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

INTRODUCTION

This quick start guide provides simplified installation instructions for the TCFI Gen 4 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. Additional information, instructions, and tech notes are available at www.daytona-twintec.com.

1. Unpack and verify all components are included.

2. Remove seat, saddlebags, side cover, and other items to gain access to the factory ECM and data link connector.

3. Remove the factory ECM and install the TCFI controller.

4. Using provided hardware, install the WEGO IIID unit on the TCFI controller or at another location if required for clearance.

5. Use wire cutters to cut the factory zip tie from the base of the ECM connector. Use caution to not cut the sheathing or wires inside.

6. Use a small screwdriver to press in the locking tabs and remove the clear socket terminal lock.

7. Use a small screwdriver to pry each locking point back slightly and open the ECM connector. Use caution not to pry too far and break the tab.

8. Open the ECM connector.

9. Observe the pins in the connector and locate sockets 8, 9, and 23. There should be blue seal pins in those socket locations.

10. Use a small screwdriver, needle nose pliers, or tweezers and pull the blue seal pins from sockets 8, 9, and 23.

11. The WEGO IID harness has white, blue, and green wires with socket terminals already attached. Insert these wires into the connector until they lock into the main connector:

   WHITE WIRE   PIN 8
   BLUE WIRE   PIN 23
   GREEN WIRE PIN 9

12. Reinstall the clear socket terminal lock until fully seated. The lock will only install in one direction.

13. Close the connector until all tabs snap and lock into place. Install a new zip tie to secure the connector to the wire harness.

14. Plug the male grey 4 pin connector from the WEGO into the data link connector found near the ECM. Some models have an accessory connector that appears the same as the data link connector. Make sure you identify the correct connector.

15. Connect the oxygen sensors. 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.

16. 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.

17. After two minutes, use a small screwdriver to slowly turn each trimpot screw on the WEGO clockwise until the corresponding LED just starts flashing. This will calibrate your oxygen sensors. Turn off the motorcycle.

18. Skip to step 22 for motorcycles with factory 18mm oxygen sensor bungs in the exhaust pipes. Carefully plan the sensor location and use a permanent marker to locate the position where you will drill a hole for your oxygen sensor bungs.

19. Remove the exhaust from the motorcycle and drill small pilot holes.

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

21. 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.

22. **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. Download and install the latest versions of the following software:
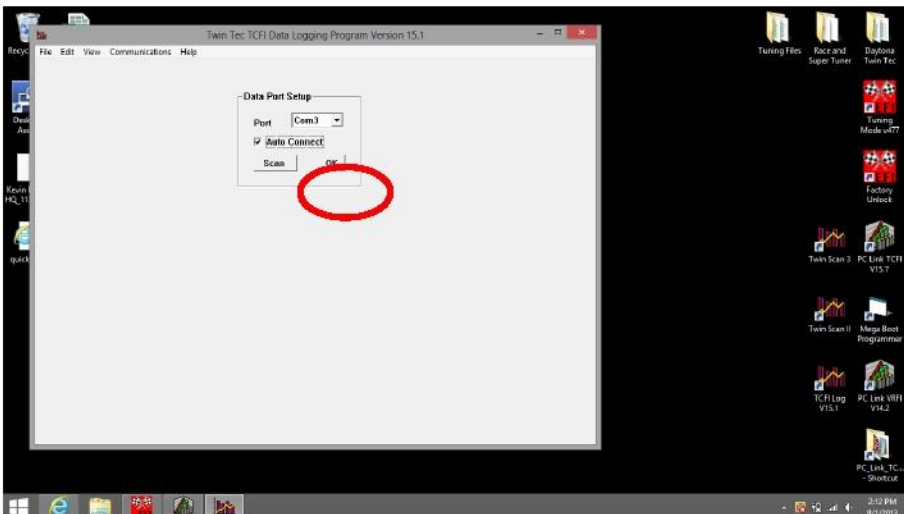
> **PC Link TCFI**
> **TCFI Log**
> **USB Driver**

