



Twin Tec

TCFI Gen 5 Quick Start Guide

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 TCFI Gen 5 Fuel Injection Kit and covers most common installations and setups. Additional tuning may be required. We strongly encourage you to read the complete TCFI installation instructions. The TCFI is a very powerful and easy-to-use system, provided that the installer understands its features and functions.



1. Unpack and verify all components are included.



2. Make note of the motorcycle VIN and odometer reading (miles or kilometers). These values must be correct and will be entered in the software later. Remove seat, saddlebags, side cover, and other items to gain access to the factory ECM and data link connector.



3. Deactivate the alarm and disconnect the negative battery cable.



4. Remove the factory ECM and install the TCFI controller. Make sure that the two connectors are properly mated to the TCFI.



5. Install the WEGO IIID unit in an appropriate location. You will need access to the trimpot screws for initial setup, so do not permanently mount the unit at this time. Route the harnesses for the front (2 long) and rear (2 short) oxygen sensors to their respective locations. Final routing and securing can be done after the sensors are installed in the exhaust pipes.



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6. Skip to step 10 for exhausts with 18mm oxygen sensor bungs in the exhaust pipes. Carefully plan the sensor location approximately 2-6" from the exhaust port. Use a permanent marker to locate the position where you will drill a hole for your oxygen sensor bungs. If you have free flowing mufflers, try to locate the bungs as close to the exhaust port as possible.



7. 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.



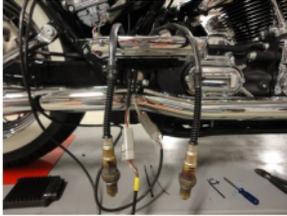
10. Locate the front and rear factory oxygen sensor harnesses. Disconnect the factory oxygen sensors and plug the mating connectors from the WEGO into the factory harnesses.





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11. Connect the oxygen sensors, but do not install the sensors in the exhaust pipes at this time. 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). Reconnect the negative battery cable. 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 trimpot 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. Download and install the latest versions of the following software:

PC Link TCFI
TCFI Log
USB Driver

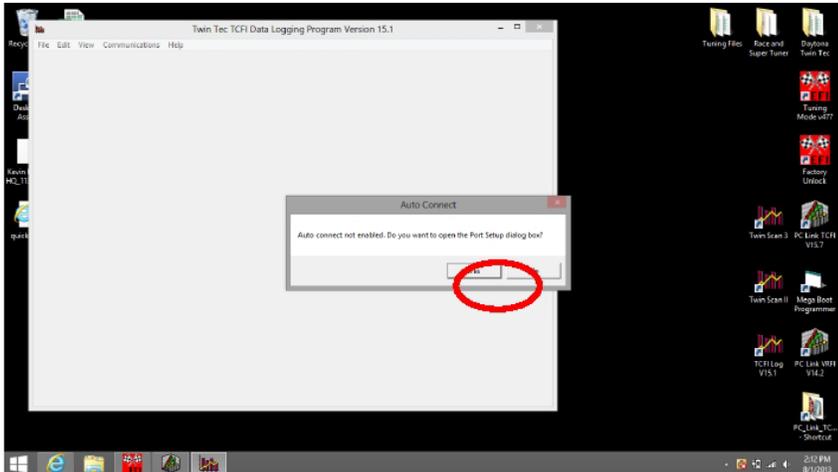


15. Plug the USB interface into the four terminal data link connector coming from the TCFI harness and the USB cable into your computer. Make sure the switch on the USB interface is set to the TC88A and All Others position.

