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Alaska REAL ESTATE
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HEATING SYSTEMS IN YOUR HOME

Having recently experienced several inspection dilemmas with regard to Contractor attitudes and Realtor responses during real estate transactions, I though you would appreciate important information about how your heating systems come into play when you sell your home.

This article will take the Seller's point of view, for simplicity. Buyers can also learn the nuances of the process also.

First, you have a Water Heater (or Hotwater Service), often mischaracterized as a "Hot Water Heater" - but "Hot Water" does not need to be heated, does it?

Second, your home is likely warmed with a Gas-Fired Boiler or Gas-Fired Furnace (We will not be covering In-floor Radiant Heat today).

Third, your Garage likely has a Gas-Fired Unit Heater. Let's talk about these individually and also de-bunk Carbon Monoxide misinformation.

Water Heater:

The life of a gas fired water heater is 10-15 years. What kills them is corrosion from the inside.

When you sell your home, expect the home inspector (or separate heating inspector – at buyer's expense) to look for leaks in piping and junctions, code compliance of the venting, drip pan or metal tray beneath, proper situation of the pressure relief pipe. I mention these things because older homes, before 2000, often do not meet current safety codes.

We don't typically have a lot of arguments over what repairs are needed on these units, but rather buyer anxiety over the age of the water heater. This anxiety can be exacerbated or moderated by the attitude and reporting technique of the inspector. Home Inspectors and Heating Contractors all have their own motivations and values and this is why I take a serious position when counseling sellers as to whom they give their consent, in accordance with the contract, in allowing these third party inspectors to critique the home.

Buyers need to understand that an old home, priced as such, will likely have old components and, provided they are operational, should not become negotiation subjects once the price of the home as whole is agreed. (The same applies to the roof, provided it is not 'defective'). An old home is NOT new, and Buyers can't expect NEW components in an old home.

Boilers:

The hot water baseboard system was, historically, the 'norm' in the1970's and earlier but, since the 'forced air' furnace system was cheaper to install, it became the favored builder heating system. Boiler systems can last a long, longtime, 30 to 40 years, but a furnace struggles after 12 years to reach its15th birthday, and perhaps a 20th. I have never been invited to a 21stbirthday party for a furnace! The point is that a boiler system is a tank of hot water plus plumbing, and any Home Inspector can quickly report on corrosion or leaks. Certain safety devices, not required by earlier codes, may now be required following inspection.

Gas Forced Air:

Now life gets interesting when we come to inspections. The first thing you should know is that a Home Inspector is not qualified to give a final and definitive report on the furnace. He may comment on certain aspect but only a legally licensed and bonded contractor can report fully on the furnace. ENSTAR service personnel canal so red tag faulty gas appliances. The gas service provider is the final authority regarding CO emissions from gas appliances.

It has become common for Home Inspectors to recommend a further Heating Contractor's inspection in their Home Inspection Report and, often, Sellers comply with that request at their expense. This is wrong. The "Right of Inspection", per the contract, is the buyer's

right at the buyer's expense and should be an ancillary inspection by a licensed heating contractor during the due diligence period..

The only time I would recommend otherwise is if the Seller is willing to incur this expense pre-sale before the property goes on the market, as this becomes a marketing tool, plus Seller gets to choose who does the inspection, and in what manner.

The essential problem with inspecting a furnace is that, while most components are visible and CO readings and other observations of the furnace are easy to do, the heart of the furnace is the Heat Exchanger - very difficult to view 100% without taking the system apart (2 to 4 hours).

The Heat Exchanger, like the human heart, expands and contracts on a regular basis and, over time, may crack. A crack in the heat exchanger will only grow over time and, in my view, is a legitimate cause for complaint by the Buyer, notwithstanding the CO myths we shall discuss later.

It is, these days, rare to find a replacement Heat Exchanger, so Sellers are legitimately obligated to replace the furnace ($3,000 to $4,000).The added complication arises because, if a heating contractor does the "Dismantle" job to fully inspect the heat exchanger, it is quite possible to create the crack during the exercise, particularly if the heat exchanger is "tubular" in nature as opposed to the "clam shell" single unit.

Both Buyers and Sellers need to know these things. It will impact how you work through the transaction. I perform serious directive counseling to clients on this topic because it is a big dollar item.

Garage Unit Heater:
Being a smaller, exposed unit, normally hanging from the garage ceiling, these are much easier to inspect but, again, only a Licensed Heating Contractor is qualified to give the comprehensive report. If, however, cracks are clearly visible to a Home Inspector, a replacement unit is inevitable ($1,500 to$2,000).

Carbon Monoxide:
CO (not to be confused with CO2 - Carbon Di Oxide) is definitely dangerous and, after causing a whole family to die a few years back in Bear Valley, the City stepped in to mandate CO detectors on each level of a home, particularly outside sleeping areas (Email me to request the actual Code).

CO is created when there is insufficient Oxygen for Combustion.

If there is sufficient oxygen for combustion, CO will NOT be produced and, therefore, will not exist to come out of cracks in the heat exchanger. ENSTAR sets the maximum ppm of CO at 100 ppm inside the flue pipe.

Indeed, this is why, in 1992, Federal Regulations required new techniques for the construction and installation of Furnaces.

In 1992, to raise the energy efficiency to 80% minimum, the standard pilot lights became obsolete. A motorized draft inducer was used in conjunction with igniter systems to draw the products of combustion through the heat exchanger and push them into the flue pipe and outside the house.

Directly vented Furnaces today do not even obtain oxygen from inside the house, so the likelihood of a CO danger is minimal, even if the heat exchanger is cracked.

Think about it - you burn your Gas Range quite safely - Why? Because there is ample combustion air in the home.

Some of the hype about cracks and CO definitely favors the heating contractors.

You could drill a hole in your Garage Unit Heater's heat exchanger and still not produce CO - Why? Because there is ample oxygen in the garage at its disposal. Modern garage heaters also have a motorized draft inducer system and, if the flue pipe creates proper draft up the chimney, all products of combustion exit the house.

Go to:
www.carbonmonoxidemyths.comfor some interesting facts.In my humble opinion, CO readings at the heat registers in the home, or anywhere in the home, are the only definitive alarm bell here. If you have any readings at all in the home, they should be immediately investigated and corrected.

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