



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

### INTRODUCTION

This quick start provides simplified installation instructions for the TCFI6 Fuel Injection Kit and covers most common installations and set ups. Additional tuning may be required. See additional information, instructions, software and Tech Notes which can be found at [www.daytona-twintec.com](http://www.daytona-twintec.com). We strongly encourage you to read that information as this system is a very powerful tool which can be very simple to use provided the installer understands its features and functions.



1. Unpack and verify all components are included.

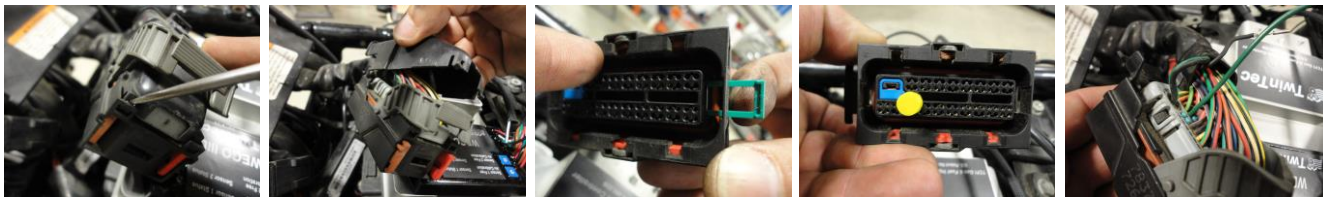


2. Make note of the motorcycles VIN#. The VIN# MUST BE CORRECT and will be entered in the software later. Remove saddlebags, seat, or other items to gain access to the factory ECM and Data Link Connector.



3. Remove the main fuse but ensure the alarm is deactivated if equipped. This can be easily done by turning the ignition switch on and the run stop switch to run. Turn the ignition switch off and within 5 seconds remove the main system fuse. Remove the factory ECM. For 2008-2009 models utilize the included adapter kit to connect the factory oxygen harnesses to the WEGO. For 2010-2013 the adapters are not required.

**4. For 2008-2009 models only, you must access the main ECM connector and remove the factory wire from Terminal 48. For 2010-2013 models skip this step.** Gently pry the tabs on the connector cover to release them from the body. Remove the cover. Cut the factory zip tie from the connector harness. Slide the green retainer from the connector body. Using a pin, remove the factory wire from pin 48 and install the green wire from the adapter harness shown in step 3. Replace zip tie and reinstall cover.





5. Install the WEGO3D unit onto the TCFI controller with the supplied screws. Final routing and securing of the oxygen sensor harnesses can be done at a later time once the sensors are installed in the exhaust pipes.



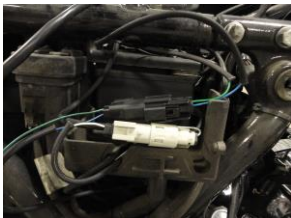
6. Skip to step 10 for exhausts with 18mm oxygen sensor bungs in the exhaust pipes. Carefully plan the sensor location approx. 2-6" from the exhaust port and use a permanent marker to locate the position where you will drill a hole for your oxygen sensor bungs. If you have free flowing pipes, the closer to the exhaust port, the better. Remove the exhaust from the motorcycle and drill small pilot holes.



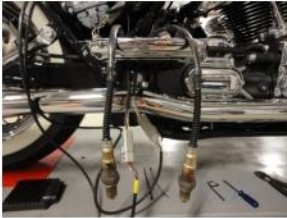
8. Using a step bit, drill a 3/4" hole in each pipe.



9. Weld a bung into each pipe. After the pipe has cooled, use an 18x1.5mm tap (standard spark plug tap available at most parts stores) to clean the threads. Reinstall the exhaust system.



10. Locate the front and rear factory oxygen sensor harnesses. Disconnect the factory oxygen sensors and plug the matching connectors from the WEGO into the factory harnesses. 2008 and 2009 FL models (equipped with factory 18mm oxygen sensors) will require the use of the included adapter harness. Connect the wideband oxygen sensors included in the TCFI kit to the 6 pin connectors in the WEGO harnesses but do not install the sensors in the pipe at this time. Connect the four wire Deutsch connector from the WEGO to the factory diagnostic connector. The WEGO harness provides for a new datalink connection so route that harness to an easily accessible location.



11. Reinstall the main fuse.

The WEGO harness with the yellow band is for the front sensor (sensor 1). The harness without a yellow band is for the rear sensor (sensor 2). Use a permanent marker to mark the sensors front and rear for correct placement after calibration. Hang the sensors away from fuel, oil, or other chemicals.



12. To calibrate the sensors, leave the off/run switch off. Turn the ignition switch on. This will power up the WEGO. The two red LEDs on the WEGO should illuminate. Use a small screwdriver to turn the two trim pot screws gently counter clockwise until they stop. Let the sensors warm up for two minutes. Caution: the sensors will get hot.



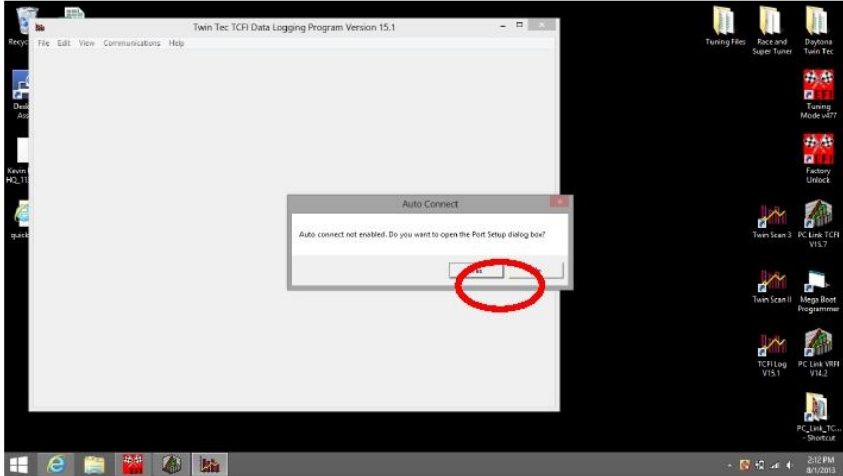
13. After two minutes, use a small screwdriver to slowly turn each trim pot screw on the WEGO clockwise until the corresponding LED just starts flashing. This will calibrate your oxygen sensors. Turn off the motorcycle. After the sensors cool down, you can install them into the exhaust. Complete install of the WEGO, and secure any wiring appropriately.

