

**Model 37DL PLUS Temperature Compensation Mode** by Jonathan Bancroft

To accurately measure material thickness at elevated temperatures has always been difficult. A calibration carried out at room temp is not ideally suitable for measuring on material of a higher temp. Unless the gauge has “Temperature Compensation” or an extensive multiple cal is preformed.

Oceanscan’s 37DLPlus gauges have this built in and are supplied with a high temp probe. The ideal way to accurately perform thickness gauging across a wide range of temperatures.

Temperature compensation allows the 37DL Plus to compensated for the change in sound velocity due to temperature. The sound velocity in Steel changes approximately 1% per 100<sup>0</sup>F (55<sup>0</sup>C) change in temperature as recommended by ASME Standard E 797-95.

**Temperature Compensation Setup**



1) Press “2<sup>nd</sup> F” then “setup”

Use the [↓],[↑] to highlight “Temp Compensation” then press “enter”

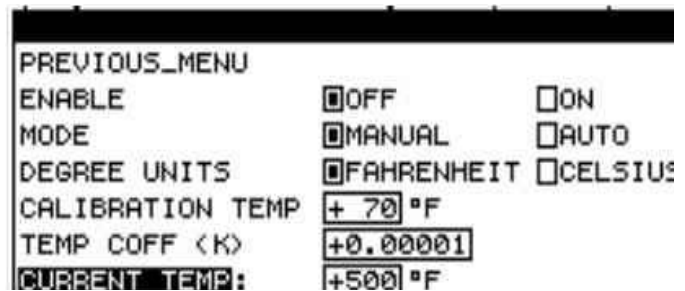
2) To turn on temp Comp, switch to “ON”

3) Leave in “Manual” mode

4) Select units

5) Enter temp of Cal standard

6) Enter Temperature Coefficient



-0.00001 for Fahrenheit (Represents 1% per 100<sup>0</sup> F)

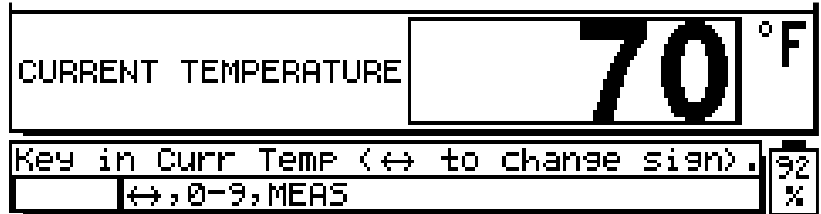
-0.00018 for Celsius (Represents 1% per 55<sup>0</sup> C)

7) Enter material temp to be measured

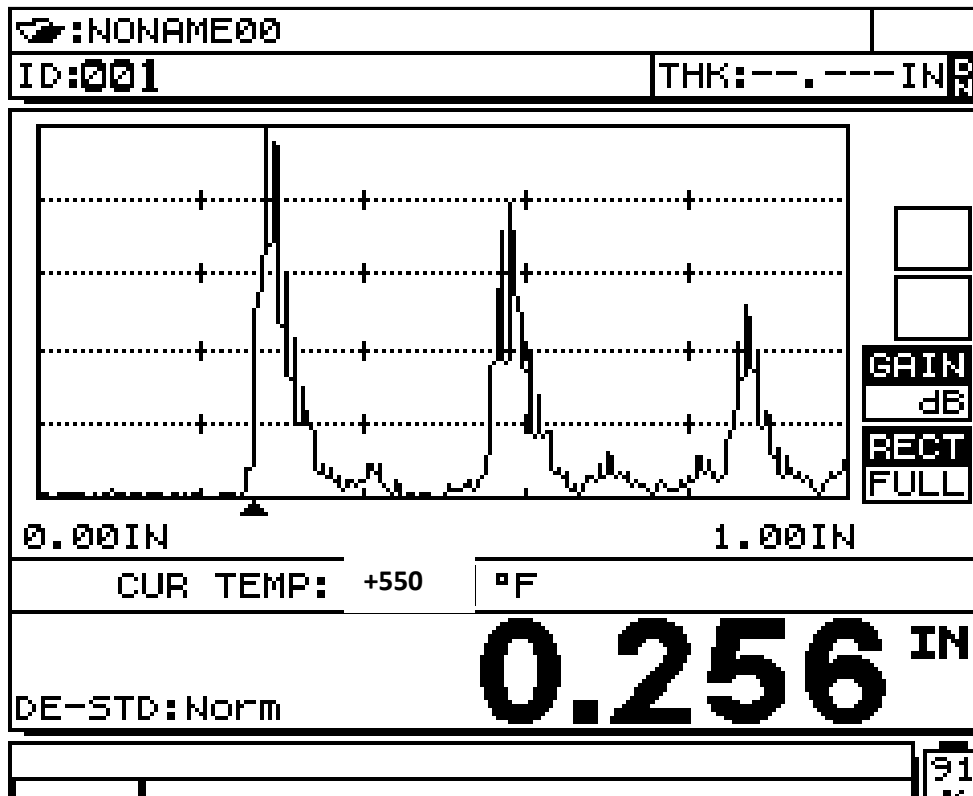
8) Press measure reset to exit setup mode.

**Once Temperature Compensation is activated and in your back in the standard Measure mode**

9) To change the current temp of the material to be measured, press "2<sup>nd</sup> F" then the "#7" (TEMP) key and inputted.



10) The below example showing Tem set to 550 Degrees Fahrenheit with a temp compensated thickness value of 0 . 256 in.



\* Gauge images courtesy of Panametrics