

VINCENT'S NEWS

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Did you know...

...it's important to clean the AC coil above your furnace and your condensate line to prevent water from overflowing and damaging your furnace and the area around your furnace? Call us for more info.

THROUGH MY EYES

Many moons ago a college instructor told the class I was attending that automakers could design a car that could eliminate the millions of car-related accidents, injuries and deaths that occur every year. Then he offered the reality check that the car would only be able to drive at a maximum speed of 5 mph! The point he was making was that as a society we make risk/benefit calculations all the time. Regarding cars, we've implicitly bargained that having faster transportation outweighs the related risks. This seemed like common sense to me – common sense that seems in short supply today. Let me explain:

Last month, I shared about the government mandate that takes effect in 2023 that will dramatically increase the cost of replacing your air conditioning

Continued Page 3

"Wherever you see a 'Vincent's Van Go' you know the job will be a work of art."



This photo shows the height difference of my old inside AC coil (left), and my new AC coil (right). In the photo are techs T3 and Austin (left to right) who replaced my older but still working AC. Taller air conditioner coils will be a big problem for many people after the new efficiency standards take affect in 2023.

Why Won't My Gas Water Heater Stay Lit?

When I wrote the above column, I was reminded of another costly safety change that was mandated by the government: **FVIR Water Heaters**. The way that these heaters are designed have more issues of staying lit than the models they replaced. But before getting into the technical issue, I want to share a little of the back story

Why We Have FVIR Water Heaters

FVIR stands for "Flammable Vapor Ignition Resistant". Essentially, all gas fired tank-type water heaters manufactured after

July 1, 2005 were required to have this feature. Why? To protect against the risk of 'flashback fires'.

According to the Consumer Product Safety Commission, a flashback fire occurs when vapors from flammable liquids - essentially gasoline - are ignited by an appliance's burner or pilot light. From literature at that time, the CPSC estimated that there were 800 residential flashback fires a year in the United States, resulting in five deaths and 130 injuries.

The impact of this change back

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Water Heater... (Continued from Pg.1)

in 2005 was to increase the price of replacing a gas fired tank-type water heater by between 25% to 50%.

Now, I don't mean to be cynical, because preventing injuries and deaths are important. But the justification for this costly change for every home with a gas fired water heater was to prevent 'flashback fires' that were mostly caused by people storing gasoline next to water heaters. Hmmm....

Do you store gasoline next to your gas fired water heater? I don't. But according to the CPSC estimates at the time, apparently 800 people a year did. Referring again to the discussion in the previous article about risk/benefit calculations, the CPSC decided that calculation for us all at a substantial cost to society.

Warning: Having a water heater equipped with FVIR technology does not mean you are safe to store gasoline next to your gas fired FVIR water heater!

In all fairness, when I look at the documents from back then, they had projected an \$80 cost increase per heater. They just really missed the mark.

And that is just for the cost added to the price of the water heater. This didn't include the added costs for maintenance and service that these more finicky water heaters require.

Was the change worth it? I'm glad water heaters are safer, but it came at a great cost to all of us for the few that stored gasoline next to water heaters. It's also evidence of how risk averse we are becoming as a society.

How FVIR Water Heaters Prevent Vapors from Igniting

Before FVIR technology a flammable vapor drawn into a water heater could ignite inside the water heater when it encountered a flame. Once lit, the fire would return to the source - such as a can of gasoline and escalate the fire.

Water heaters with FVIR technology prevent this from happening. Flammable vapors can still enter the heater with the combustion air being drawn in, but once ignited, the heaters are designed to prevent ignited vapors from passing out of the combustion chamber. This is achieved by a

sealed combustion chamber, a one way air intake system into the combustion chamber, and a flame arrestor.

Why Do FVIR Water Heaters Have Issues Staying Lit?

The most common issue with FVIR water heaters staying lit is maintenance related. Dust, dirt, and pet hair will clog the air filter and prevent the water heater from breathing.

If your water heater does not light, it may be that it's starved for the air it needs to burn. Look around the base of the heater for signs of dust and pet hair. You may be able to use a vacuum attachment to clean it and solve the problem. However, sometimes it may require disassembling the burner and opening the sealed combustion chamber to clean inside. This can be a little complicated - give us a call if you need help.

Alternatively, cleaning the air intake is part of what we can do for you on a Plumbing & Water Heater Service visit. See the nearby insert for details.

- Daniel Squires

What Our Clients Are Saying...

"I have been a customer for approximately 25 years. I've always had great and honest service from any and all the workers that have serviced and cleaned my furnace. They are prompt and efficient, too."

- Sarah Atkins, Kimball

Through My Eyes (Continued from Pg.1)

system. One of the biggest factors that I cited in that article had to do with the increased height of the inside AC component attached to your furnace - the evaporator coil. The concern I cited was whether a new one would be too big to fit in the space above your furnace under the new rules. (See the photo on page 1.)

The size of outside AC component - the condenser - will also be increasing. I have included an insert 'Why Air Conditioner Prices Will Take a Huge Jump in 2023', that helps explain why these AC units will be larger. I want to focus on just one of those cost drivers - the changes in the condenser top grills.