**14. SOFTWARE INSTALLATION: DO NOT PLUG IN THE USB INTERFACE UNTIL YOU COMPLETE THIS STEP!** Make sure you have the latest software available for the TCFI system. All necessary files can be downloaded from [www.daytona-twintec.com](http://www.daytona-twintec.com). Download and install the latest versions of the following software:

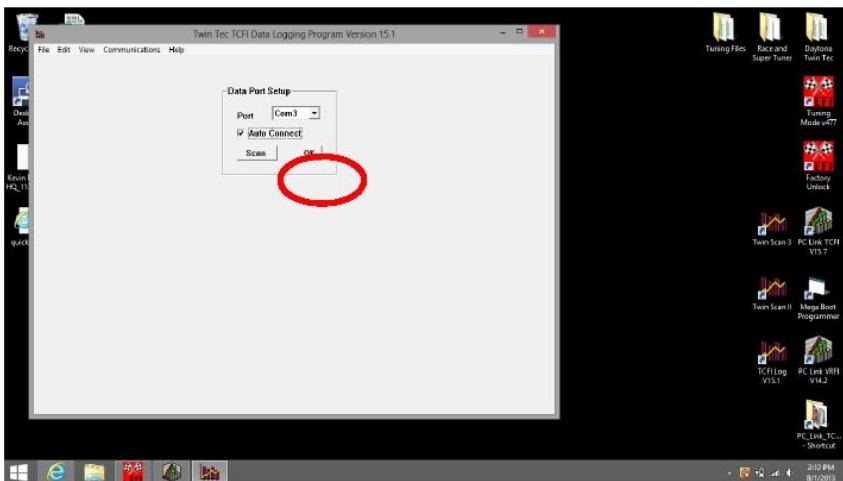
**PC Link TCFI**  
**TCFI Log**  
**USB Driver**



15. Plug the USB interface into the 4 pin data link connector coming from the WEGO Harness and the USB Cable into your computer. Make sure the switch on the USB interface is set to the TC88A and All Others position.



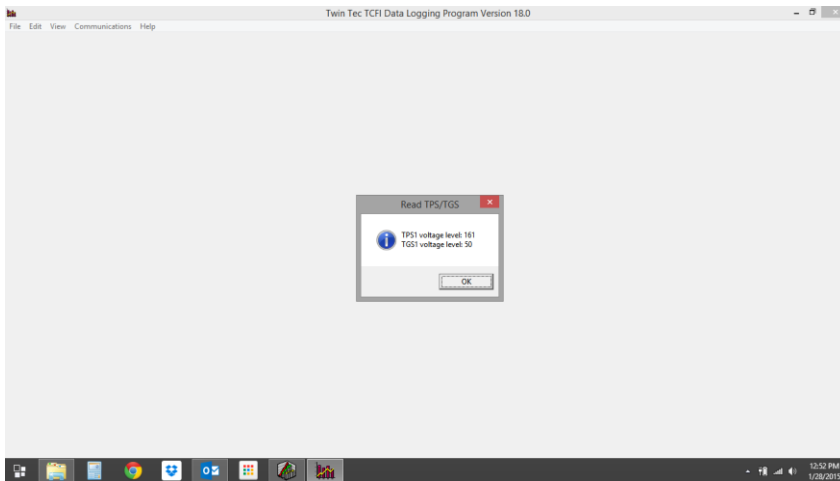
16. Turn the ignition switch on and the off/run switch to run. Open the TCFI Log software. Click YES.



17. Click scan. The software should automatically locate and assign the COM port. COM port assignment will depend on your computer. Select Auto Connect and click OK.

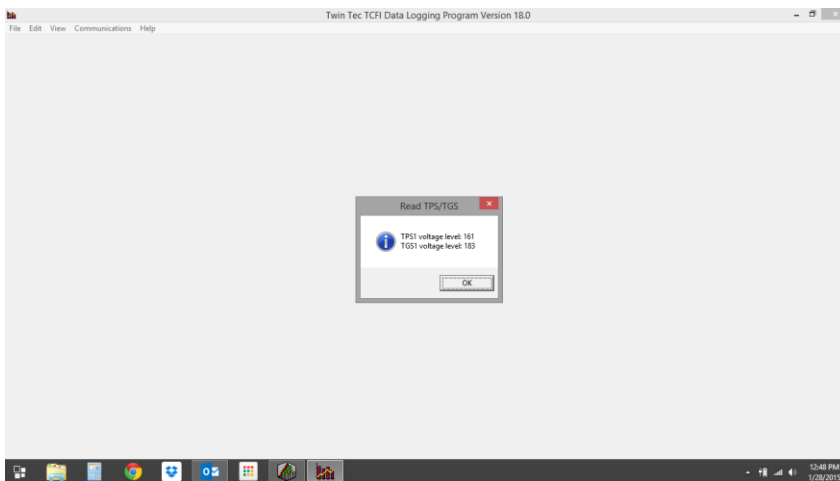
18. Proper operation of the fly by wire system depends on an accurate, repeatable, and in-range TGS and TPS signals and TCA response. You can use the TCFI Log Software to test and diagnose the ETC system without the engine running. After testing, values will need to be recorded and uploaded to the TCFI controller.

