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October, 2011

Maintenance Reminder Newsletter

Topics this month are:

Changing your HVAC filters.
Testing your T-P valve.
Nail holes in roof.

If you're getting tired of this reminder every 3 months, just remember that this is what the newsletter is for. To remind you of the repetitive maintenance chores around your house. There are a couple of new items this month though.

Taking care of your filter is the best time and money you can spend on your house.

Testing the T-P Valve is only a 10 second job for most of you that have your water heater adjacent to the furnace. It's an important safety function.

Roof nails poking through the roof are common enough, and most don't cause a problem and therefore don't get fixed. Usually they get fixed after a problem (leak). Why not fix them before the leak?

Steve

Please feel free to pass on your comments regarding your inspection and this newsletter. Your feedback will help me to improve my services to you and my future clients.

Taking care of your house makes sense,
"Because it's where you live"

October, 2011

If you're going to follow my recommendation on the pleated media filter for your HVAC system, now is the time to change your filter. If you haven't moved into your house yet, you should change your filter as soon as you move in and call it the Oct. 1 filter. It's important to keep with the scheduled dates, both for ease of remembering when to replace the filter and to get approximately the same benefit from each filter.

We recommend pleated filters. Pleated filters should be changed every 3 months to maintain efficiency in the HVAC unit.

I recommend changing them on Jan.1, April 1, July 1, and Oct. 1. Each filter will then serve half of a cooling or heating season. I write the dates on the filters to help me keep track of where I am on this very important item.

I now use the True Blue filter, available at Home Depot, but any of the less expensive pleated filters are good.

I recommend the pleated filter over the fiberglass filter for several reasons.

- They are a better filter.
- For the size that fits into your furnace, they offer much more filtering surface area.
- They will last up to 3 months, so you only have to change them 4 times a year.
- If you only have to change them 4 times a year, you are more likely to do so.
- The cheaper fiberglass filters need to be changed every month.
- The purpose of the filter is to keep the furnace and air conditioner clean.
- Taking care of your filter is the best money you can spend on your house.

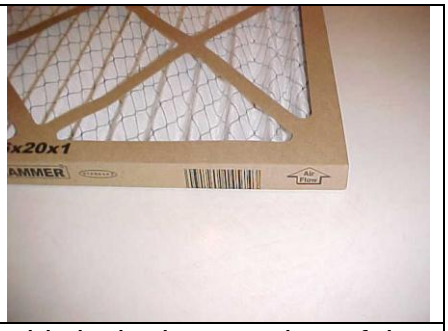
Inexpensive (about $5.00 each) pleated filters do an adequate job. Using the more expensive pleated filters ($12.00 to $20.00 each) will do an even better job, and will improve the quality of the air coming out of your registers, **but will put additional load on the furnace and Air conditioner. Therefore, I recommend the cheaper pleated filters.**

"**Regardless of how much you spend on the filters, changing them regularly as recommended will represent the best money you can spend on your house.**"

The primary purpose of the filter is to keep the furnace and air conditioner clean. Dirt bypassing the filter can accumulate on the blower, causing it to become unbalanced and wear out bearings on the blower. Dirt accumulating on the heat exchanger can cause irregular heating and cooling of the metal, causing cracks in the heat exchanger. The biggest problem with poor filtration is that the dirt can accumulate on the bottom of the evaporator coils in the air conditioner, and restrict air flow through the coils. You might remember from the inspection report that we want the cooling differential across the coils to be between 15° and 21°. If the temperature difference is more than 21°, it's usually because of restricted air flow. The air passes through the coils slower because they are dirty, therefore the air is within the coils longer, and the air gets colder.

Although the air can get very cold (I've measured air temperature differentials as much as 40° and temperatures as low as 33°), there is no volume of this cold air to cool your house. What happens, then, is that the A/C runs all the time wearing the equipment out, runs up a high electric bill, and still doesn't cool the house.

The major cause of A/C failure is poor filter maintenance.

		
I buy at least 4 filters at a time and write the dates on the top of each filter as a reminder of when to change them.	This is a top view of the pleated filter. The air goes into this side.	This is the bottom view of the filter. Note the arrow indicating the direction of the air flow. Also note the cardboard and metal mesh on the back. This is reinforcing to strengthen the filter as it is sucked down by the blower.
		
This is the way that the filter sets in most of the HVAC systems in Douglas County. The metal tray holds the bottom edge of the filter and it leans across the duct, covering the entire duct cross section. The air flow is down on this type of set-up.	Note that the arrow points down and that the wire mesh is not seen. **If this seems too basic, let me tell you that probably 40% of the filters that I inspect are installed backwards.** Don't let it be yours.	Here are two filters at changing time. The one on the left was in for 3 months. The other is new. Actually, the filter on the left was doing a great job. As they get dirty, they filter better, up to a point. I've seen filters so dirty that no air passes through them and they get sucked into the blower.

October, 2011

T-P Valve

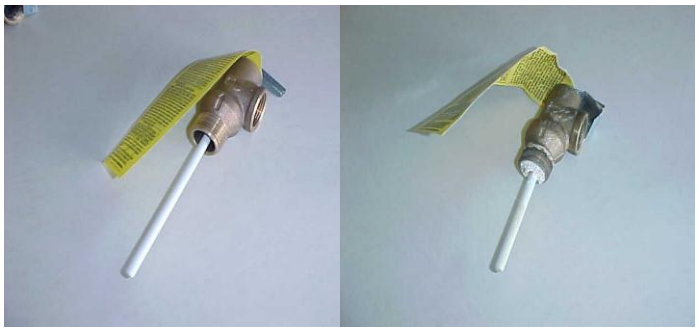
The Temperature-Pressure Relief valve on your water heater is one of the most important safety devices in your home. It needs to work, and you need to know that it is working. The manufacturers of the T-P Valves state under a WARNING label that "the valve lever MUST be operated AT LEAST ONCE A YEAR by the water heater owner…" As I told you at the inspection, I am going to remind you to test the T-P valve 4 times a year. I am reminding you NOW that you should test the T-P valve on your water heater when you go down to the furnace and change the filter.