23. Plug the USB interface into the data link connector and the USB cable into your computer. Make sure that that the switch on the USB interface is set to the TC88 And All Others position.
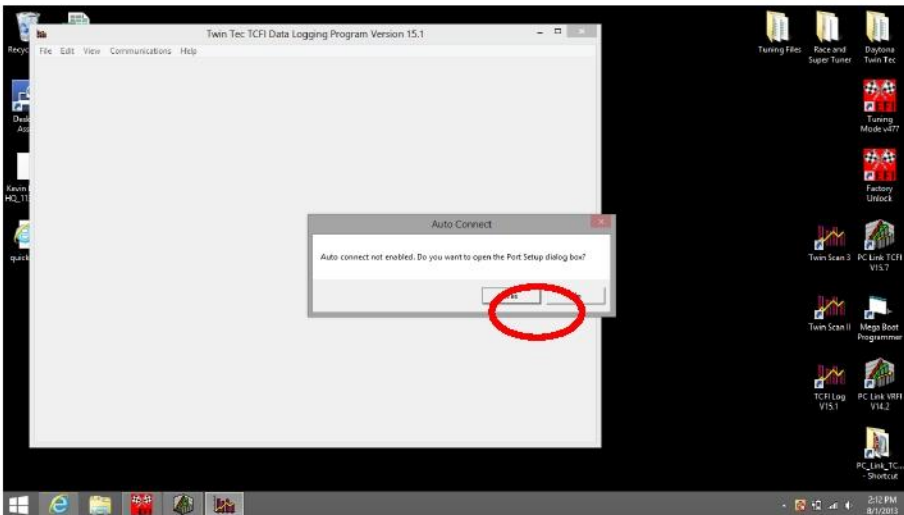
24. Turn the ignition switch on and the off/run switch to run. Open the TCFI Log software. Click YES.


25. 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.
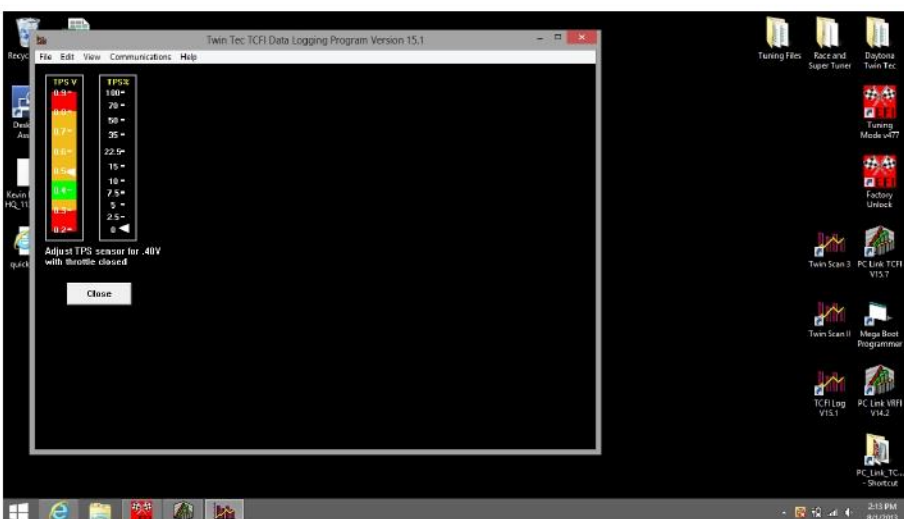

26. Click View and View Idle TPS. Observe the following screen. At closed throttle the TPS V indicator should be in the green range (readings up to 0.6V are acceptable but not ideal). If outside this range, the TPS will need to be adjusted. Refer to the TCFI instructions for details. Fully open the throttle. 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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27. Open the PC Link TCFI Software. Repeat steps 24-25 to automatically locate and assign the COM port, same as you did for the TCFI Log software.
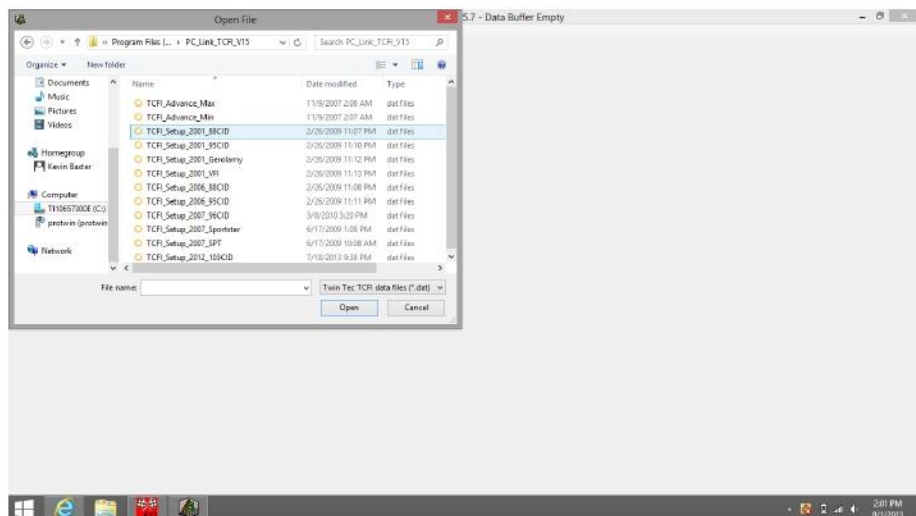

