COMPUTECH
SYSTEMS, INC.

INSTALLATION AND OPERATING INSTRUCTIONS FOR EXHAUST GAS TEMPERATURE MONITOR KITS PART # 4000 and #4005

INSTALLATION:

These instructions contain the necessary steps for installing both the Weld-In Style and the Clamp-On Style Exhaust Gas Temperature monitoring kits. Information specific to each type of probe will be discussed first, followed by the necessary steps common to both units**. IT IS IMPORTANT TO READ ALL RELATED INSTRUCTIONS PRIOR TO BEGINNING THE INSTALLATION.**

Weld-In Style Sensor:

1. Select the header tube in which you wish to mount the sensor.

2. Measure a spot 1-1/4 inches from the header flange. If more than one probe is to be mounted, it is important that all probes be located the same distance from the header flange. This will allow for comparison from cylinder to cylinder.

3. Once the spot has been located, drill a 5/16 inch (.3125") diameter hole in the header pipe.

4. Center the weld-in weldment on the hole and weld to the header pipe a full 360 degrees.

5. Coat the 1/8" pipe threads on the compression fitting liberally with anti-seize and install the compression fitting into the weldment and tighten.

6. Now, using a marker or pencil, make a mark on the probe that is half the diameter of the header pipe plus one-inch (the length of the weldment and the

compression fitting) from the exposed tip of the probe. Verify this depth by visual inspection into the pipe. Probe should be at least 1/2" into the header pipe.

7. Slip the nut (with the cup side to the exposed tip of the probe) and the ferrule onto the probe.

8. Insert the probe into the compression-fitting base to the point where the ferrule and the line on the probe come together. This will insure that the probe is in the middle of the exhaust stream and will set the ferrule on the probe sheath.

9. Holding the probe in place, tighten the compression nut down tight. **Make certain that the thermocouple is in its proper position prior to tightening the compression nut.**

10. Loosen the nut to the point that the probe will turn, and, if room permits, align the transition spring and the lead wire at a 90-degree angle from the exhaust pipe. This will position the sender tip correctly in the exhaust stream.

11. Tighten the nut back down to secure the probe.

Clamp-On Style Sensor:

1. Select the header tube in which you wish to mount the probe.

2. Measure a spot about 1-1/4 inches from the header flange. If more than one probe is to be mounted, it is important that all probes be located the same distance from the header flange. This will allow for comparison from cylinder to cylinder.

3. Once a spot has been located, drill a 1/4 inch (.250") inch diameter hole in the header tube.

4. Insert probe into hole and snug it to the header using the band clamp.

5. If room permits, align the transition spring and lead wire at a 90-degree angle from the exhaust pipe. This will position the sender tip correctly in the exhaust stream.

6. Tighten the band around the exhaust header pipe.

MONITOR AND LEAD WIRE INSTALLATION:

1. Select a location in the cockpit with a flat surface to mount the EGT (exhaust

gas temperature) monitor. Check with your race sanctioning body rules as to allowed placement. Allow space at the top of the monitor for the cable and connector. Clean the surface that the monitor is to be attached to of any grease, oil, etc. Remove the backing from the 3 self-adhesive Velcro strips on the back of the monitor. Press the monitor firmly into position. Make certain that the Velcro strips are securely attached to the monitor and to the mounting location on the vehicle.

2. Route the thermocouple extension wire to the EGT monitor location in the cockpit. Route the wire away from areas of high heat and from areas where the wire could be vulnerable to damage.

3. ***The thermocouple extension wire may be shortened if required. Cut the wire to the desired length and carefully cut the stainless steel overbraid back approximately 1". Shrink tubing should be used over the cable where it exits the connector to make for a neater installation. Make certain that the overbraid in no way comes in contact with the wire terminals in the connector. Strip the RED wire back approximately 1/4"and connect to the minus (-) terminal in the connector. Repeat the process for the YELLOW wire and connect to the positive (+) terminal. NOTE: Only this wire can be utilized, substitution of a different wire <u>will</u> affect the operation of the monitor.***

<u>REMEMBER - The RED wire must be connected to the Minus (-) terminal and the YELLOW wire must be connected to the Positive (+) terminal.</u>

4. DO NOT HARNESS THE LEAD WIRE TIGHTLY. Make long sweeping bends and loosely guide the lead wire to the instrument. This will allow the wire to absorb the vibration along the wire's length.

OPERATION:

1. Slide the switch located on the upper left side of the unit up into the **ON** position. The display will now show the current temperature in the header tube. With the engine running, the display will continue change and show the current exhaust gas temperature.

2. During a run or a race, the monitor will display the temperature in real time as it is happening and it will record the maximum temperature achieved. The monitor will maintain the maximum temperature reading in its memory. To recall this maximum temperature reading, press the **RECALL** key. The display will alternate between the minimum and maximum temperatures achieved during the run each time you press the **RECALL** key. The minimum temperature is however, of no value in our application.

3. After you have noted the maximum temperature for the run, press the **RESET** key to clear the memory. The unit is now ready for the next run.

4. Each time the power is turned off to the unit the memory is cleared.

5. If the **HELP** message appears on the display, it is an indication of an open circuit in the wiring or the thermocouple. Check to make certain the thermocouple hasn't come unhooked from the monitor or that there are no problems in the wiring between the monitor and the thermocouple.

6. If erratic EGT readings should occur, check all connection of the wiring, check to make sure that the red wire is connected to the minus terminal, and make sure that the wiring is run out of the way of spark plug wires and the ignition system as much as possible.

7. When the 9-volt battery needs to be replaced a **LOBAT** warning will appear in the upper left corner of the display. To replace the battery, disconnect the thermocouple wire at the top of the monitor and remove the monitor from the vehicle. Open the battery compartment located on the lower rear portion of the monitor. Exchange the battery with a fresh 9-volt battery. **Make certain that the connection to the battery is tight, you may need to crimp the battery connectors slightly with a pair of pliers to tighten them.** Replace the battery cover. Reinstall the monitor in the vehicle and reconnect the thermocouple cable.

8. Monitor the exhaust gas temperature and carefully make tuning adjustments as required to obtain the desired exhaust gas temperature. In general terms, methanol temperatures for a full 1/4-mile run range from 1050 degrees to 1200 degrees; gasoline ranges from 1300 degrees to 1450 degrees. Consult with your engine builder to determine what is an appropriate exhaust gas temperature for your engine combination, the fuel you are using and the engine air inlet temperature. **Many things affect the exhaust gas temperature such as: fuel, jetting, engine inlet air temperature, ignition timing, compression ratio, coolant temperature, etc. BE CAREFUL - EXHAUST GAS TEMPERATURES THAT ARE TOO HIGH CAN CAUSE SEVERE ENGINE DAMAGE!!! All tuning changes should be made very carefully and with the advice of your engine builder.**

9. If you have any questions regarding installation or operation, please feel free to contact Computech Systems, Inc. at 301-884-5712, 9:00 a.m. - 5:00 p.m. Eastern time.

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