Refer to the nearby insert: 'Why Air Conditioner Prices Will Take a Huge Jump in 2023' for details

The main explanation for the changes coming in 2023 are the increased AC energy efficiency minimums mandated by the US Department of Energy. However, the US Consumers Product Safety Commission is also a factor in the changes. The CPSC's concern has to do with the spacing between the grills on the top of the condenser over the condenser fan. It wants the spacing between the grills to be narrower to prevent children from being injured from sticking a finger in the gap where the fan blades could damage or sever a finger.

The Costly Impact of a Small Safety Change

Narrowing the gap may seem like no big deal - what's the harm in doing something that can make AC units safer? Well, in fact, it's a big deal - because decreasing the spacing reduces the amount of air flow, which is very bad for heat transfer. In fact, doing so diminishes AC performance and energy efficiency. This is one of the biggest reasons why AC units will have to be larger, as manufacturers have had to re-engineer AC condensers to compensate for the reduced air flow and still achieve the required higher energy efficiency standards.

I wanted to find out more about this, and I

was directed to a new Underwriters Laboratory standard - UL 60335-2-40 for Household & Similar Electrical Appliances Safety with Particular Requirements for Air Conditioners.

On the left is the new shorter & narrower UL spacing gauge used to check the spacing between the grills on the top of an AC condenser. The old one is on the right. It might not seem like much, but making up for the lost air flow will have a big impact on AC costs.



My curiosity aroused, I wondered how many children were injured by sticking fingers in the tops of condenser grills. I was certain that this must be a major public safety concern to justify the increased cost of air conditioners. Care to make a guess as to how many people, let alone children are injured in this way?

I was shocked that all my google searches with many different keywords & phrases yielded zero instances. None. I found instances of cut fingers caused by sheet metal or when carrying portable air conditioners. I found a service tech that lost the top of a finger when he caught it in a spinning fan belt reaching for a tool - but he had the cover off and wasn't sticking his finger through the top. There may be instances that escaped my searches, but it's not the major public safety issue that one would expect for such a costly response for consumers to bear.

I am all for protecting our children, but where was the 'common sense' when this was dreamed up? (Especially since condenser fan blades are too deep inside for a finger to reach and be cut!) But because of this, and the 2023 energy efficiency mandate, replacing an air conditioner in the future is going to be very expensive.

If you have an older air conditioner my advice is to replace it now while you still have options. If you wait, the cost will be substantially higher. If you would like to have your unit evaluated and to learn the cost to replace it, give us a call.

- Daniel Squires



Fish of the Great Lakes

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P	L	E	N	W	N	K	A	T	T	S	B	C	U	O	C	F	M	N	E	E	N	Channel Catfish
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O	M	C	N	D	S	L	S	Y	R	U	J	K	F	L	E	N	V	F	K	I	U	Longnose Sucker
N	J	Q	Q	A	W	U	G	A	C	G	M	F	A	Q	L	M	B	I	A	S	T	Muskellunge
A	I	E	L	W	C	I	P	J	C	M	C	L	Z	L	V	A	O	S	L	H	B	Northern Pike
I	F	M	P	K	Z	P	M	C	W	A	L	L	E	Y	E	C	M	H	D	K	B	Perch
W	O	H	E	A	I	P	J	Z	Y	M	R	G	C	D	B	E	H	S	N	G	Y	Pumpkinseed
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																						Sunfish
																						Walleye
																						White Crappie

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Humor Section



A small boy is staring at the names on the wall of an old church when the pastor notices him.

"What are you looking at?" he asks the boy.

"All those names. Who are they?"

The pastor nods, and says, "They are the reason we have Memorial Day. The names on the wall are those who died in the service."

The little boy considers, then asks, "The 9 o'clock service or the 11 o'clock?"

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Vincent's Heating & Plumbing is proud to install Amana equipment, made in the USA.

Why Air Conditioner Prices Will Take A Huge Jump In 2023

...in addition to the inflation we are already experiencing!

There are many factors that will contribute to higher AC prices in 2023 due to the Dept of Energy's mandate for higher energy efficiency standards. This page highlights some of the cost drivers, starting with the need for manufacturers to use higher cost compressors, motors & TXV valves - to achieve better performance and energy efficiency

Higher Cost Performance Components



More Commodities Consumed by Larger Units



One way to achieve higher efficiency is to add more heat transfer surface area. This explains why the inside coils are taller and the outside condensers need to be physically larger. This requires more copper, aluminum, and steel adding to the cost.

The June 2022 Vincent's News also details how AC units need to be larger to compensate for a new safety standard that decreases air flow.

Increasing surface area to improve heat transfer means larger AC units. This means more raw materials to add to the cost.

Increased handling, storage & freight costs are also a factor



Exclusive Vincent's News June 2022 Incentive

Upgrade Your Air Conditioner & We'll Also Install A High Efficiency Air Cleaner FREE - Plus Save \$300 Off HVAC Duct Cleaning!

Here's additional incentive to help you save money by replacing your air conditioner this year to avoid the higher prices coming in 2023 as a result of the new US Department of Energy efficiency mandate.