28. Select File and Open File. Choose a base map that most closely matches the configuration of your motorcycle. Refer to Table 3 in the TCFI instructions for more details.
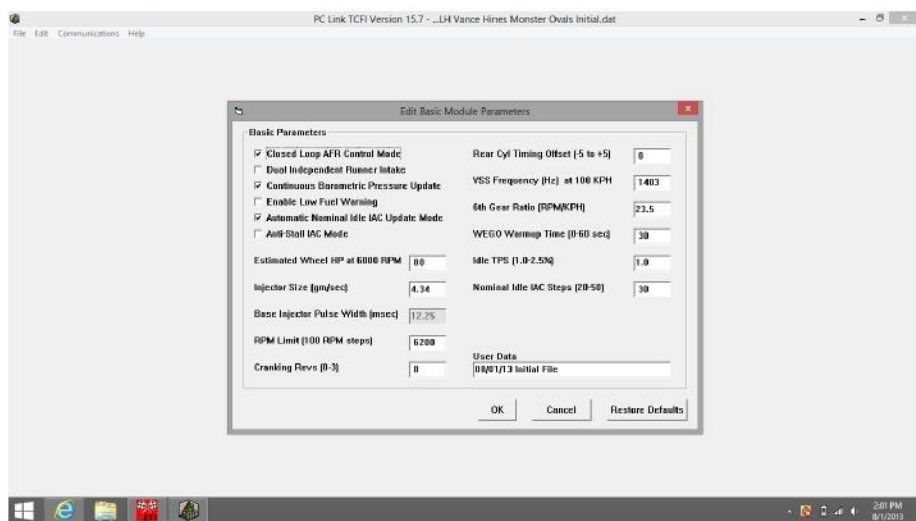

29. The Edit Basic Module Parameters window will automatically pop up. For most applications, you can use the default settings. **Verify that Estimated Wheel HP, Injector Size, RPM Limit, and VSS Frequency are correct for your application.** VSS Frequency must be set to 155 for all 2001-2003 models. Refer to the TCFI instructions for details. Call our tech support if you need help. Click OK when done.