The ETC Manual Test Mode command on the communications menu allows you to test the electronic throttle control system without the engine running. Remove the air filter to view the throttle plate. Turn the ignition switch on and the run/stop switch to run. In the TCFI Log software, select Communications, ETC Test Mode, and ETC Manual Test. In the pop up window, enter "1" to enable ETC manual test mode. You should hear a humming noise coming from the throttle body. Move the throttle back and forth slowly and observe the throttle plate. It should move relative to the twist grip position. Access the same pop up window through the menus and enter "0" to disable. The humming noise from the throttle body should stop. If you observe the above conditions, you are safe to proceed.



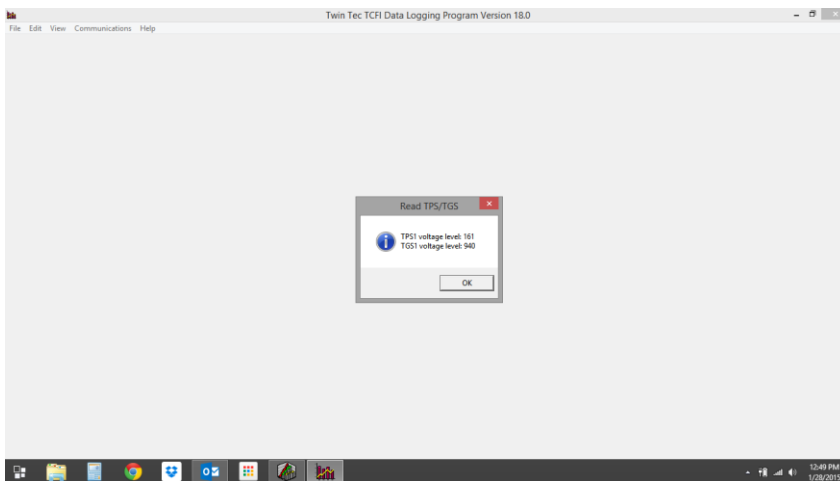
19. You will be accessing the same menus repeatedly for the following tests. Locate the motorcycle or your computer so that you can operate the twist grip and reach your keyboard at the same time.

Select Communications and Read TPS/TGS. A dialogue box will appear. DO NOT select OK or press anything at this time.

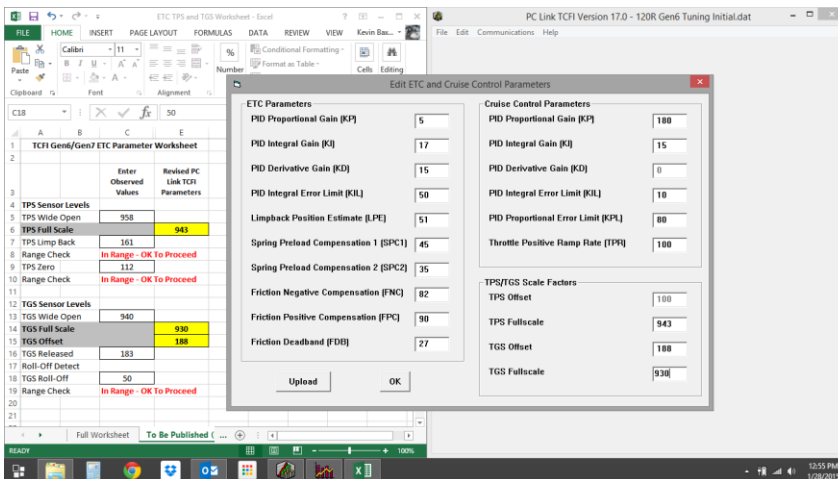
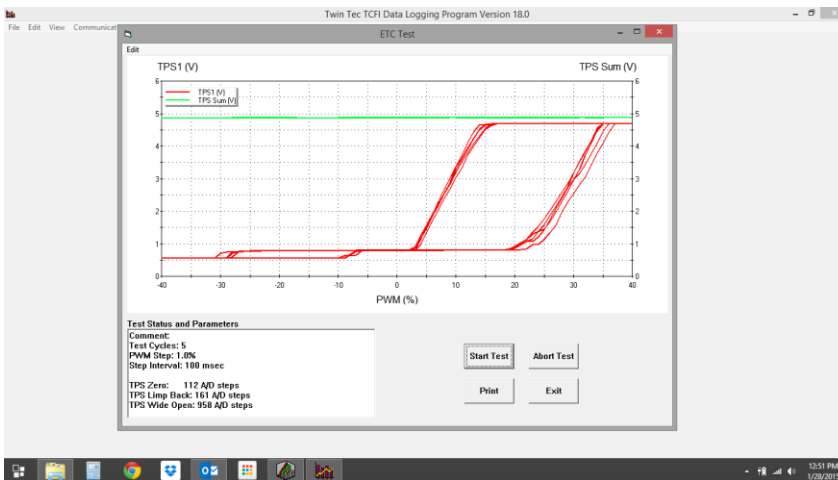
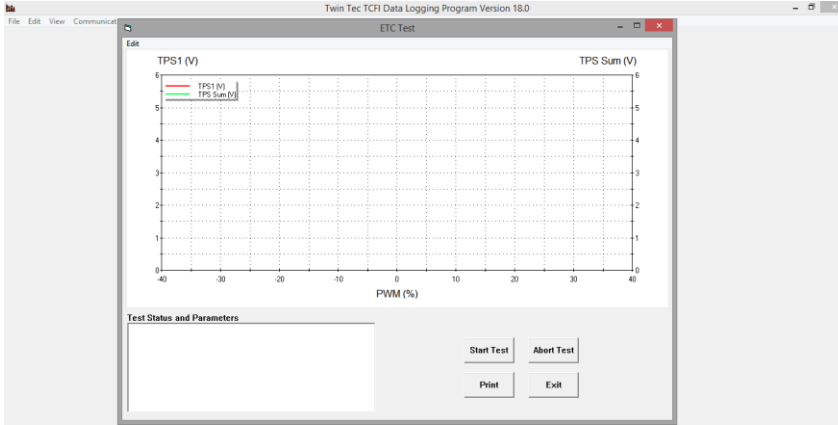


Roll the twist grip completely forward gently until it stops. Press enter and record the TGS voltage level.

