Heating System(s)

We are not inspecting the heating system to make sure it is Code Compliant. That is the job of the local Code Enforcement Officers. We will test natural gas and propane furnaces for carbon monoxide and combustible gas leaks.

High-efficiency forced air natural gas and propane furnaces have a primary and secondary heat exchanger that are very restrictive in regards to accessing them for inspection. Most models require a licensed HVAC Contractor to open up the plenum, tilt up the A-coil, and inspect the primary heat exchanger using a mirror & flashlight. If that's not a viable option, then the other method entails disconnecting the gas lines and electric lines, prying apart the sealant, and sliding the heat exchanger out the front. When the inspection is all complete, they would then have to put it all back together if no cracks are found. This is way beyond the scope of our home inspection! We will not open up a high-efficiency furnace for these reasons to inspect the heat exchangers.

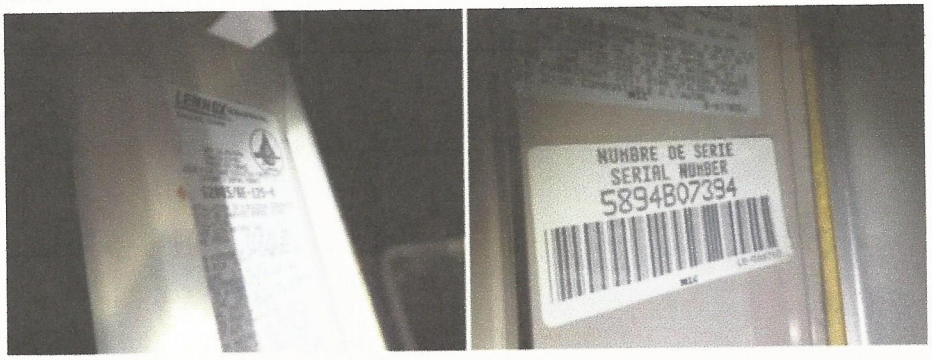
For 80% efficiency or less natural gas or propane furnaces, we can attempt to access the heat exchanger for inspection using techniques from Ellis Prach's Heat Exchanger Experts course. This type of inspection is beyond the ASHI Standards of Practice. It is also up to the discretion of the Inspector if that type of inspection is necessary. Sometimes, we'll remove the blower and gain access on newer furnaces that are only a few years old. Sometimes, we'll gain access and inspect only if they are much older. It's up to the call of the Inspector and what they are seeing on that specific inspection.

If the gas line is off to a furnace, we will not turn it on. If the gas is off at the meter and you would like us to return once the gas has been turned on, then we can return for an additional fee.

HEATING SYSTEM

Heating System Type: Lennox Whisper Heat, Natural gas 70% efficiency furnace.

Year Manufactured: 1994.



Furnace Condition: The furnace operated fine. I performed a hydro test on the the Duracurve heat exchanger and did not find a crack. However, the draft diverter box is rusting out and

has holes developed through the sides. This is a potential for flue gases incuding carbon monoxide to leak out into the basement.

THIS IS NOT SAFE!!! DO NOT USE!!!

I'm not sure if the draft diverter box can be replaced or if the entire furnace needs to be replaced. I'll defer this over to the call of the licensed HVAC Contractor.

There are only 3 supply registers for the entire basement and no cold air returns. This is inadequate. The cold air return helps control humidity levels and makes the air flow more efficient.

Inadequate combustion air. When a furnace and/or water heater rely on oxygen in the surrounding air to have an efficient burn, it's extremely important to make sure the area it is drawing combustion air from is large enough. If there isn't enough oxygen for a gas appliance, it causes the burner flame to burn inefficiently which then can cause the unit to produce high levels of carbon monoxide.

For a 100,000 Btu's/hr appliance(s), the required vent size is 1 square inch per 1,000 Btu's. If you have a metal vent, you multiply the area by 75%. For wood vents, they restrict the air flow much greater and you multiple the area by 25%.

To correct the inadequate combustion air, you need to install either properly sized wall vents...1 up high & 1 down low off the utility room or install a louvered door. If the basement area has doors that close for a finished space, those areas can't be included in the required space unless there are wall vents connecting the space. If there is a solid door at the top of the basement stairs, this door usually needs to be replaced with a louvered door.