

Many folks want to see how Exquisite Heat works. Here is a little experiment you can try for yourself. Most are going from the known to the unknown. In addition Exquisite Heat inverts the philosophy of heating from a fixed supply of BTU's for a variable thermostat demand, to a fixed thermostat demand of a variable source supply adjustment. This change is significantly more comfortable, as well as significantly more economical.

Warning: This is not for folks who are not familiar with boilers. This can be performed by professionals and an experienced "do it your selfer" with a friend that knows boilers as well.. Don't try to do this if you are not mechanically inclined or do not have a clear understanding as to how your equipment works. Leave it to a pro. Remember we are dealing with the fire in your basement. On circulating hot water boilers there are one or two and sometimes three aquastat (water temperature limit adjustments). Aquastat are temperature adjustment devices that set the high, low, safety limits, for your boiler and in some cases low limits for circulation to protect domestic hot water supply.

One type is a high limit safety shut off. This device is usually set at 230 degrees and has a **red button** which serves as a reset button. Do not adjust this aquastat. (water temperature device) . If the high temp is reached it will shut down the boiler and will only restart if you push the red button.

Another aquastat is a low limit device. This determines the low temperature for the circulator to be turned on to

provide heat when called by the thermostat. This is set to avoid circulation of too low temperature water. Circulation of low temperature water may not provide for the hot water demand that is being served by the boiler. (tank less coil, hot water take off). Circulating too low a water temperature may cause exhaust gases to condense and promote premature corrosion of the boiler as well as acidic damage from condensate to the linings, metal or mortar to the chimney.

There is another most prominent aquastat that actually provides for the high limit temperature adjustment on your boiler. This can be adjusted manually between 140 and 190 degrees.. Beside or on the front of the dial there is a temperature differential dial. This dial provides for a differential from the low limit setting which allows the boiler to go on at the high limit minus the differential temperature, and off at the high limit temperature. This provides for the amount of heat is generated by the burner "on" period, between the high temp minus differential and the high limit. Sound confusing. Well this is why the country is wasting so much energy. These things are not very user friendly. The differential should be set between 10 and 15 degrees. I like 12 degrees. Why? It works for me on most boilers.

Now that you and your friend have found the right aquastat control, and you still have doubts go to the manufacturer of the aqua stat on the internet, searching for the company model # aquastat. There will be drawings you can download and print with the instructions at the end of this page.

Now you have confirmed that you have the right control and you and your friend have satisfied yourselves that you understand the written instructions you printed from the internet on this specific control model, ask you self this question. "Should we let a professional advise us as to what to do, so we do not do something wrong??" Safety is really important here. It is what we do when we don't know that gets us into trouble. If you bring a pro to advise you, it will cost very little in comparison to what you will save when you know how to do this. Besides the pro may just notice something you have not noticed that will increase efficiency, economy and safety. Once he walks you through the process of these instructions, you will be able to do this easily yourself forever in the future. It's just a bit like learning to drive. It takes someone with experience to get you started. Do you thank that person every time you get into your car? Well you should. And you will thank the pro who helps you with finding comfort and efficiency and showing how you can reduce your contribution to Global Warming.

OK you have reviewed and considered the above.

1. You will be adjusting the proper High limit aquastat according to the weather. Not as precisely as Exquisite Heat would every hour of the day. But you will be headed in the right direction. Get a clip board and pencil. Put columns for date, time, AM/PM, outside temp F, aqua stat setting. initials (that's for the temperature adjuster at each time)

2. **Turn OFF the boiler power switch.** It is a red light switch which turns off the Boiler. Sometimes they are at the top of the stairway to the basement. There may be another near or on the front of the boiler so the service man can turn it off when working on the boiler. If you do not have one on the top of the stairs, you should have one installed for safety shut off in case of flood or fire in the basement.

3. Get a screwdriver and remove the cover of the Aquastat. Remember you have researched the instructions for this particular control from the manufacturer and you match the pictures in the instructions and model # with your control on the boiler. You should get good lighting or a bright flashlight for this. We must be on the same page here. I also hope you are not alone. Your buddy should be reading these instructions which you printed, and the manufacturer's instructions as well as holding the light. Now you will find screws holding the cover onto the aqua stat to keep you from getting a shock. With the boiler in the off position this cannot happen. Once the cover is removed, familiarize your control with the instructions from the manufacturer. How we doing? You should be getting more comfortable with this. If not just stop and get someone in who can do it for you.

4. Write down the first entry in you data sheet on your clipboard. I hope you have a pad of paper on the clip board. So it should read today's date with year, time Am or PM, outside temp (if you don't have a thermometer turn on

the radio to the news and you can get local temps there.) Next if the dial on the aquastat is a round dial with temperatures on it the top one next to the arrow on top or the arrow on the side is the high limit setting. If there are two dials there will be one marked high limit and one low limit. Consult you instructions from the manufacturer.

5. If there are two dials next to one another this is probable a White Rogers aquastat. It will clearly indicate that the low limit should be set 20 degrees less than the high limit. This is very important to avoid the boiler from going on and off to frequently and to often. Short cycling as it is called is harmful to the burner and will create an unsafe condition. It will give little heat and gum up the oil burner with the fits of starting and stopping. You wouldn't do it with your car. Don't do it with your boiler. With the Honeywell small type aquastat there is a large dial on the front indicating the high limit with the arrow at the top. Line up the arrow and temp and that is the high limit. The differential dial is a smaller white dial on the right side of the big dial, or if it is sideways on the bottom side of the aquastat. Get an old rug to kneel down on for comfort. The differential should be set to 10-15 degrees. I like 12 degree setting.

6. It is all very simple after this. Let's say you found the dial set at 180 degrees. In order to get maximum comfort and efficiency, we want to lower this dial down gradually over time (once a day) by five degrees per day until we start to get a bit chilly. You can tell by looking at your thermostat. If the thermostat is set at 65 degrees and the

temperature thermometer on the thermostat is not reaching the set point on the thermostat then you need to set the aquastat **up** five degrees. Now the best time to set the aquastat is after dinner. You will know if the setting is satisfying the thermostat. As the seasons change you will be raising the aquastat temp setting in fall as it gets chilly, and you will be lowering the aquastat temp in the spring as it gets warmer out. Don't get tempted to make large adjustments. You can adjust it as much as 10 degrees if you have a cold snap. Be sure to write down all the changes with all the data on the clip board. When you have the data for the season you will be able to make a table as to what the aquastat settings should be for your house at different times of the year with different weather. Remember you do not want to set the dials below 140 or above 200 degrees.

7. You can now slip the cover of the aquastat on, and turn the boiler switch back on. The boiler does not have to start. It probably will not as you have lowered the operating temperature range. Place the clip Board and pencil in a safe place ready for tomorrows' data.

8. If you have any questions, consult you boiler man. Feel free to email us with your comments and questions. By the way Exquisite Heat is a control for your boiler that does all this for you automatically every hour of the day. E-mail Exqheat@prodigy.net

9. Copy these instruction to your word processor and have these instructions and the manufacturers instructions with you at all times when adjusting the aquastat. Put the

instructions on the clip board under your data pad. Now watch yourself save money and notice the even comfort in your home from now on. Don't forget to thank us when you notice the difference in comfort and fuel bills. One more question. "Why didn't anyone tell us this before? I haven't a clue.

Let's hear from you. We like the news from our readers. When you have good results, send the instructions to all your friends that have heating systems. This one can help you save air pollution and fuel for the family and the country.