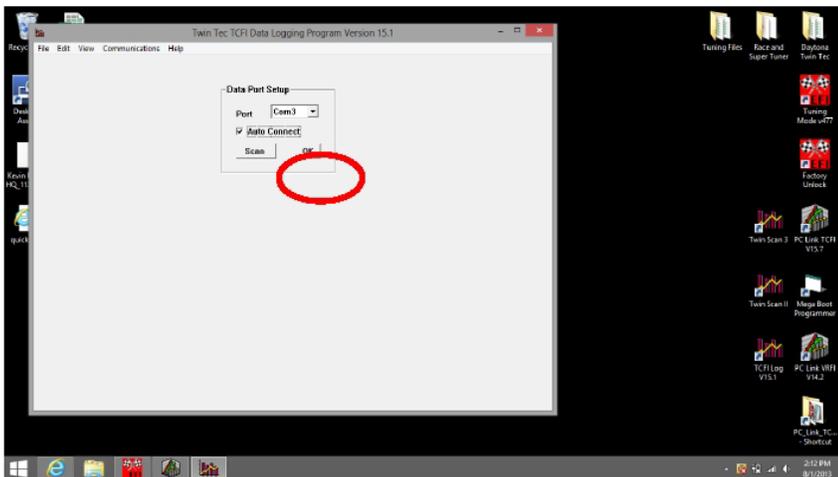


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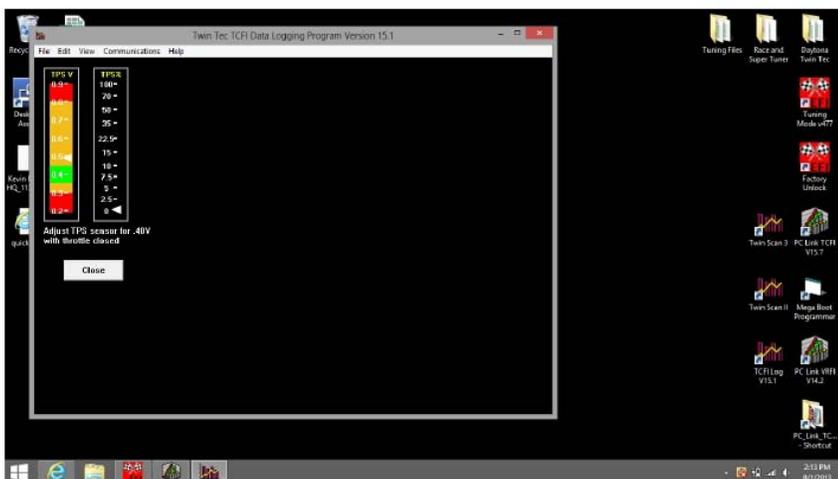
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16. Turn the ignition switch on and the off/run switch to run. Open the TCFI Log software. Click YES.



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.

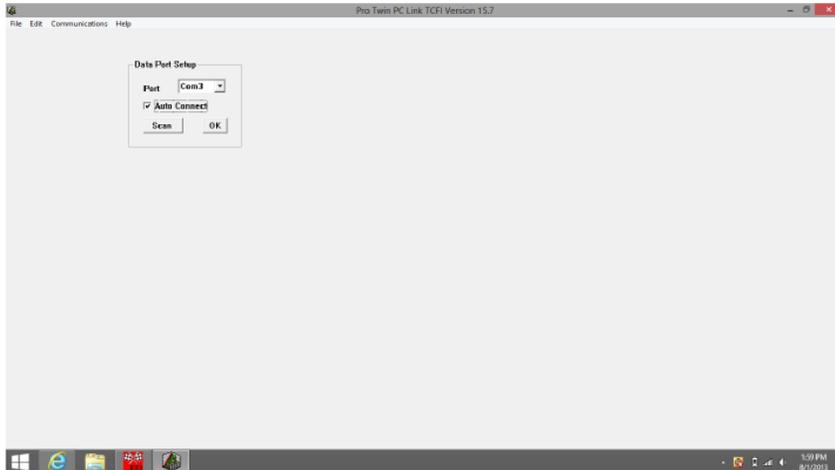


18. Click View and View Idle TPS. Observe the following screen. At closed throttle the TPS V indicator should be in the green range (readings up to 0.6V are acceptable but not ideal). If outside this range, the TPS will need to be adjusted. Refer to the TCFI instructions for details. Fully open the throttle. The TPS% indicator should show 100%. If not, adjust throttle cables and check the throttle plate. If in range, exit out of the software.

