied instructions for details. No additional hardware is required.

The original PC link cables connect to an RS-232 serial port by means of a female 9 pin D-sub connector. Data transfer occurs at 56 kBaud. The high baud rate limits the maximum cable length and the use of an extension cable is not recommended. Due to the cable length limitation and the need for portable access, a laptop PC is recommended. The PC must have a free serial port (COM1-255) with a standard 9

pin male D-sub connector. If your laptop does not include a serial port, you can use a USB adapter. However, not all USB adapters will work correctly with our PC link cables. Most of the inexpensive USB adapters are intended for interfacing Palm Pilot type devices and do not support all the signals required by our PC link cables.

We sell and recommend a low cost USB adapter (P/N USBG-232) that has been tested with a wide range of system configurations. The USBG-232 adapter comes with correct and updated driver files on CDROM. After installation the USBG-232 adapter will usually appear as COM5.

We recommend a laptop with Pentium processor and super VGA display (SVGA with 1024 x 768 pixel resolution) running Windows 98/ME/XP/Vista. Data chart display is graphics intensive and a high speed Pentium processor is recommended. Processors slower than 300 MHz will exhibit sluggish program loading and response. The PC must have a CDROM drive for program loading.

The Operating Statistics program includes a print command that prints downloaded data. The program has been tested with Hewlett-Packard laser and inkjet printers and Epson inkjet printers. We recommend using a color inkjet printer.

## **SOFTWARE INSTALLATION**

The software is supplied on CDROM media or in the form of a compressed file downloaded from our website. The installation process uses InstallShield. This industry standard installer is based the new Microsoft Windows Installer service that greatly reduces potential problems such as version conflicts and allows for application self-repair. Since Windows 98 systems did not originally include the Windows Installer service, the required installer software is included in the distribution media.

Before proceeding with installation, shutdown any other applications that may be running. For Windows Vista, you must disable the User Account Control (UAC) during installation. If you are not familiar with the UAC, please refer to the Vista UAC Tech Note on our website's Tech FAQ for details.

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Use the Windows Explorer or the Run command from the Windows Start Menu to launch setup.exe in the Operating\_Statistics folder on the CDROM or the setup.exe file downloaded from our website. InstallShield will install the software in an appropriate folder under Program Files.

The Op\_Stat.cfg file contains access codes for restricted private label products. You will only be able to access those products for which this file contains valid access codes.

Once InstallShield has completed the installation, Operating Statistics will appear on the Windows Start Menu. You can then launch it just as you would any other Windows program.

## ***RUNNING THE PROGRAM***

If you are using the new USB Interface, refer to the supplied instructions for details. No additional hardware is required.

If you are using one of the original RS-232 PC link cables, connect the cable to the ignition and PC serial port.

All Model 1005 and Model 1006-1007 ignitions for Evolution® series engines require PC link cable P/N 1005-C. The 1005-C cable connects to a Packard Weather Pack style plug on the brown tachometer wire from the ignition module. The 1005-C cable also has a ground clip that must be connected to frame or engine ground.

TC88 ignitions for 1999-2003 Twin Cam 88® engines require PC link cable P/N TC88-C. The TC88-C cable connects to the existing four terminal Deutsch style data link connector on the H-D® wiring harness.

Turn the ignition key and engine run/stop switches on to provide power to the ignition. Do not start the engine.

If the engine or ignition has been removed from the motorcycle, you can do bench top testing by using an adapter harness that includes a small 12 volt DC power supply. Use adapter P/N EVO-ADAPT for all Model 1005-1007 ignitions and P/N TC88-ADAPT for all TC88 ignitions.

After the program is launched, the main screen appears. COM1 is used as the default port. If you are using a different COM port, use the Port Setup combo box to select the appropriate port. Click on the Read Statistics button to download data from the ignition module.

The data is fairly self-explanatory. Total hours represents the total time that the engine was running.

ID represents the firmware identification. This field typically includes the manufacturer, model number, program revision and author's initials, and date. Note that the date is not a manufacturing date code, just the date for the particular firmware release.

Elapsed time is displayed for 13 RPM bands from idle to 6999 RPM. Note that elapsed time data is rounded off during each engine run, so the sum of the elapsed time figures may not precisely match the total hours. The program also displays the maximum engine RPM, time at the RPM limit (in seconds for better resolution) and the number of engine starts.

Clicking on the Clear Data button clears all data displayed on the screen. Clicking on the Print Statistics button prints a report. When you click on this button, a small data entry screen pops up and allows you to add a serial number or comment that will appear on the printout. You can also use the Print command from the File menu.

The elapsed time data in the various RPM bands can be displayed in the form of a histogram chart by clicking on the Histogram button. Color coding of the bars helps to interpret the data. The idle RPM band is blue, normal operating RPM bands are green and high RPM bands are yellow and red. The chart is automatically scaled for best display. You can print the chart along with a complete statistics report by using the Print Command from the File menu at the top of the chart window.

The user data field allows you to enter up to 32 alphanumeric characters. User data is stored in the module EEPROM and can be used to represent information such as a serial number. User data is automatically read and displayed whenever you click on Read Statistics. If no valid user data has previously been written to a module, some garbage characters may appear in this field. You can enter new data or edit the existing data. When you click on the Write User Data button, the data is written to the module.

Newer units will also display elapsed time at wide open throttle (WOT). Ignitions for Evolution® series engines record elapsed time at WOT when the VOES input is not active (green LED not illuminated) corresponding to high manifold pressure. TC88 ignitions record elapsed time at WOT when the manifold pressure exceeds 22 In-Hg.

Revision 7.0 and higher Model 1005 ignitions also display elapsed time in various color coded temperature bands up to 150 degree C. Significant elapsed time in the yellow or red bands indicates that the engine is running excessively hot and that the life expectancy of the ignition module will be reduced.

