A BRIEF COMPARISON OF TODAY'S CONVENTIONAL HOT AIR FURNACE WITH AND WITHOUT THE "OGD *ADVANTAGE*"

How a Conventional Hot Air Furnace works (without the OGD *Advantage*)

A while after the thermostat turns your burner on the air temperature in the furnace duct system rises and eventually a temperature switch in the furnace hot air plenum gets very hot and then turns the blower fan motor on. . .to full speed. The fan motor, which had been at dead stop, gets an abrupt inrush of full power trying to instantly go to full speed. Without OGD's *Advantage*, the fan motor harshly and noisily "kicks on".

When the thermostat warms and turns the burner off, the furnace heat begins to drop but the fan motor continues to blow the less warm air at full speed (often creating drafts). Eventually the furnace temperature falls enough so the plenum temperature switch abruptly turns the fan completely off.

However, the furnace temperature is still quite hot and with the fan at dead stop there is no air flow so the furnace air duct temperatures will rise. Even in the burner off condition the residual heat will usually cause the plenum temperature to rise enough to restart the blower fan to full speed, for a brief time, again creating "hot spots", "cool drafts", and excess noise.

This "conventional furnace" cycle is finally complete when the furnace's plenum temperature no longer rises high enough to turn the blower fan back on. Yet even at this point there is still some residual heat in your furnace that is now static and must rely upon simple convection for distribution in your home. This static air can cause hot or chilly spots as well as poorer indoor air quality.

So the blower fan and the house air are both static until the burner comes on and the air in the plenum gets hot enough to finally switch the blower on. The conventional cycle now repeats, as again the blower fan is turned on at full speed rushing the very hot plenum air into the house abruptly and noisily pushing the other much cooler static air inside the house once again creating both hot spots, cool drafts **. . .**

As the day wears on, the fan turns on, turns off, on and off...from full speed to dead stop; causing the continual warm/cool air surges, local hot/chilly spots, poorer air quality, excess noise, wasting large amounts of electricity, repeatedly stressing the system mechanics and much more **. . . .**

This . . . . is:

"The Conventional Hot Air Furnace Cycle" without the OGD *Advantage*

A BRIEF COMPARISON OF TODAY'S CONVENTIONAL HOT AIR FURNACE WITH AND WITHOUT THE "OGD *ADVANTAGE*"

How ANY Conventional Hot Air Furnace can work WITH the OGD *Advantage*

As soon as the thermostat turns the burner on and the furnace begins warming the air in the ducts, the OGD *Advantage* immediately directs the blower fan motor to gradually increase its speed to match the increase in heat. If the air temperature in the furnace plenum rises from warm, to hot, to very hot the fan motor goes smoothly from slow, to fast, to full speed. With OGD there is a quiet, gentle "soft start".

When the thermostat warms and turns the burner off and the furnace heat output begins to drop, the fan is directed to gradually blow less air to track the lowering furnace temperatures. The fan will continue to blow, gradually circulating the proper amount of air as long as there is any furnace heat or temperature imbalance in the heating system.

This balanced, continuous distribution of heat in your home minimizes the "conventional" cold drafts/hot spot build up and unconventionally improves comfort, air quality, noise levels and saves electricity!

The OGD cycle is complete only when the thermostat's temperature setting matches the system's air duct temperature creating a true home and heating system balance as the fan gently "idles" while quietly waiting for a change or imbalance in temperature.

In fact, with OGD, the fan never actually stops (unless you turn the heating system off or your home's temperature gets too cool)! Instead it goes into an energy saving, what we at OGD call, "idle mode" of very low, very quiet, but refreshing working air flow.

The next time the burner turns on and begins to heat up, the fan motor will immediately increase its speed -faithfully, quietly, and efficiently keeping the heat output of your "conventional" furnace and the air flow in your home always balanced.

This is the Continuous, Quiet, Energy Saving Cycle for ANY Conventional

Hot Air Furnace: WITH THE OGD *ADVANTAGE*!

The OGD *Advantage* is a reliable, low cost, easily installed feature that will improve your home heating system's efficiency, air quality, noise etc. but also and most importantly . . .

OGD will improve.....Your comfort, costs and winters!