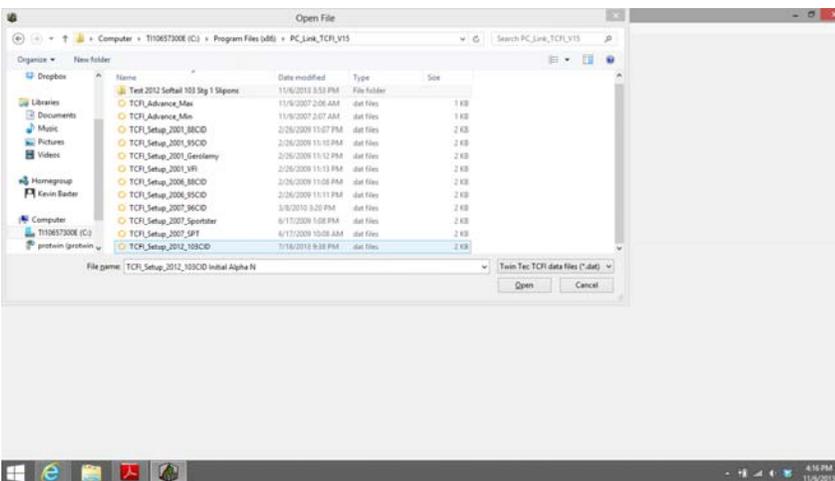


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19. Open the PC Link TCFI Software. Repeat steps 16-17 to automatically locate and assign the COM port, same as you did for the TCFI Log software.



20. Select File and Open File. Choose a base map that most closely matches the configuration of your motorcycle. Refer to Table 3 in 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.** Refer to the TCFI instructions for details. Call our tech support if you need help.

Click OK when done.

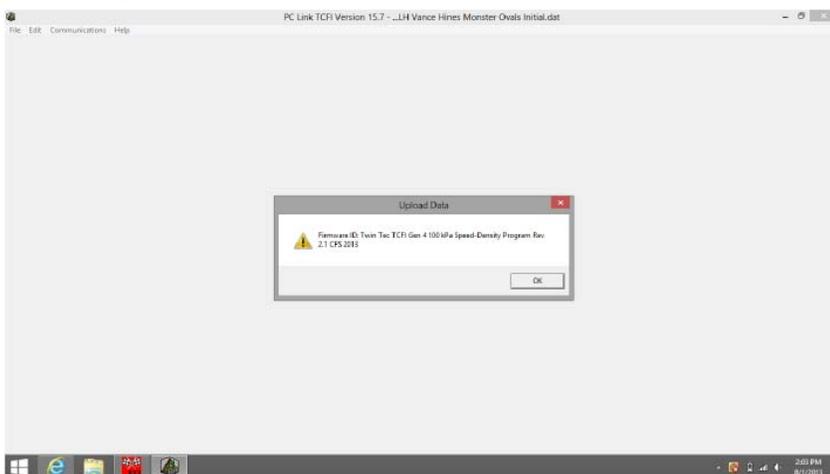


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22. Select File and Save File, and enter a unique file name so as not to overwrite the original setup file. We recommend using a file name that includes the customer name, bike year, and engine info so that you can easily identify it later. We also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

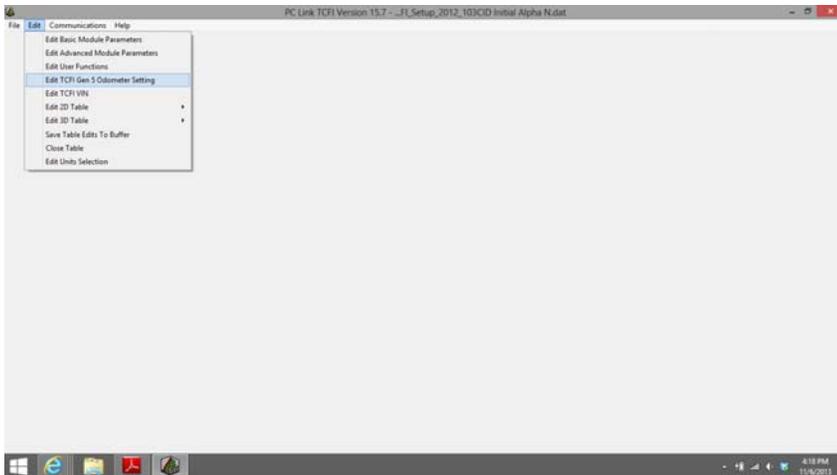


24. Select Edit, Edit TCFI VIN and enter the motorcycle VIN number. Make sure that you have entered it correctly. Click OK.



