Operating Manual

Blue Chip Diesel Fuel Management System (FMS)

WARNING: ALWAYS CONCENTRATE ON YOUR DRIVING! DO NOT ALLOW OPERATING THE FUEL MANAGEMENT SYSTEM TO DISTRACT YOU FROM SAFE DRIVING!

Congratulations on your purchase of the Blue Chip Fuel Management System! We hope you will enjoy years of trouble free, power enhanced, safe EGT driving. Throughout the design of the FMS, it was our goal it would be so simple and intuitive to operate that you would never need this operating manual. But if you're curious, read on.

Front Panel Features:

Fueling LED: Lights to indicate that the Wizard FMS is enhancing fuel delivery to your engine. The brightness of the LED is proportional to the amount of fuel enhancement.

Fluorescent Display: A 16 character by 2 line alphanumeric display communicates vital engine parameters and menus that are easily visible even in bright light or when the driver is wearing polarized sunglasses.

- When the ignition is first turned on, the display reports the progress of the Self Diagnostics as the FMS establishes communications with the fuel injection pump and MAP (turbo boost) sensor. If any errors are detected during the power on tests, they will be reported on the display. During this power-on test, the unit will determine the model year of your truck by measuring the MAP signal voltage.
- In normal use, the display will be continuously updating Exhaust Gas Temperature (EGT) and Turbo Boost pressure. At Blue Chip we believe that maintaining a safe EGT is critical to long engine life with enhanced fueling. The turbo "Boost" pressure is always displayed in the bottom left corner of the display. The right side of the display is used for either analog 'thermometer' style readouts of EGT and Boost, or other parameters such as RPM, Fuel Enhancement, and the amount of fuel being delivered by the VP44.
- The words "LOW FUEL PRESSURE" and or "PYRO HOT DEFUEL" are displayed on the right side of the display as long as the situation exists.
- While the operator is setting customizable parameters, the display shows the simple system of menu choices.

UP/DOWN/GO pushbuttons: The two black buttons move around the menu and the red button activates the displayed choice. This makes for easy adjustment of the FMS' many operating parameters and display formats. While in normal operating mode (display reporting EGT and Boost), pressing the RED button will switch fuel enhancement on and off. This function will be displayed only momentarily.

Menu Options:

Fueling 0- 63%: Fueling can be adjusted in 1% steps from 1 to 63% enhancement.

EGT Cutback OFF 800, 900, 1000, 1100, 1200 and 1300: The FMS offers engine protection with automatic fuel cutback when EGTs exceed the operator specified limit. When the EGT exceeds this limit, the message "PYRO HOT, DEFUEL!" is displayed in the second line of the display. Fuel enhancement will be reduced gradually as the EGT exceeds the preset limit. If the EGT exceeds the user set limit by 100 degrees or more, fuel enhancement is completely disabled until the EGT decreases. NOTE: A wide range of temperatures is provided to accommodate where the thermocouple installed, specifically in front of (before), or behind (after), the turbine housing. Generally speaking if the thermocouple is after the turbo you should set the FMS to defuel at 1000 degrees and if it is before the turbo, set it to 1200.

Top Line Display EGT Bar graph, VP44 Fuel Rate or RPM: Allows user to customize the top right of the display. The bar graph displays an analog representation of the EGTs. VP44 Fuel Rate shows a relative number which is representative of the amount of fuel being commanded from the VP44 Injection pump by the ECM. RPM displays the engine RPM.

2nd Line Display Boost Bar Graph or Fuel Enhancement: Allows the user to customize the bottom right of the display. The bar graph displays an analog representation of the Boost pressure. Fuel Enhancement displays the percentage of fuel being added to the normal fuel delivery.

EGT Resolution 1 degree or 5 degree increments: Allows the user to specify the displayed resolution of the EGTs.

Boost Resolution 1 or .1 PSI increments: Allows the user to specify the displayed resolution of the Boost pressure.

Smoke Control Normal, Less, Minimum or Max Performance: Allows the user to customize fuel delivery curves to effect throttle response and smoke on take-off. The automatic setting is for those who want minimal smoke to be controlled automatically even in high elevations.

Timing Box None, Mild, or Wild: If you have a Timing Box installed with the FMS you can choose how soon the FMS enhances fuel delivery. This can also be considered a course adjustment for smoke control when a timing box is installed.

Race Mode Street Mode or Drag Race Mode: Allows the user to select a mode where fuel enhancement is controlled by boost pressure (Street Mode) or by time (Drag Race Mode). Street Mode is controlled smoke by carefully applying fuel enhancement by boost and allows other menu choices to be made. Drag Race Mode enhances fuel delivery immediately upon throttle movement at the percentage chosen in the fueling menu. This means that enhanced fueling occurs instantly, without waiting for the turbo to spool up. This will result in noticeable smoke, as well as maximum off-the-line power. Drag Race Mode is not recommended for street use!

Exit: This indicates the end of menu choices. The user can scroll up or down from here for other menu choices or press the red button here for immediate display of engine parameters.

Self-Diagnostics Errors:

The following messages will appear during "Self Diagnostics" when the ignition key is

first turned on. If the displayed error doesn't go away when the engine starts, then address the problem displayed. Most likely it will be a connection problem; i.e. wire installed in the wrong spot or a lost connection.

Map Sensor Voltage Too Low: A problem exists with the connection to the MAP sensor. Check the connections. You can leave the ignition key in the 'ON' position while debugging, and if the problem is cleared, this message will disappear.

Pump Connection?: A problem exists with the pump connection, specifically the red wire which connects to the solenoid wire at the injection pump. This message means the connection is open. Correcting the problem will make the message disappear.

Pump Volts OK: Normal voltage from the solenoid has been detected. This is not an error message, unless it persists after the truck starts. If it continues after the truck starts, it could mean that the red wire is installed on the wrong lead to the fuel solenoid.

Pump Trigger OK: Normal triggering from the pump has been detected.

F2 Error - Fueling Disabled: An internal hardware error has been detected in the FMS. Replace the 3 amp fuse in the back panel. Contact Blue Chip Diesel if this message or problem persists.

Blue Chip Diesel
Technical Line: 603-966-6459
info@bluechipdiesel.com