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30. 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.
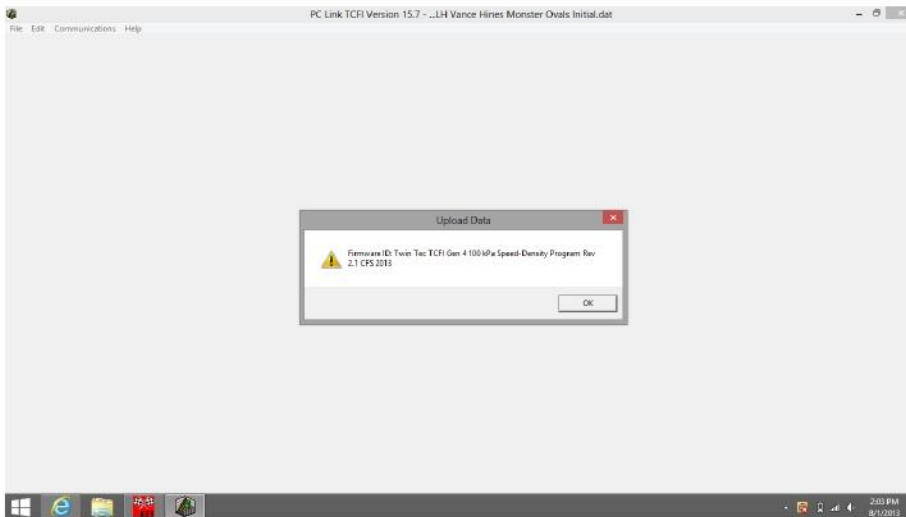
31. Select File and Upload Data to TCFI. Click OK to start the uploading process. You will see a progress bar and confirmation that the upload completed.
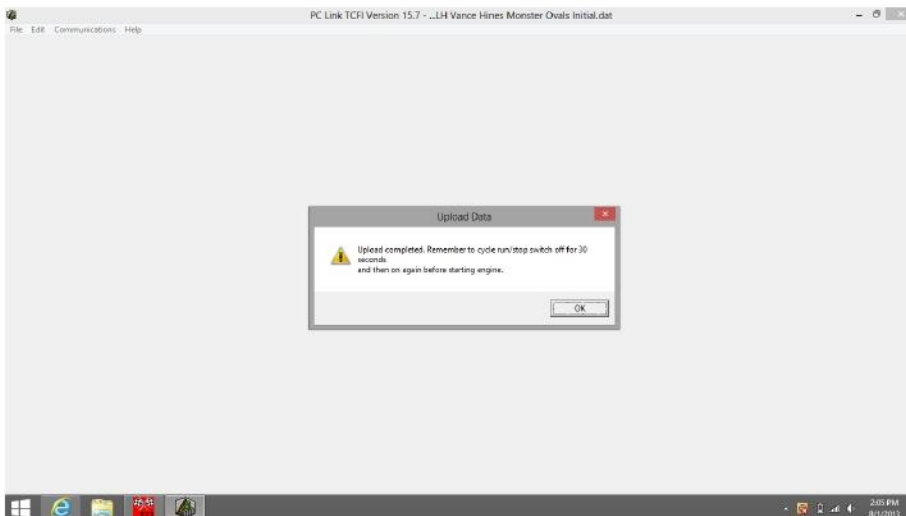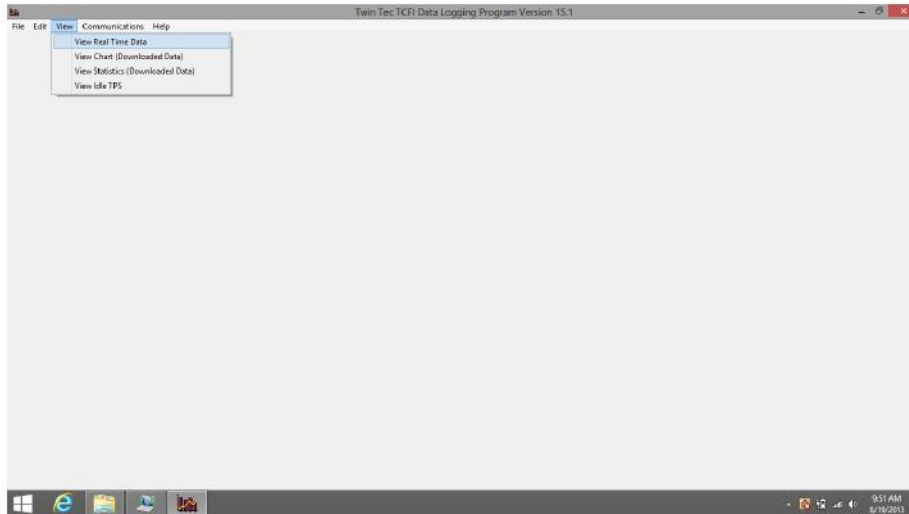

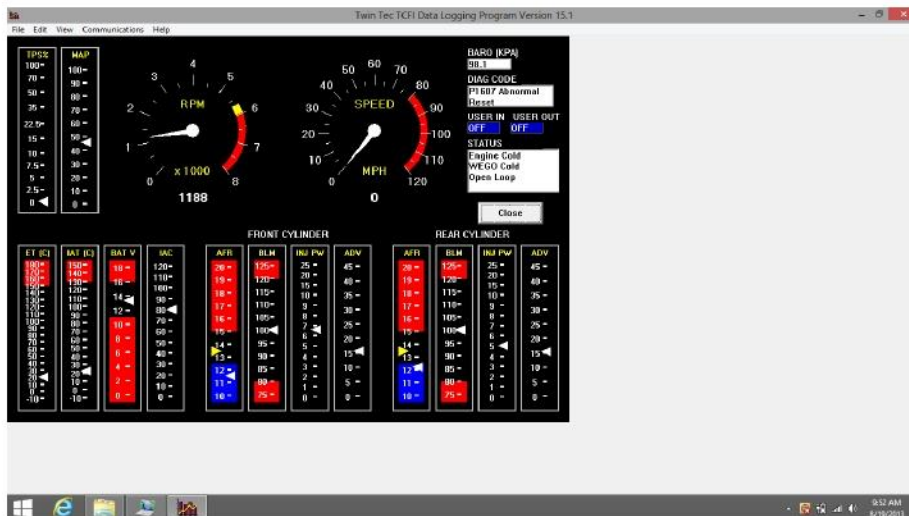32. Click OK after the upload is completed. Turn off the motorcycle and wait 30 seconds.