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25. Select Edit, Edit TCFI Gen 5 Odometer Setting. **You must enter the value you in kilometer units.** If you have a KPH speedometer, enter its value. If you have a MPH speedometer, multiply the mileage by 1.6093 to convert to kilometers and enter the value. Make sure you have entered it correctly. Click OK.

Turn off the motorcycle and wait 30 seconds.

ENGINE STARTING PROCEDURES. READ BEFORE CONTINUING.

The proper engine starting procedure must be followed. When the run/stop switch is turned on, the TCFI reads the TPS voltage to establish zero percent throttle position. If the throttle is not fully closed at this point, all subsequent fuel control will be incorrect.

The throttle body is affected by thermal expansion. If the engine has cooled down or the motorcycle has sat overnight, we suggest that you momentarily open and then release the throttle before turning the run/stop switch on. Make absolutely sure that the throttle is fully closed before turning the run/stop switch on.

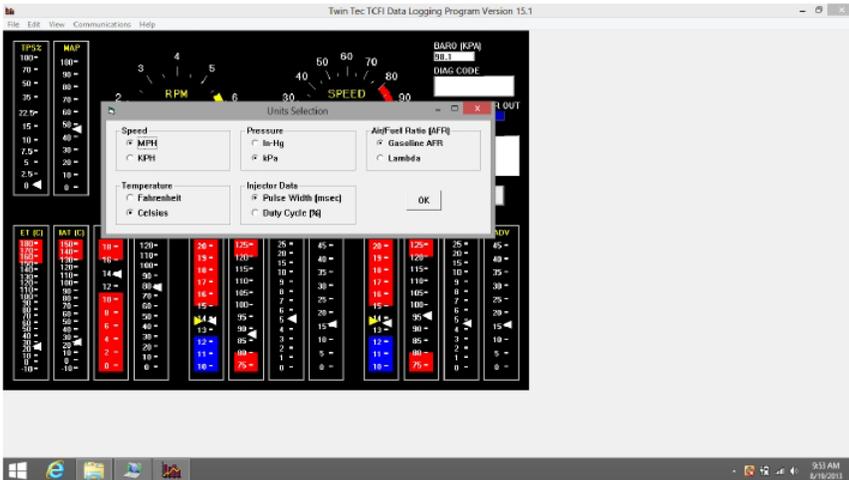
The throttle friction adjustment screw may prevent the throttle from fully closing. We suggest that you always leave this screw fully counterclockwise. When the run/stop switch is turned on, the idle air control motor will move to the starting position and the fuel pump will be energized for several seconds, making an audible buzz. Do not press the starter button until the check engine light goes out and the fuel pump stops buzzing.

When you turn the run/stop switch off, the idle air control motor requires several seconds to return to its home position. After turning the run/stop switch off, you must wait for 5 seconds before turning the switch on again. If the engine stalls, we suggest that you cycle the run/stop switch off for 5 seconds and then on again before attempting a restart.

