Aeroforce Fluid and Air Temperature sensor kit instructions

Your kit contains a temperature sensor with mating connector pigtail, and 5v regulator. The fluid sensor has a closed brass temperature element with male 1/8" or 3/8" NPT fitting on the end. It can be used to measure oil, water, or coolant temperature. The air temperature sensor has an open temperature element for quicker response. See connection diagram on opposite side of this page for wiring info. Both air and fluid sensors are connected the same way.

1. The sensor will need to be connected to our 5v regulator as shown. All grounds should be connected at the same point. The regulator needs switched 12v power, which should be fused with a 2 or 3 amp fuse. An easy and clean way of doing this is by using an "Add-a-Circuit" available at most car parts stores. Run the sensor's output wire to the data acquisition device such as the Interceptor scan gauge. For Interceptor users, choose any available analog input. It is recommended to mount the 5v reg. inside the vehicle.

2. To configure the Interceptor to read temperature, you'll need to enter the menu and choose the appropriate analog input that you used in step 1. You will need to have firmware version 3.3 or higher for CAN gauges, or 2.4 or higher for non-CAN. If you don't have either of these go to step 4. Skip the conversion entry page by hitting the right button and scrolling past all the entry fields and go to the description screen.

3. The important step is to select either "Fluid Temp 1/8", "Fluid Temp 3/8", "Boost Temp" or "Air Temp" on the description screen. Once you choose either of these, the correct 6th order conversion will be automatically entered so that temperature (in deg F) will be displayed when this input is selected in scan mode. The accuracy will be as shown below in fig. 1using the 6th order fit.