Repeat the above with the twist grip at idle position and wide open throttle. Record those values.



You should see the TGS1 voltage levels increase with each step. The values should be similar to those shown here. If you observe a large variance from the values shown, repeat the test or call tech support.



20. Select Communications, ETC Test Mode, ETC Characteristic Curve Test. DO NOT touch the Twist Grip. Select Start Test.

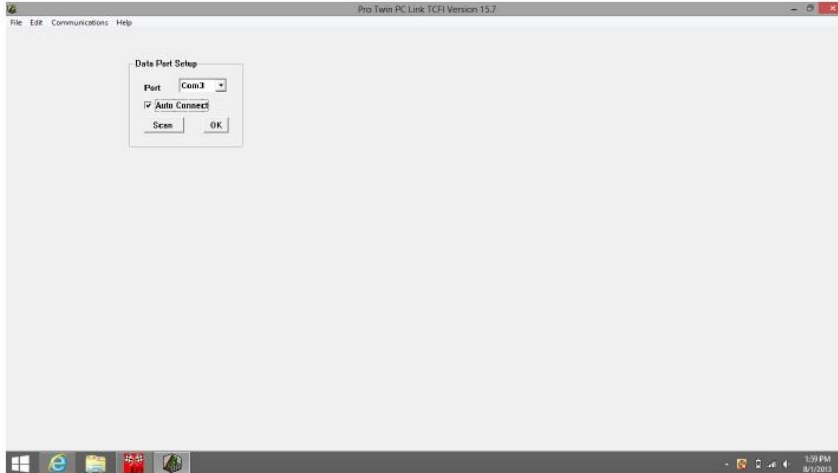
You should hear a humming noise from the throttle body and observe the throttle plate moving. The throttle plate will open and close several times.

When the test is complete the chart will display line graphs indicating TPS1 and TPS Sum Voltages. Your chart should look very similar to what is shown here. If it doesn't, you may have a problem with the throttle body. Contact tech support.

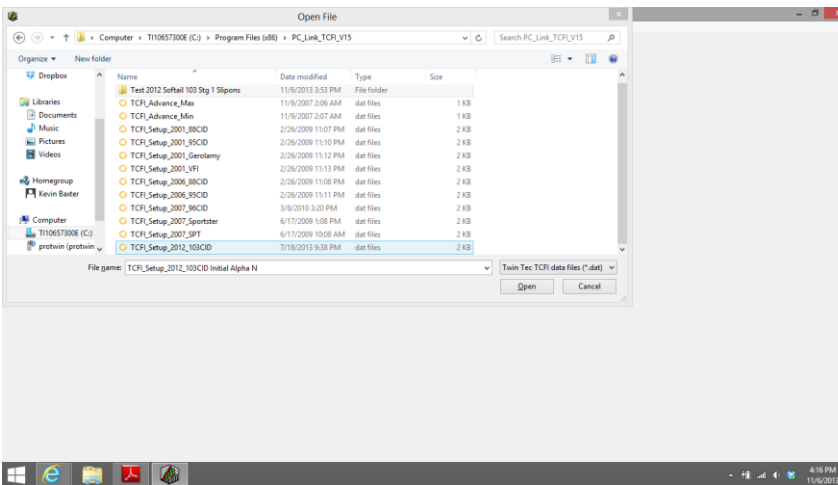
You will see values for TPS Zero, TPS Limp Back, and TPS Wide Open. Record those values. Select Exit.

Using the shown spreadsheet available for download from our website, enter the values you recorded. If you don't have the spreadsheet, the last pages of the complete instructions detail how to easily calculate the formulas.

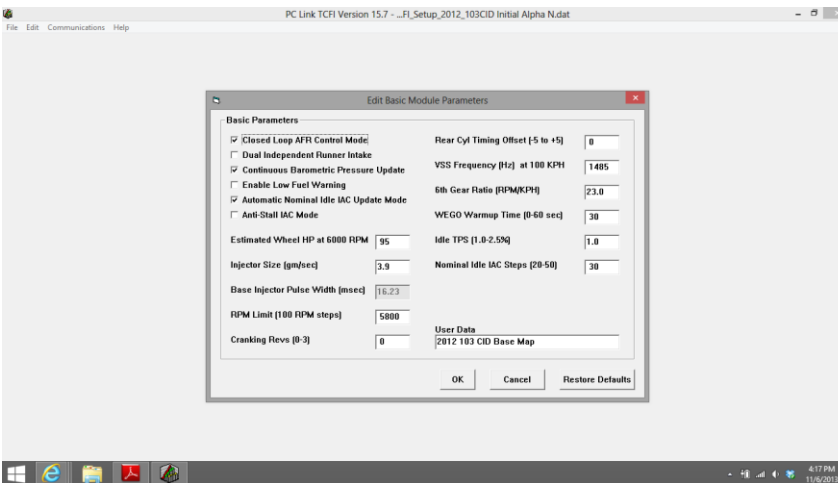
Once you determine the values for TPS Full Scale, TGS Full Scale, and TGS Offset, open the PC Link software. Select Edit, Edit ETC Parameters. In the lower right hand corner enter these values, select upload. A confirmation box will appear. Select OK.