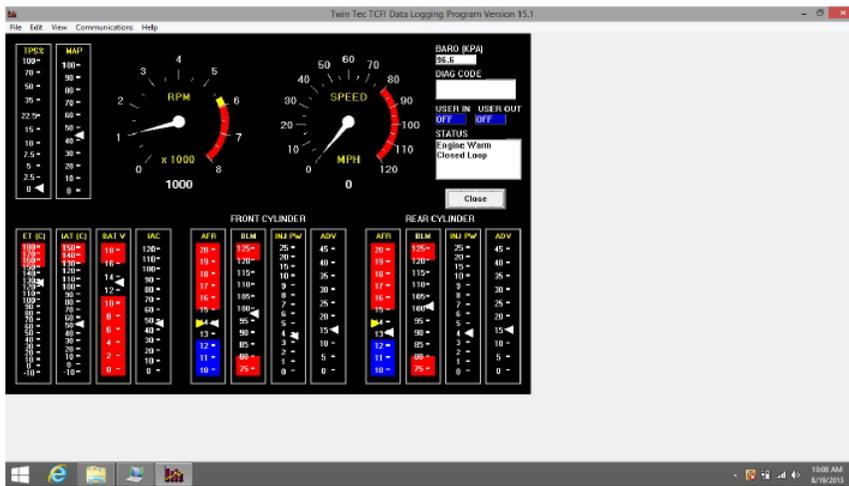


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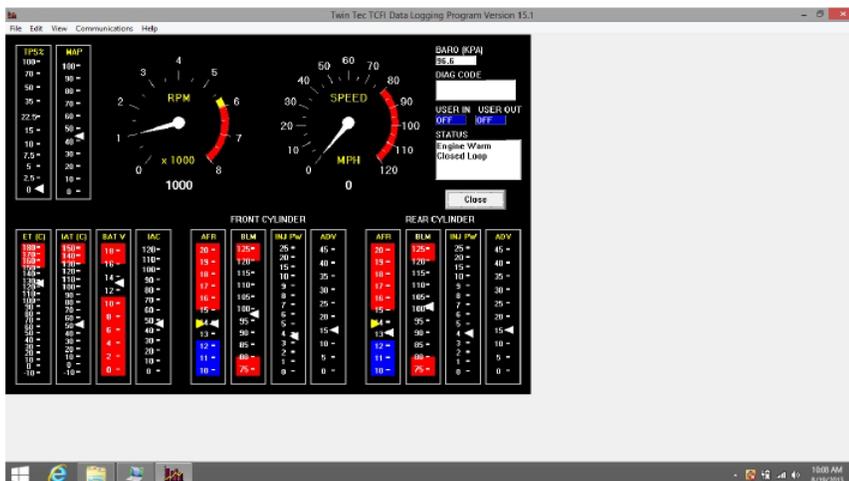
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29. If you prefer to work with different units of measure for speed, temperature, manifold pressure, injector data, or air/fuel ratio, select Edit and Units Selection.



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.

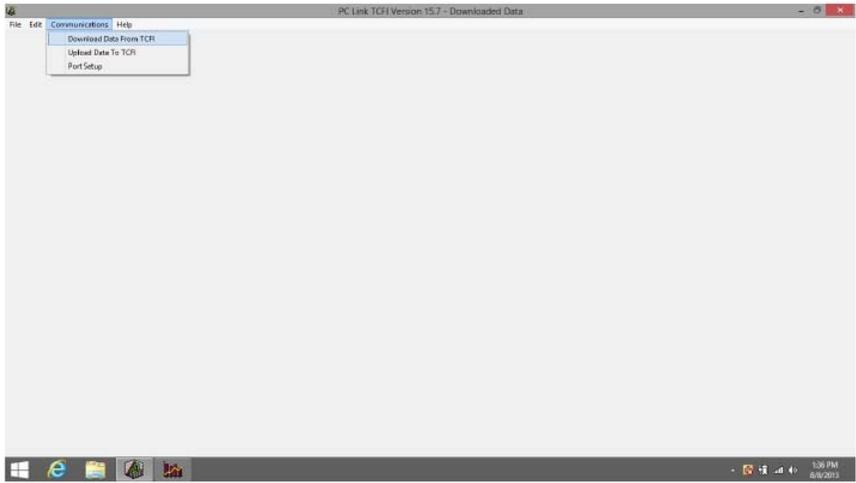


31. Close real time data display, turn off the engine, and wait 10 minutes for hot soak. Restart the engine and reopen real time data display. You should observe an initial flare (increase) in RPM immediately after engine start. RPM and IAC should drop back down to normal idle values within a few seconds. 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.