33. 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.

34. 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.
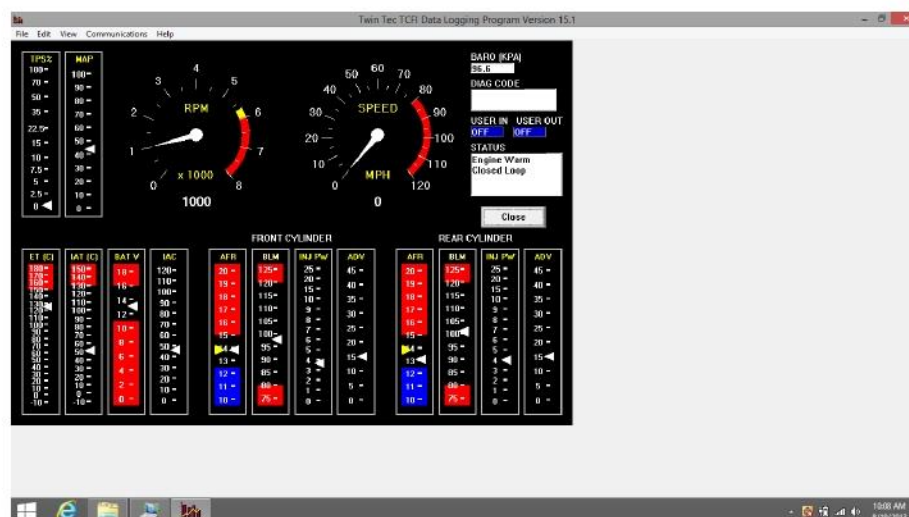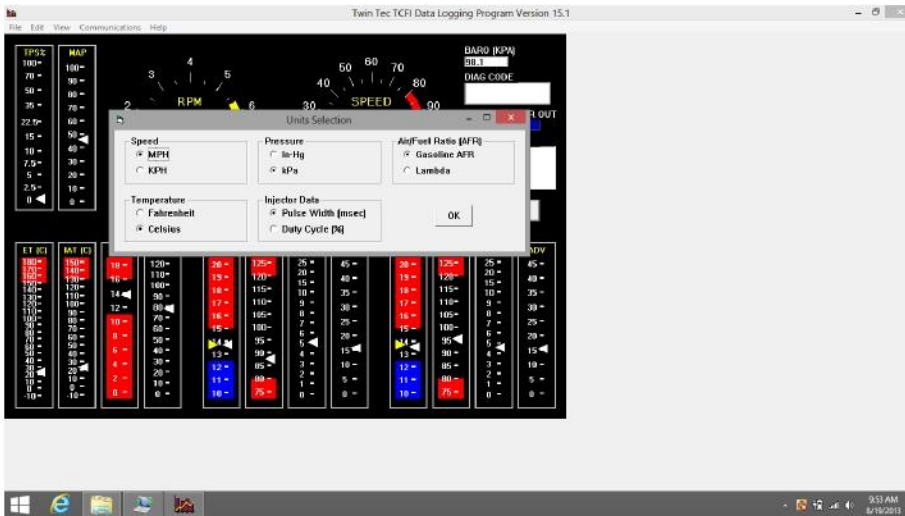
35. IAC position should slowly decrease as the engine warms up. The yellow AFR arrows are the command and the white arrows are the actual values read by the WEGO. The actual values should track the command. The BLM arrows should move from 100% indicating auto-tuning fuel trim. If the BLM or AFR values are out of range, refer to the TCFI instructions for details. Call our tech support if you need help.
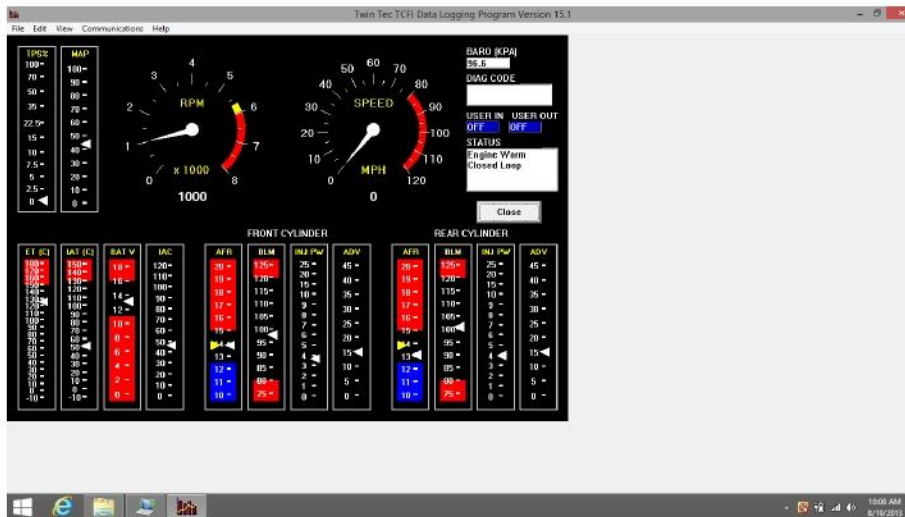
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36. If you prefer to work with different units of measure for speed, temperature, manifold pressure, injector data, or air/fuel ratio, select Edit and Units Selection.