Figure 1 - Operating Statistics Program Main Screen

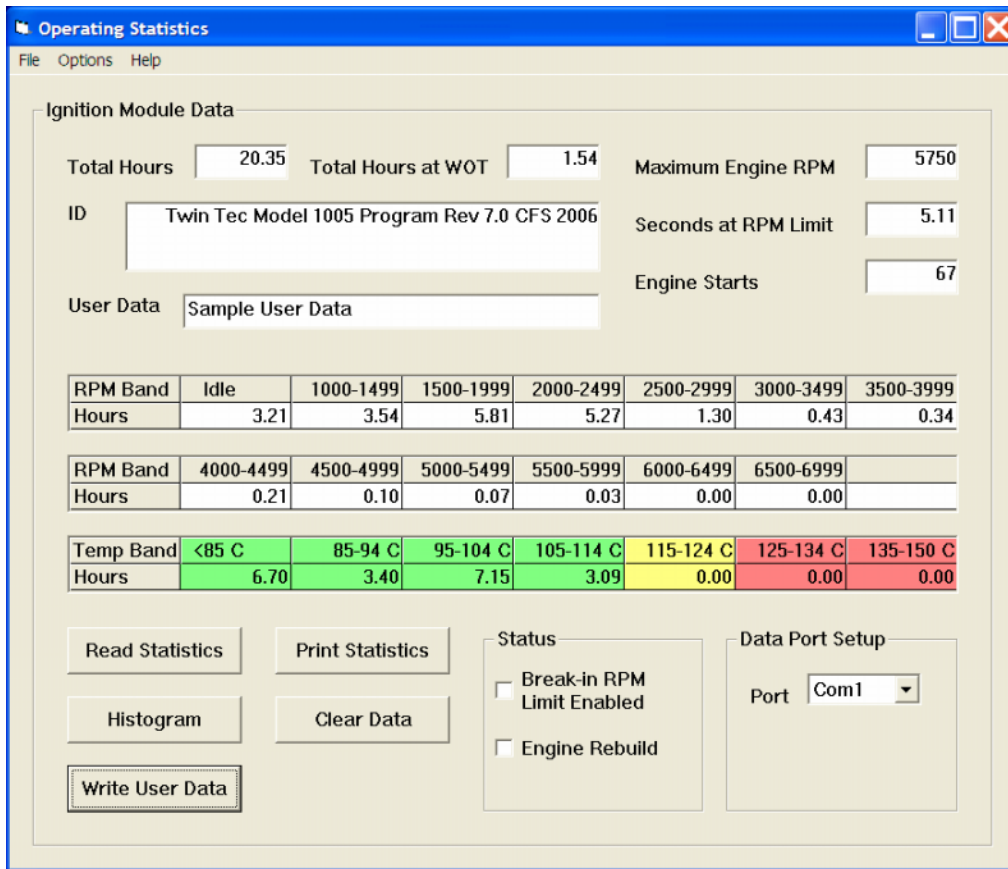
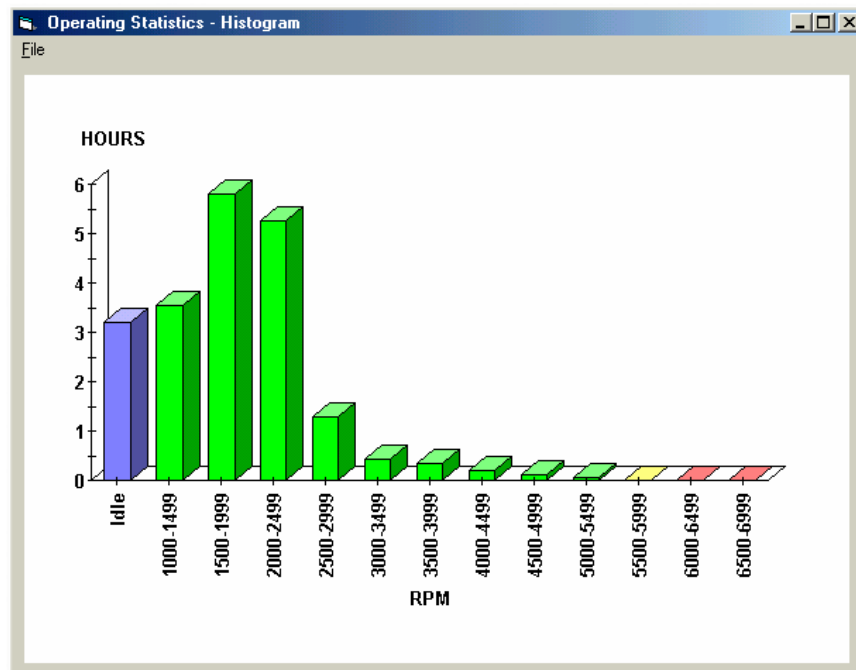


Figure 2 - Operating Statistics Histogram Chart



Restricted private label products will require entry of a password in order to write new user data or to erase RPM limit data. Use the Enter Password command on the Options menu. Once you enter a valid password, the program will remember the password.

The Erase RPM Limit Data in EEPROM command on the Options menu provides a means of clearing the maximum engine RPM and time at the RPM limit data.

Some versions of Operating Statistics used with private label products may have a status display frame with break-in RPM limit and engine rebuild option

checkboxes. Depending on configuration, some selections may be disabled. Status options are written to EEPROM by clicking on the Write User Data button. Once selected and written to EEPROM, the engine rebuild option cannot be undone and all statistics data are set back to zero.

## TROUBLESHOOTING FLOWCHART

Follow the troubleshooting flowchart shown below. Experience has shown that most communication problems are user error or PC compatibility issues.

### Troubleshooting Flowchart

