



Twin Tec TCFI Gen 4 Fuel Injection System Installation Guide

CAUTION: NOT LEGAL FOR SALE OR USE IN CALIFORNIA OR ON ANY POLLUTION CONTROLLED VEHICLES.

READ BEFORE INSTALLING ANY PRODUCTS

If this is your first encounter with the TCFI, you need to make a realistic assessment of your skill level and commitment. We have encountered issues with customers that simply lacked the requisite PC literacy and resources to be successful with the TCFI. If you have never worked with H-D® EFI systems, the TCFI is not the place to start. Tuning the TCFI requires competency in PC operation, using Microsoft Windows based programs, and basic engine tuning and fuel injection mapping concepts. The TCFI installer is assumed to be familiar with the Delphi® fuel injection system and to have access to basic test equipment and factory service manuals.

If you have experience with the Screamin Eagle® Race Tuner (SERT), you should have no difficulty transitioning to the TCFI. From a software standpoint, the SERT Tuning Mode corresponds to our PC Link and the SERT Data Mode corresponds to our TCFI Log.

Our tech support is limited to TCFI and engine tuning issues. We cannot provide tech support for PC or Windows related issues. Please do not ask us to explain how to use a mouse, open/close files, copy files to disk, organize folders, send email, download from the web, or other basic Windows or PC operations. You will require broadband Internet access to download software and firmware updates and an email account to send us files for tech support purposes. You will also require a program such as PKZIP or WinZIP to archive files prior to attaching to an email.

One often overlooked resource is time. When you are first starting with the TCFI, you should budget some time to read the instructions and practice with the software.

The TCFI cannot be made to work with every possible combination of engine parts. A small percentage of applications have underlying mechanical or parts compatibility issues that cannot be resolved by tuning alone. The most common issues encountered include mechanical or thermal problems with aftermarket or modified throttle bodies, inappropriate exhaust systems, and inadequate starting systems for high compression engines.

WARNING: If you can insert a broomstick through the mufflers, you have the equivalent of open drag pipes and the WEGO sensors will not read accurate AFR values except at wide open throttle. If you plan to use the TCFI system with drag pipes or other open pipes, special steps must be taken during the auto-tuning process as explained on page 11 of the TCFI Gen 4 Installation & Tuning Manual.

Please pay careful attention to the following areas where new customers have frequently made mistakes that required tech support. Complete details are given in the TCFI Gen 4 Installation & Tuning Manual, which you should download from our website:

1. **Software installation.** You must install the latest versions of PC Link TCFI and TCFI Log software supplied on CDROM (or downloaded from our website). You will encounter serious problems if you attempt to use older software versions.
2. **Communications.** New customers often encounter issues installing the USB interface drivers and setting the correct COM port in our software. You must be familiar with installing USB devices and be able to use Windows Device Manager to check the COM port assignment.
3. **Installation.** The WEGO IID must be connected properly to the 36 pin Delphi connector at the ECM. All models require installation of a PC link jumper wire (refer to the TCFI Gen 4 Installation & Tuning Manual).
4. **Initial setup.** You must enter the correct values for injector size, estimated horsepower, and VSS frequency for correct speedometer/odometer readings.
5. **Throttle body setup and idle TPS adjustment.** If you have an aftermarket throttle body, please read the material on page 5 of the TCFI Gen 4 Installation & Tuning Manual.
6. **2006 models only.** H-D® has issued Service Bulletin M-1185. Most 2006 models have narrow 8° spray pattern injectors (P/N 27625-06) that cause poor cold start, idle, and cruise. The replacement injectors (P/N 27709-06A) have a 25° spray pattern. You must verify that the injectors have been replaced. The TCFI will not operate correctly with the original injectors.
7. **2007 and later models only.** An additional step, as explained in the TCFI Gen 4 Installation & Tuning Manual, may be required to establish the correct 6th gear ratio parameter (used by the TCFI to control the 6th gear indicator light).

WARNING: The TCFI Gen 4 system cannot be installed in 2008 and later touring models with electronic throttle control or 2011 and later models with CAN data bus.