37. When the engine reaches normal operating temperature (110º C or 230º 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.
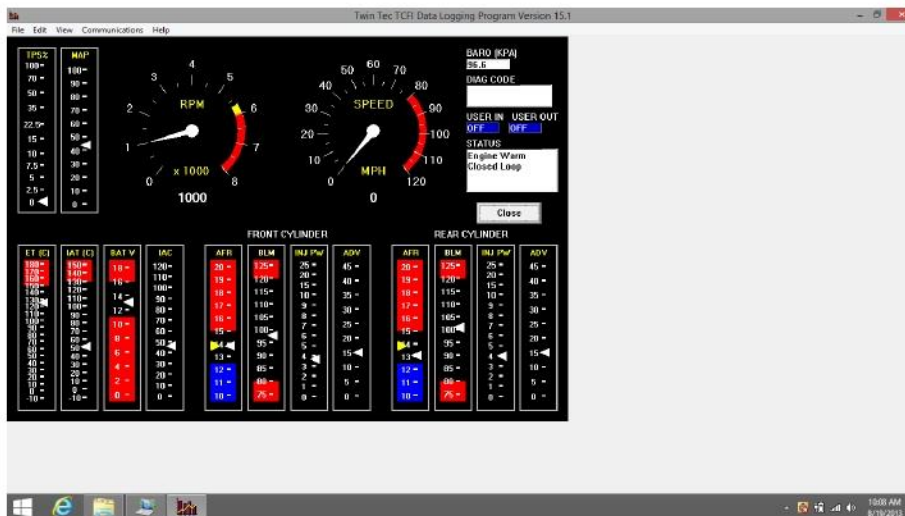
38. Close real time data display, turn off the engine, and wait 10 minutes for hot soak. Restart the engine and reopen real time data display. You should observe an initial flare (increase) in RPM immediately after engine start. RPM and IAC should drop back down to normal idle values within a few seconds. 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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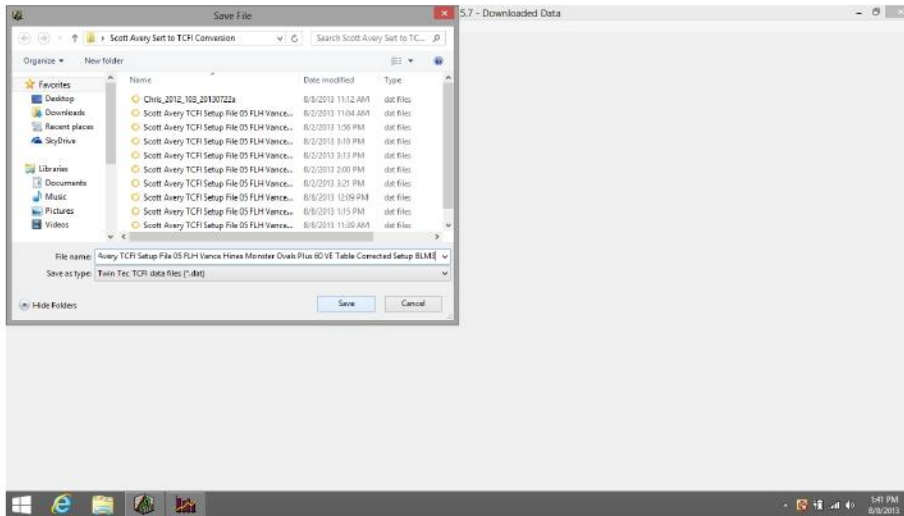
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39. After returning from your test ride, reconnect the USB interface, turn the ignition switch on, off/run switch to run, and open the TCFI PC Link software. **Do not start the engine**. The software should auto-connect to the assigned COM port. Select 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.