19. If you accidentally close either the PC Link or PC Log software, you may have to repeat steps to auto connect your computer to the TCFI software. However, after connecting once the software should automatically locate and assign the COM port, same as you did for the TCFI Log software.



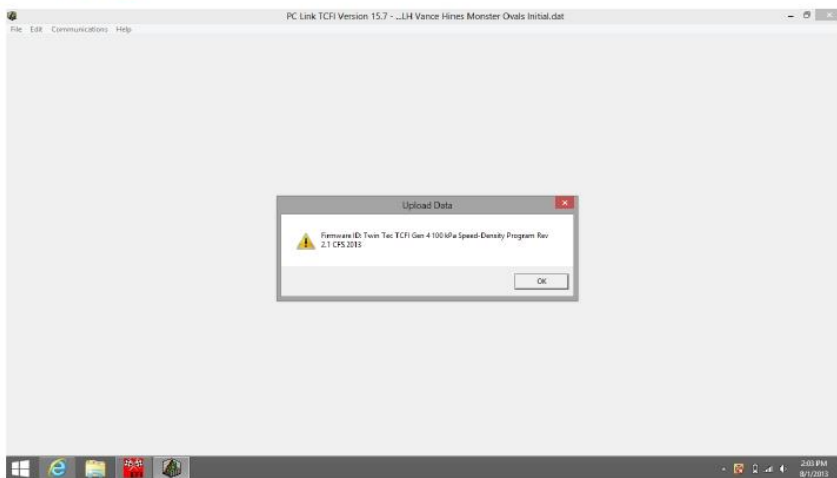
20. Select File and Open File. Choose a base map that most closely matches the configuration of your motorcycle. Refer to the TCFI instructions for more details.



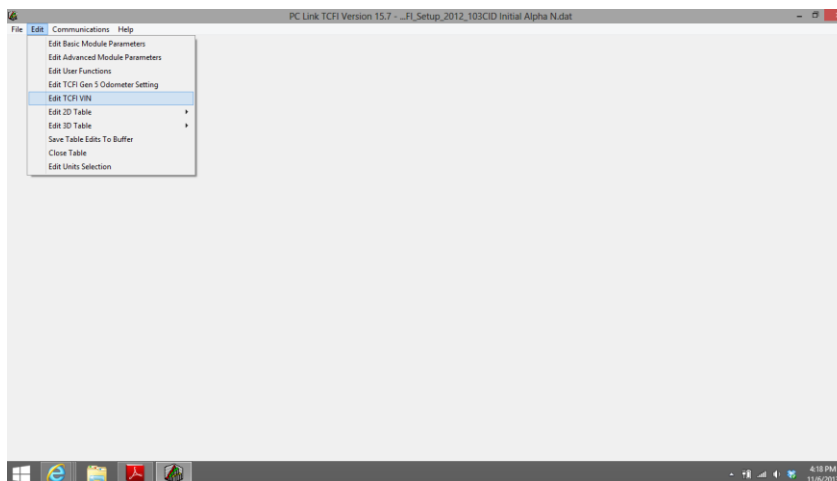
21. The Edit Basic Module Parameters window will automatically pop up. For most applications, you can use the default settings. **Verify that Estimated Wheel HP, Injector Size, RPM Limit, and VSS Frequency are correct for your application.** Click OK.



22. Select File and Save File, and enter a unique file name so as not to overwrite the original setup file. We recommend using a file name that includes the customer name, bike year, and engine info so that you can easily identify it later. We also recommend ending the file name with a number or date code, i.e. jcustomer05FL88map1.



23. Select File and Upload Data to TCFI. Click OK to start the uploading process. You will see a progress bar and confirmation that the upload completed.

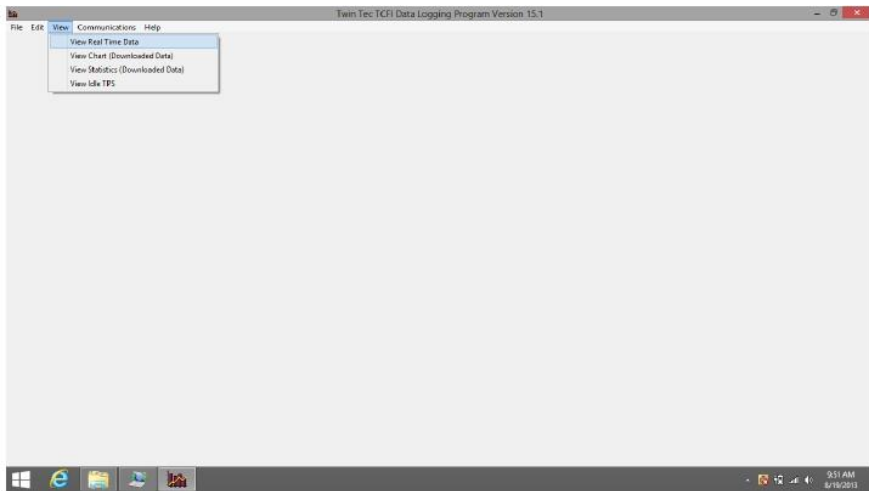


24. Select Edit, Edit TCFI VIN and enter the motorcycles VIN number. Ensure you have entered it correctly. Click OK. Turn the motorcycle off and wait 30 seconds.