This shows the T-P valve installed in the water heater. Some are on the side; some are on the top.

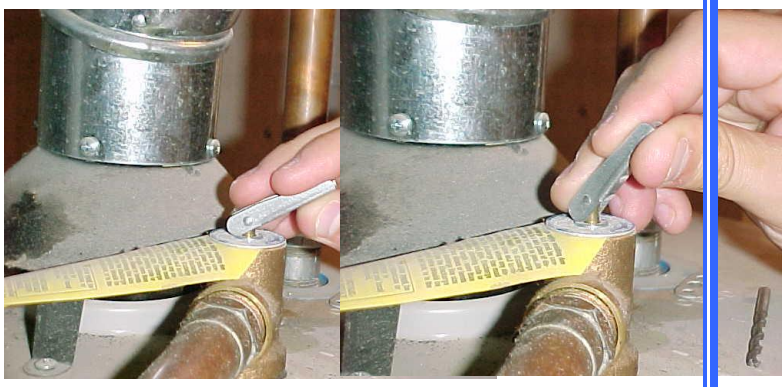
The purpose of the T-P valve (Temperature-Pressure Relief Valve) is to relieve excess pressure from the Water heater in case it builds up too much temperature or pressure in the tank. If the gas valve or thermostat on the Water heater malfunctions and the water gets too hot, this valve should automatically open and relieve the pressure in the tank. If the T-P valve fails to operate as designed, AND the water heater overheats, the Water heater tank could explode, as a bomb, and destroy your house.

The T-P valve is about $10.00 and looks like this first photo when new.

After they've been in the water heater for several years they can look like the valve in the second photo. Deposits from the water can build up in the valve and significantly affect it's operation.



Testing the T-P valve involves lifting the lever to allow water to flow out of the valve and into the drain pipe. I usually just give it 2 quick lifts to get a little water to come out and observe the flow that comes out. It has the full water pressure in the house, so should come out with a robust flow. My 2 quick lifts release less than a ½ cup of water. Draining more is not a problem as long as you're not making a mess on the floor.



Testing the T-P valve 4 times a year not only tests the valve to be sure it is working, but it also flushes out the valve 4 times a year, reducing the buildup in the valve and allowing it to operate as a properly functioning safety device for a much longer time. I don't know, but suspect that the T-P valve could last the life of the water heater if tested this often from when it is new.

Sometimes when I test a T-P Valve, I cannot even move the lever. I test so many that I have a good feel as to how much force is required to release the water, and when I exceed that force and the lever still doesn't trip, I stop and recommend that the valve be replaced.

There are also many T-P valves that I can open the trip lever completely, and no water comes out at all. In this case also, the opening in the valve is clogged and the valve needs to be replaced.

If I recommended that your T-P valve be replaced in the inspection report, be sure that it was replaced before you test it. If you force it open with more force that would normally be required by the internal pressure, you might not be able to seal the valve after you test it. If it continues to drip slightly after you test it, you night want to lightly tap the end of the valve with a hammer to try to improve the seat.

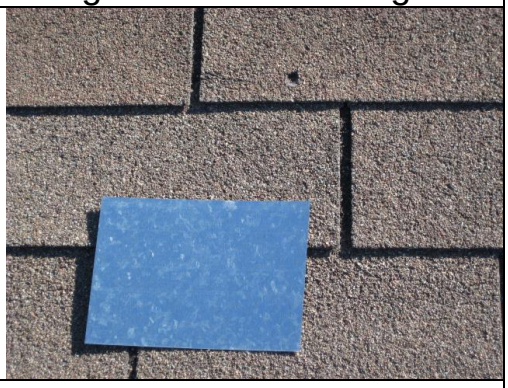
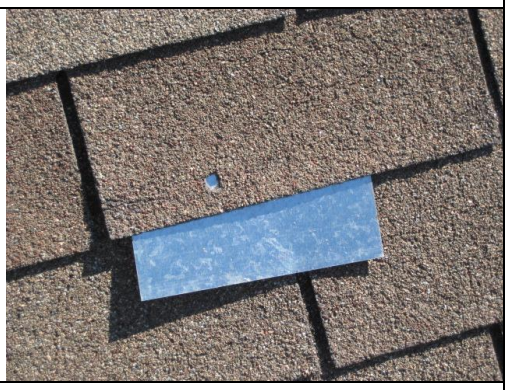
If it continues to drip, you should replace it.

Don't take the chance.

October, 2011

Nail Holes in roof

		
Typical nail hole in a roof. This usually happens because the nail was not driver into to wood all the way or near an edge, or because the nail has worked its way out.		
In this case, the nail has made a hole in the shingle and the nail is missing. This allows a small hole through both layers of shingles and the felt paper, exposing the deck. Although it will probably not cause a major problem, it could cause some rot in the decking over a period of time		

If the nail is still there, pull the nail out and discard. Driving the nail back into the decking where it came out previously will not work. The nail will try to come out again.		
		Shingle with nail sticking out
Take a piece of metal flashing about the size of the metal shingles used for step flashing. 4" x 7"		
Slide it up under the shingle with the hole until the metal flashing is completely under the composition shingle.		
You can see the metal in the hole. You do not need to secure it, as the friction of the shingles will hold it in place. If any water goes through the hole, it will hit the metal flashing and discharge below the shingle. Much easier then replacing the shingle.