Calorimeter Protocol

1) Turn on Bomb
2) Press F1
3) Turn on H₂O
4) Open O₂ all the way
5) Set at 450 PSI
6) Put bomb in bomb holder (keep 2 bombs separate; one is marked with blue tape, the other yellow)
7) Cut platinum wire at bend (10cm length)
8) Wrap wire through electrodes
9) Make loops (5) in electrode using allen wrench
10) Move dish loops on sample (weights of pellets need to be determined in advance) not on metal
11) Put on lid and screw tight
12) Close air tube and open it on a quarter turn
13) Add O₂ tube; hit O₂. Fill for 30 seconds. Close the tube after 28 seconds. It should purge after 30 seconds.
14) For the first bomb of the day: fill bomb jacket with water drain 10 seconds, shake 3 times.
15) Add EXACTLY 450 mls of diH₂O using volumetric glassware to bomb jacket
16) Put jacket into bomb
17) Bomb must sit on ring stand: STOP HERE IF THERE ARE BUBBLES COMING FROM THE BOMB! DO NOT CONTINUE UNTIL YOU STOP THE BUBBLING
18) Attach electrodes
19) Shut carefully and slowly
20) Start
21) Enter cal ID (4) keypad.
22) Enter Sample number -- Enter--
23) Enter weight. Bomb starts itself
24) When the number comes up hit Done. Stores value in memory.
25) Open machine and remove bomb; let out air.
26) Measure the length of the leftover wire. Measure the blank burnt space.
27) Hit RPT on the keypad.
28) Enter sample number
29) Enter burnt wire number
30) Hit step until standby.

**Shutting off:** Always follow this check list! Once someone forgot to turn off the water and flooded an entire lab and the lab below it.

1) F1 --Stops pump
2) Shut off H₂O
3) Turn off Gas all the way
4) Purge O₂
5) Hit Reset on the keypad
6) Turn off machine at toggle switch in the back behind.

**Troubleshooting**

Combusting material under pressure causes rapid wear on the bomb. If you run 20 samples chances are something will begin to fail in the bomb and will need to be replaced. There are spare parts for many of the components in the drawer under the bomb. The manuals are also located in that drawer. Most of the time it is just a gasket that needs replacing. Come see me if you need help.