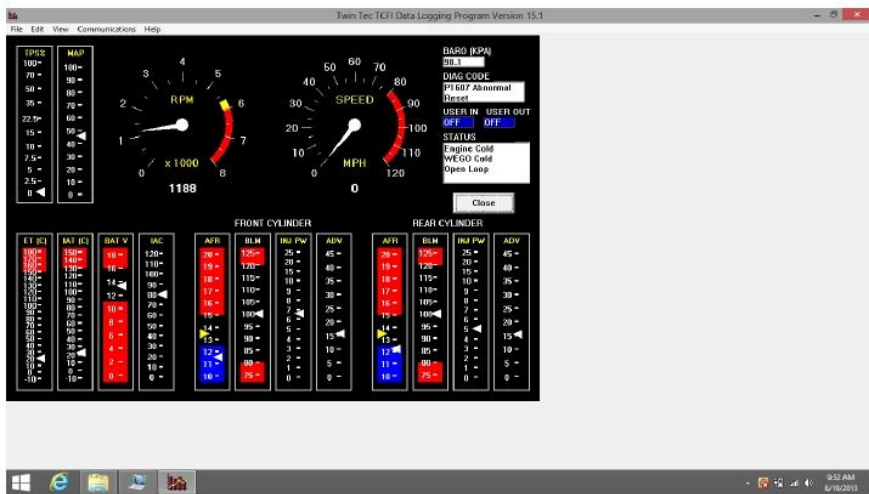


# Twin Tec

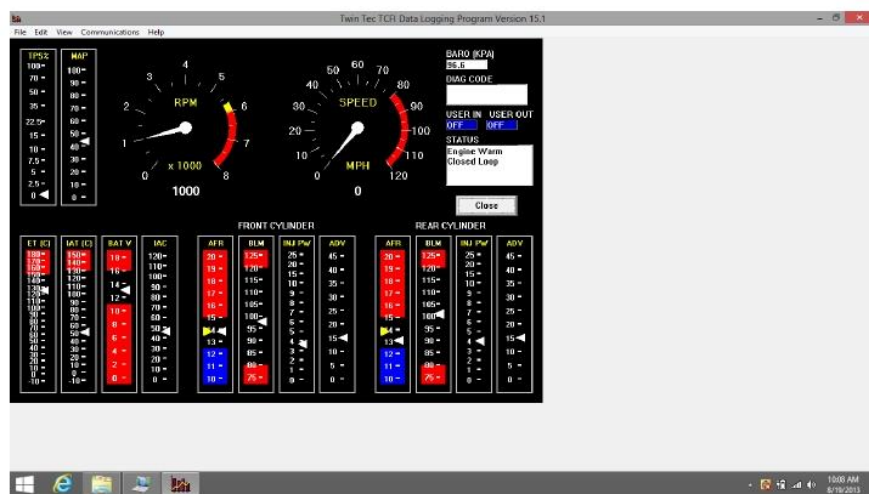
## TCFI Gen 6 Quick Start Guide



26. Turn the ignition switch on, and off/run switch to run. Open the TCFI Log software. The software should auto-connect to the assigned COM port. Start the motorcycle. Select View and View Real Time Data to open the real time data display window.



27. Place a fan near the engine to allow it to warm up slowly. Observe the real time data. Engine status will initially show Engine Cold, WEGO Cold and Open Loop. As the engine warms up, the status will change to Closed Loop after 30 seconds and Engine Warm after several minutes. Note the engine temperature (ET), idle air control (IAC), air/fuel ratio (AFR), and block learn multiplier (BLM) values as the engine warms up. BLM is the auto-tuning fuel trim.

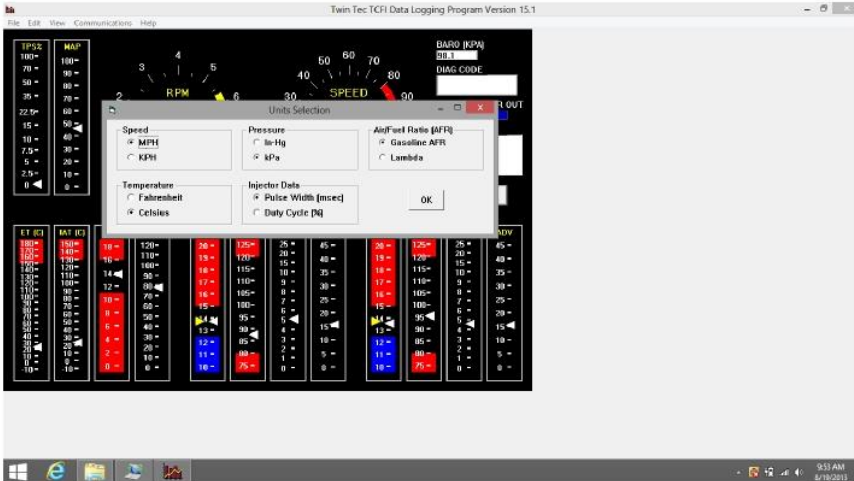


28. IAC position should slowly decrease as the engine warms up. The yellow AFR arrows are the command and the white arrows are the actual values read by the WEGO. The actual values should track the command. The BLM arrows should move from 100% indicating auto-tuning fuel trim. If the BLM or AFR values are out of range, refer to the TCFI instructions for details. Call our tech support if you need help.