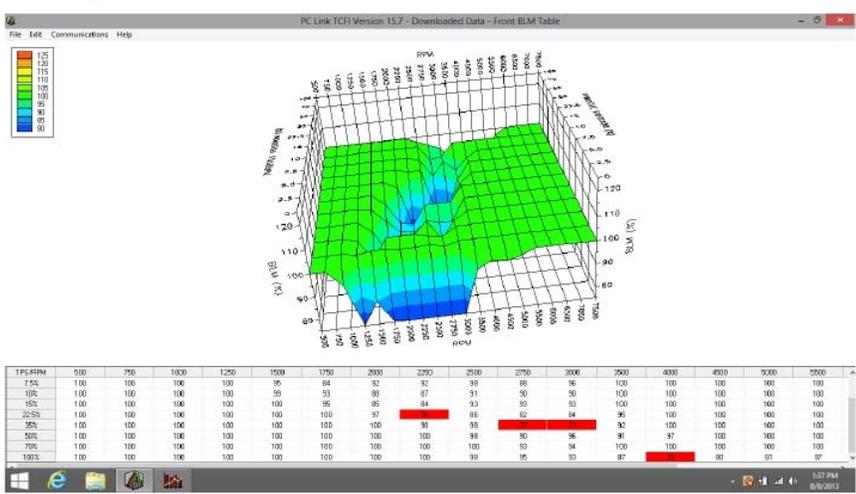
If everything appears OK, take the motorcycle for a 15 minute test ride.



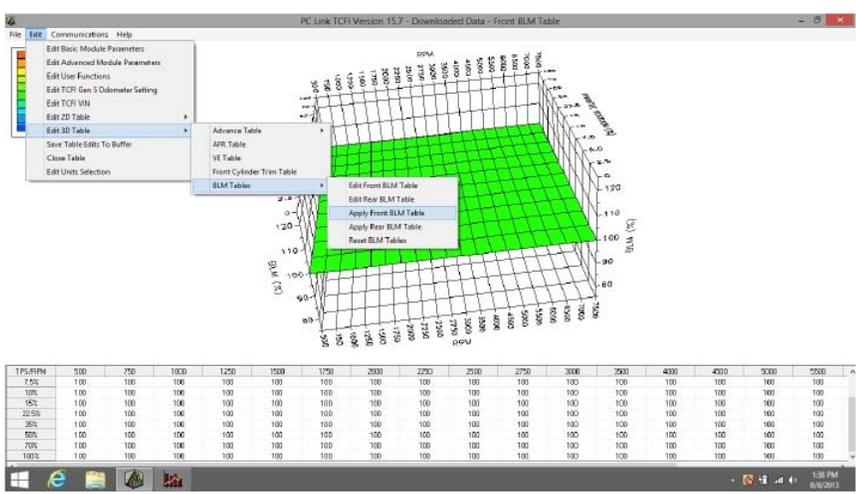
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32. After returning from your test ride, reconnect the USB interface, turn the ignition switch on, off/run switch to run, and open the TCFI PC Link software. **Do not start the engine.** The software should auto-connect to the assigned COM port. Select 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.

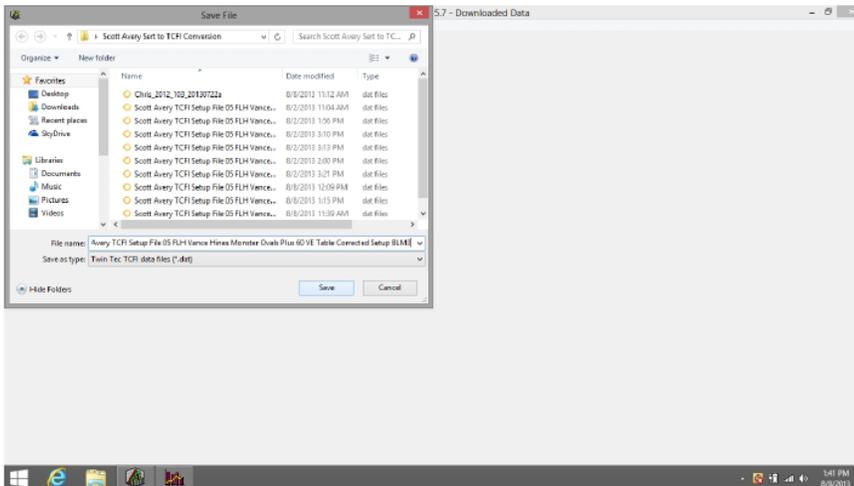


34. Select Edit, Edit 3D Table, BLM Tables, and Apply Front BLM Table. This will automatically correct the Front Cylinder Trim Table, Alpha-N Table (or VE) Table and return the BLM values to 100% to allow further auto-tuning. Select Edit and Save Table Edits to Buffer. Repeat these steps for the Rear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



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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 32-36 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.