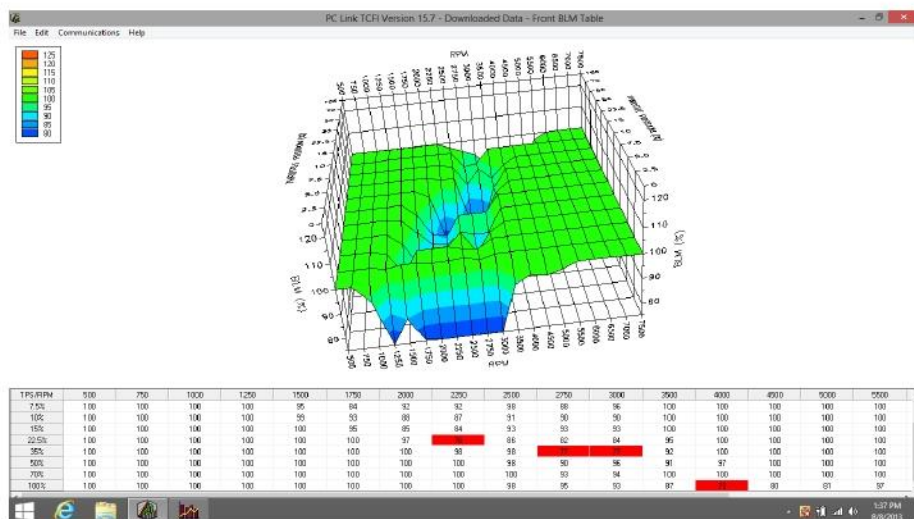
40. Select Edit, Edit 3D Table, BLM Tables, and Edit Front BLM Table. The BLM chart will appear. Changes in the BLM values from 100% confirm that auto-tuning has occurred and that the TCFI is functioning properly. If the BLM values all remain at 100%, refer to the TCFI instructions for details. Call our tech support if you need help.
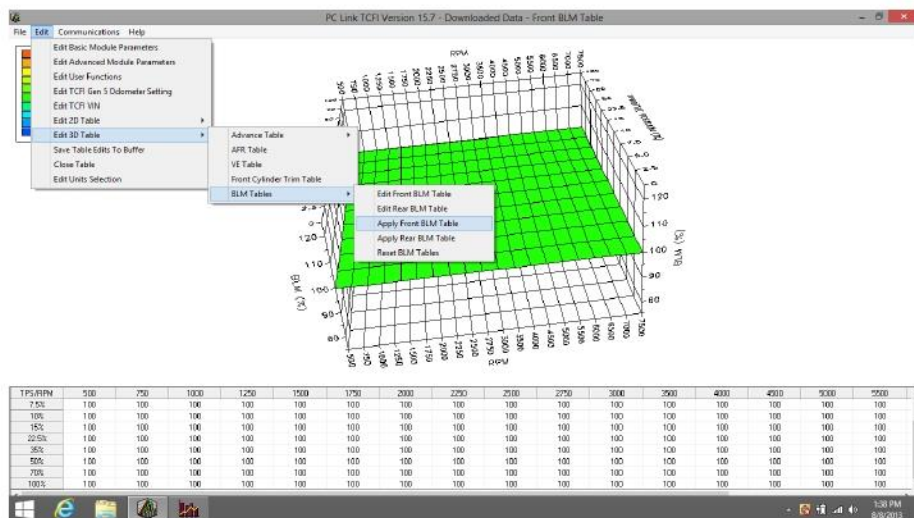
41. Select Edit, Edit 3D Table, BLM Tables, and Apply Front BLM Table. This will automatically correct the Front Cylinder Trim Table, Alpha-N Table (or VE) Table and return the BLM values to 100% to allow further auto-tuning. Select Edit and Save Table Edits to Buffer. Repeat these steps for the Rear Cylinder.

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

43. 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.