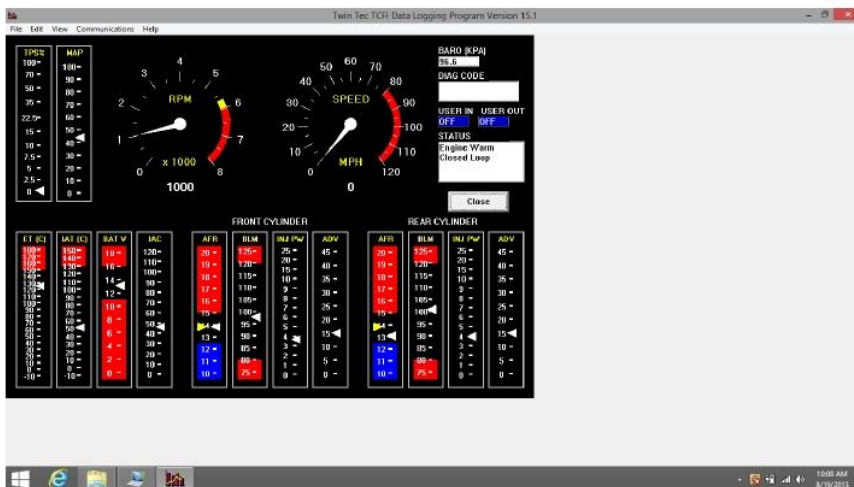


# Twin Tec

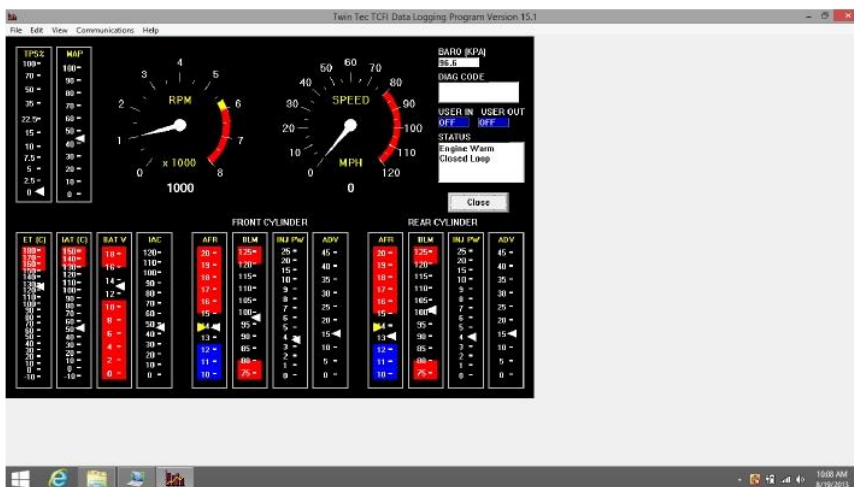
## TCFI Gen 6 Quick Start Guide



29. If you prefer to work with different units of measure for speed, temperature, manifold pressure, injector data, or air/fuel ratio, select Edit and Units Selection.



30. When the engine reaches normal operating temperature (110° C or 230° F), the IAC value should be in the range of 20-40. The engine should idle smoothly. If not, refer to the TCFI instructions for details. Call our tech support if you need help.



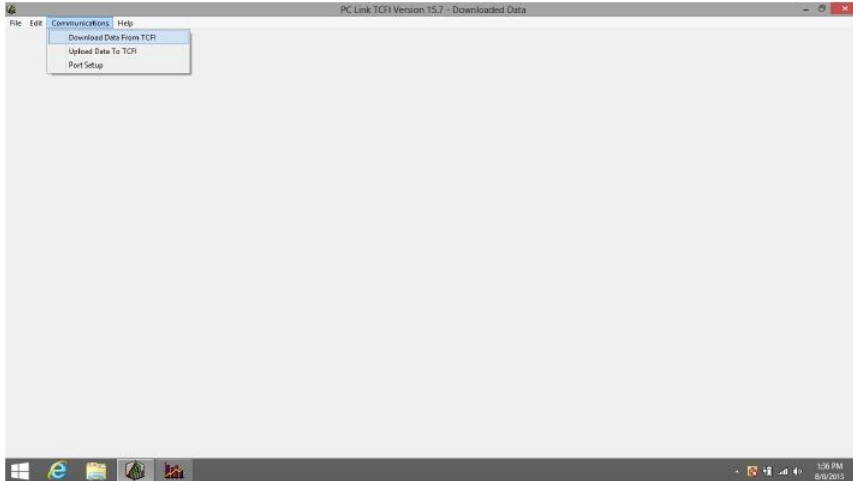
31. Close real time data display, turn off the engine, and wait 10 minutes for hot soak. Restart the engine and reopen real time data display. You should observe an initial flare (increase) in RPM immediately after engine start. RPM and IAC should drop back down to normal idle values within a few seconds. AFR values should not lean out (into the red area) before the system returns to closed loop operation. If not, refer to the TCFI instructions for details. Call our tech support if you need help.

If everything appears OK, take the motorcycle for a 15 minute test ride.

