Family Software
3164 Surrey Lane • Aston, PA 19014 • (610) 497-5561
***'Drag Racing Computers and Software'* - www.iFamilySoftware.com**

Digital Exhaust Gas Temperature Kit #8505

This Digital Exhaust Gas Temperature Kit includes everything necessary to accurately monitor engine exhaust gas temperature (EGT) in order to obtain the correct air/fuel ratio for best performance and reliable ET prediction. This unit can be used on gasoline, E85, and methanol burning engines with one temperature probe. The Digital meter has a range of -58° F to 1999° F (-200° C to 1360° C) and is powered by six (6) AAA batteries. It features Fahrenheit and Celsius, scales, and a **Min/Max Temp Record function** to record the highest and lowest temperatures measured on a run. The meter also has an **Auto Off function** to conserve battery life. Included is one (1) fast response, exposed tip, type "K" EGT thermocouple with a six (6) foot long stainless steel braided cable and one (1) small test probe**. The test probe can be used to check meter function and ambient temperature or fluid temperatures.**

Installation

The temperature probe should be attached to the header tube of the leanest burning cylinder for your particular engine. This is normally cylinder #5 or #7 on the small and big block Chevy. With the stock firing order of 1-8-4-3-6-5-7-2, #5 is usaully the leanest cylinder by a few degrees. If unsure, contact your engine builder for recommendations on probe location. The clamp on style probe has a stainless steel clamp, which will accommodate up to a 2 1/2-inch header tube. After deciding on which header tube you are going to install the probe in, measure approximately 2 inches out from where the header flange attaches to the cylinder head. Make sure that the proposed hole location will allow enough room for the clamp to clear any adjoining tubes. Using a .187 (3/16") diameter bit, drill a single hole in the **top** of the header tube at this point. Be careful to only drill deep enough to penetrate into the interior of the tubing. Insert the probe tip into the hole and tighten the clamp around the header tube. The probe tip has a machined bevel, which will seal around the hole and prevent any leakage.

Locate the digital meter within reach of the thermocouple plug end. The meter can be attached using nylon cable ties. Plug the first thermocouple into the T1 socket. T1 is the socket located on the upper left while viewing the unit from the front. The LCD display may be coated by protective vinyl, which is easily removed using your fingernail or left intact to protect the lens.

Operating Instructions

ON/OFF Button - Press the **ON/OFF** button to power the unit on. The meter displays the temperature of the thermocouple in the main part of the LCD. The MIN, MAX, or AVG temperature appears in the lower half of the LCD.

C/F Button - Press the **C/F** button to switch between the F° and C° scales.

MX/MN Button - To record the EGT during a run, press the **MX/MN** button just prior to the run. The unit will begin recording the highest (MAX) temperature for the thermocouple.

HOLD and OFFSET Button - When the **HOLD** button is pressed, the meter holds the present reading and stops all further measurement. (The HOLD and OFFSET functions are not used in this application.)

Auto-Power Off - After about 30 minutes, the unit will automatically shut off if no button on the keypad has been pressed. The **Auto-Power Off** mode, is disabled while in MAX recording mode. Therefore in MAX mode, the unit will stay on until it is manually turned off.

Celsius to Farenheit Conversion - To convert Celsius temperature to Farenheit temperature multiply the Celsius temp by 1.8. Then, add 32.

Farenheit = (Celsius * 1.8) + 32

EGT Temperatures

A normal range for exhaust gas temperature is between 1100° F (rich) and 1400° F (lean). In order to be able to predict ET accurately, an engine must be rich enough to burn the varying amount of oxygen present as the air changes. We have found that for ET prediction purposes, all engines prefer an EGT on the rich side for best performance and accurate ET prediction. Methanol fuel produces a lower EGT temperature than gasoline. There are many variables that can effect EGT temperature, so we cannot recommend a particular temp for your engine. However, our own experience and customer feedback reveals the following:

Normal Range	Preferred	Induction/Fuel
1300 - 1400	1350 F (732 C)	Carbureted/Gasoline
1200 - 1300	1250 F (677 C)	Carbureted/Methanol
1100 - 1200	1150 F (621 C)	Injected/Methanol