4. For non 3.3 or 2.4 users, enter a slope of 55.51 and intercept of 0.2051 in the conversion screens. On the description page choose whichever you feel applies best.
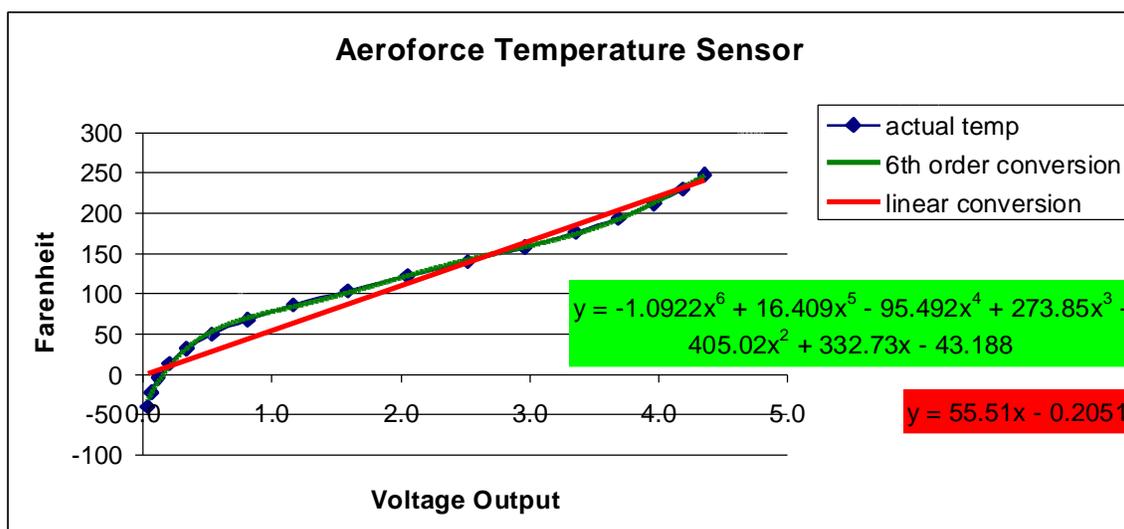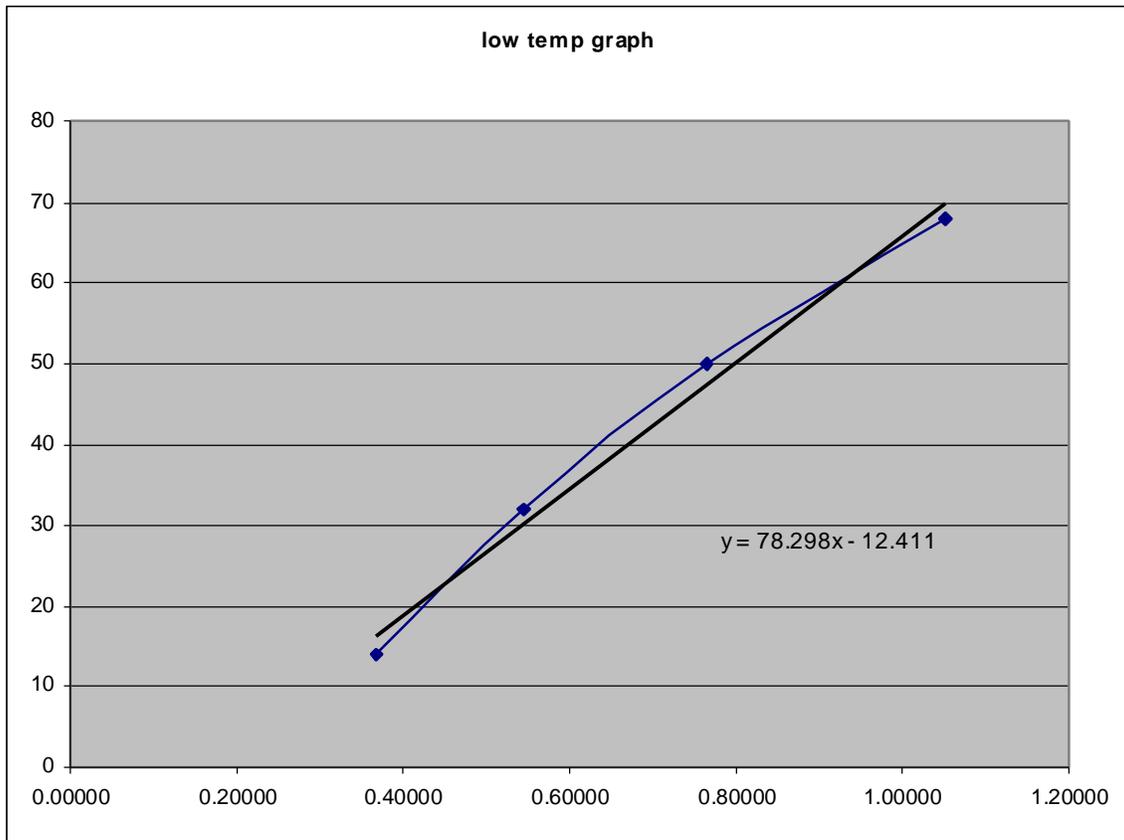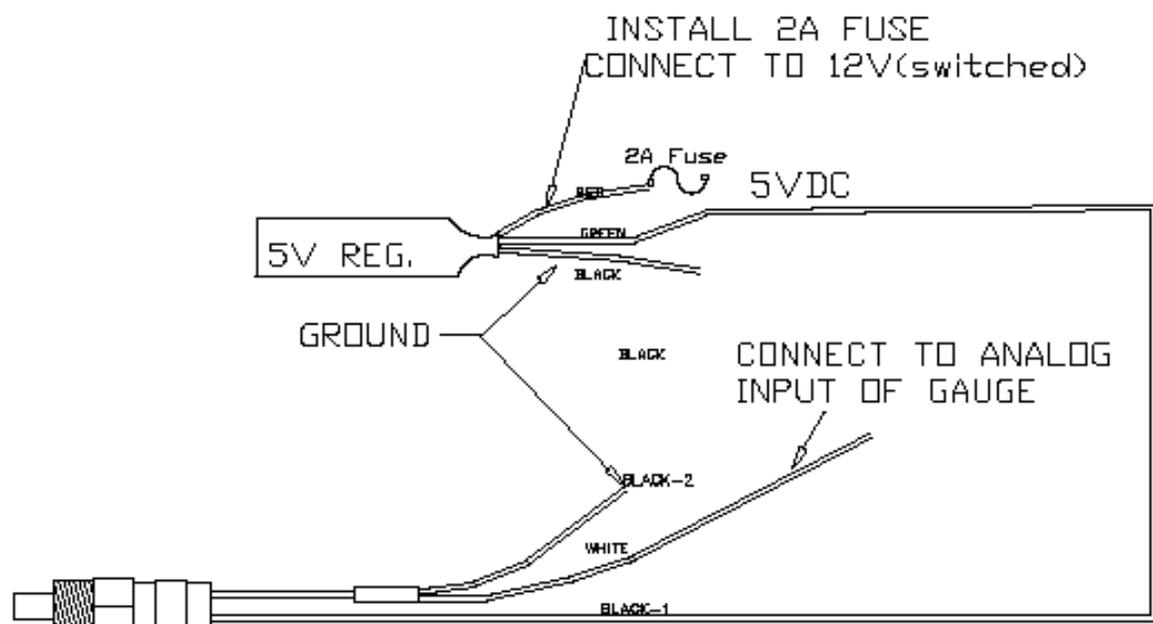
Aeroforce Temperature Sensor

$$y = -1.0922x^6 + 16.409x^5 - 95.492x^4 + 273.85x^3 - 405.02x^2 + 332.73x - 43.188$$

$$y = 55.51x - 0.2051$$

Fig. 1

5. For low temperature applications (15 to 75 deg. F) use the following conversion for better accuracy.

low temp graph

$$y = 78.298x - 12.411$$

Slope = 78.3, intercept = 12.4. You cannot choose "Fluid Temp" as the description though, it will default to the 6th order conversion shown above if you do. You'll need to choose anything other than Fluid or Air temp for the description.

INSTALL 2A FUSE
CONNECT TO 12V(switched)

2A Fuse

RED

5VDC

GREEN

5V REG.

BLACK

GROUND

BLACK

CONNECT TO ANALOG
INPUT OF GAUGE

BLACK-2

WHITE

BLACK-1

AEROFORCE
TEMPERATURE
SENSOR

WIRE	CONNECTION
BLACK-1	5VDC
BLACK-2	GROUND
WHITE	ANALOG INPUT