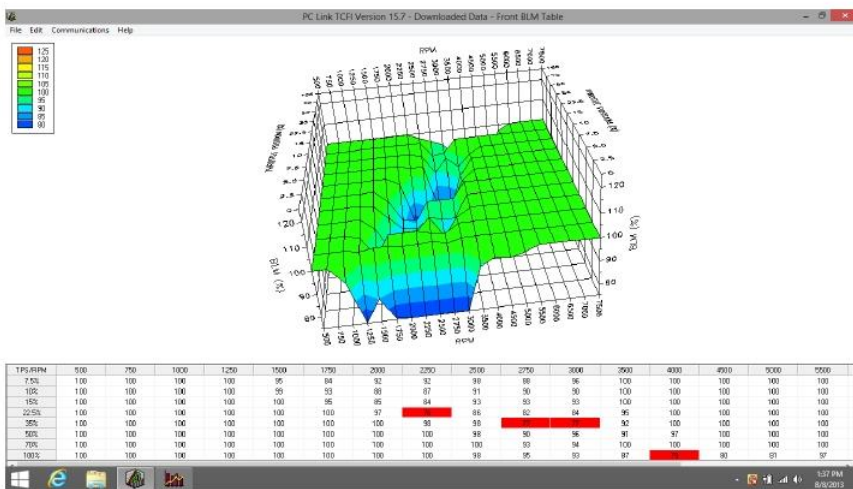


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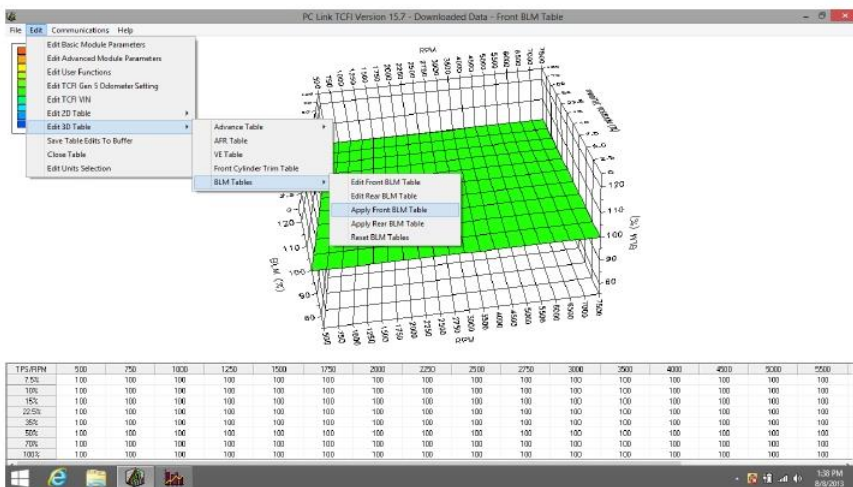
## TCFI Gen 6 Quick Start Guide



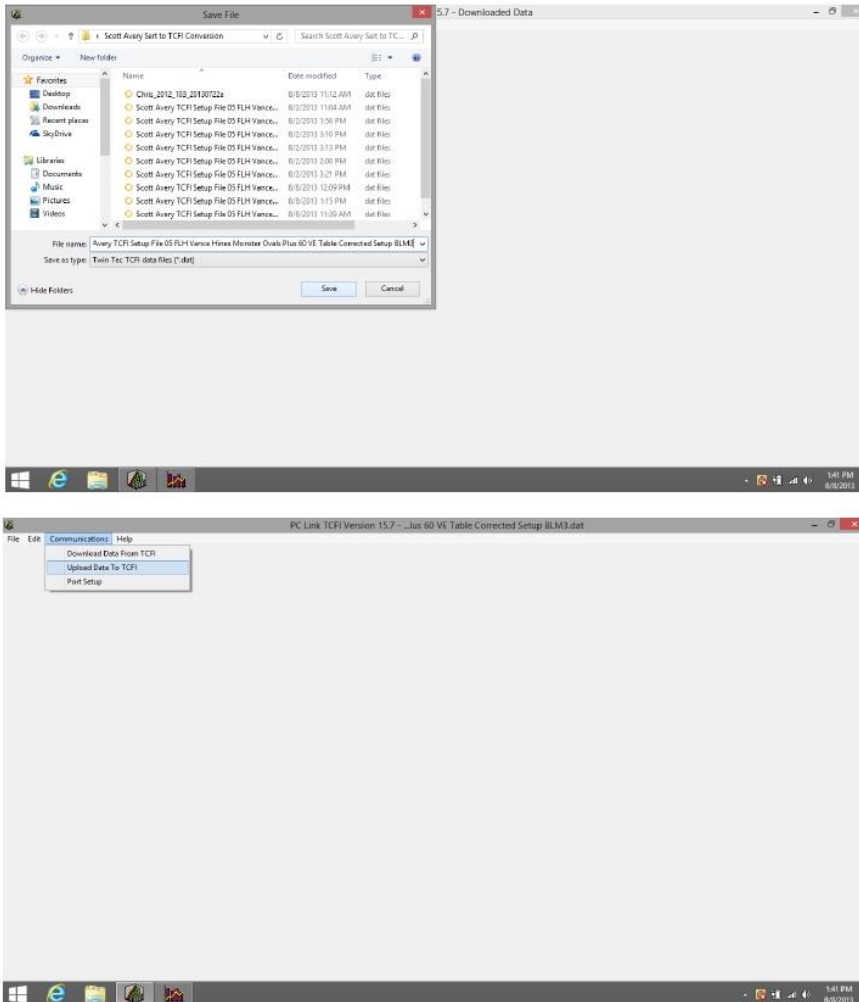
32. After returning from your test ride, reconnect the USB interface, turn the ignition switch on, off/run switch to run, and open the TCFI PC Link software. **Do not start the engine.** The software should auto-connect to the assigned COM port. Select Communications, Download Data from TCFI, and click OK. When downloading completes, you will see Downloaded Data across the top window bar. Turn off the motorcycle.



33. Select Edit, Edit 3D Table, BLM Tables, and Edit Front BLM Table. The BLM chart will appear. Changes in the BLM values from 100% confirm that auto-tuning has occurred and that the TCFI is functioning properly. If the BLM values all remain at 100%, refer to the TCFI instructions for details. Call our tech support if you need help.



34. Select Edit, Edit 3D Table, BLM Tables, and Apply Front BLM Table. This will automatically correct the Front Cylinder Trim Table, Alpha-N Table (or VE) Table and return the BLM values to 100% to allow further auto-tuning. Select Edit and Save Table Edits to Buffer. Repeat these steps for the Rear Cylinder.



35. Select File, Save File As, and choose a unique file name so that you can identify the file for future reference.

36. Turn the ignition switch on, off/run switch to run, select Communications, Upload Data to TCFI, and click OK. Click OK after the upload is completed. Turn off the motorcycle and wait 30 seconds. Then take the motorcycle for another 15-20 minute test ride. Repeat steps 39-43 until most BLM values are within the range of 90-110%. Verify absence of spark knock during throttle roll on and wide open throttle acceleration. Verify that the speedometer reading is accurate and that the turn signals cancel properly. If everything appears OK, installation of the TCFI system is complete.

**We would like to thank you for choosing the Daytona Twin Tec TCFI system and congratulate you for completing your first installation.**