To take advantage of this offer call (810) 985-7103 and ask for the Vincent's News June 2022 Clean Air Incentive. We'll arrange for a tech to come & evaluate your system and give you replacement options.

Are You A VHP Club Member? You can also use your accrued \$40 Loyalty Pays Certificates!

Expires July 8, 2022 – Not Combinable with other offers.

Effect of AC chassis size (footprint) on carry quantity



Larger AC Units as a Result of the 2023 Mandate will Increase Handling, Storage, & Freight Costs

- Today: 70% of AC condensers have a 26" or 29" chassis (footprint) .
- In 2023, 60% will increase to a 35" chassis.
- This will increase the need for warehouse space to store the products and manpower needed to move them.
- As the photo montage above reveals, moving AC units with a 35" chassis will require 3 times as many trips compared to moving 26" units. This also means that labor cost for handling is 3 times higher than that of smaller units.
- Shipping costs will also increase as more trucks (and drivers) will be needed to deliver these larger units because they take up more cargo space - and this at a time of rising fuel prices and a driver shortage.

Freight Impact:

Est. 14% increase in # of truck shipments to deliver same quantities

Comparison between AC condenser chassis sizes in a truck cross section



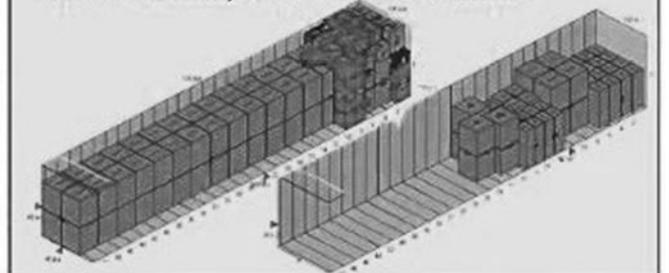
Example of how the new larger AC condensers will impact shipping

Load with Current Models

Fits on a single trailer,
95% FP, 62% LC



Same Load, with 2023 Models



The bottom line: If you have an older air conditioner, seriously consider replacing it now.

Why Are Neglected Water Heaters so Dangerous?

The Top 4 Hidden Water Heater Risks Are:

- Tank ‘Ruptures’ Due to Failed Temperature & Pressure Relief Valves
- Carbon Monoxide Poisoning Due to Water Heater Venting Problems
- Scalding Due to Water Heater Temperatures That Are Too Hot
- The Potential for Legionella Growth from Temperatures Set Too Low

Next to your home’s heating system, your water heater poses the greatest potential lethal threat to you and your family’s safety in your home - yet it is typically ignored. Our **Plumbing & Water Heater Service** (formerly ‘Plumbing & Home Safety Service’) will make certain you and your family are not at risk from carbon monoxide poisoning, from your water heater exploding or rupturing due to a failed Temperature & Pressure Relief Valve, and more. This service is so comprehensive it takes 1-1/2 hours to perform everything.

Here is a task list of the various safety & maintenance tasks we’ll take care of for you:

ALL WATER HEATERS:

- Per WATTS T & P relief valve inspection guidelines:

- Perform T & P valve annual safety check to prevent explosions.
- Verify T & P valve installed correctly and for safe discharge.
- Verify T & P valve is rated correctly for the tank.
- Remove T & P valve and visually inspect for corrosion and accumulation of sediment deposits to make sure it will work.

ATMOSPHERIC & POWER VENT GAS WATER HEATERS ONLY:

- Flush sediment from tank to reduce health risks & prolong tank life (*flushed until water is clear.*)
- Perform visual inspection of anode rod, dip tube and tank interior for signs of wear.
- Exhaust vent safety check to prevent CO leaking into house.
- Perform flame safety check to prevent gas explosions.
- Perform combustion testing with cleaning to ensure proper & safe performance.
- Perform safety inspection of all gas fittings to it for leaks.

TANKLESS GAS WATER HEATERS ONLY:

- Perform annual descaling flush.
- Perform safety inspection of all gas fittings to it for leaks.

ELECTRIC WATER HEATER ONLY:

- Flush sediment from tank to reduce health risks & prolong tank life (*flushed until water is clear*)
- Perform visual inspection of elements, anode rod, dip tube and tank interior for signs of wear.
- Remove access panels.
- Visually inspect all electrical connections.
- Visually inspect for signs of copper embrittlement.

PLUMBING INSPECTION

- Check all water line shut offs and emergency stops to verify they will function when needed.
- Identify location of main shutoff and make certain that it works.
- Examine drain lines & water lines for signs of leaking and concerns. (*1-1/2 hours is allotted for visit not including travel time*)

VHP’s PLUMBING & WATER HEATER SERVICE

Provides the essential water heater maintenance & safety checks so you can have assurance that you are protected from water heater risks.

Includes these features:

- **Annual Descaling Flush** for Tankless Water Heaters
- **Visual Inspection of Tank Interior** For Tank-Type Water Heaters
- **Air Intake Cleaning** of Gas Fired FVIR Water Heaters

In addition to the extensive water heater safety and maintenance procedures, the plumbing technician will also inspect your home's plumbing system to make certain that all your plumbing fixtures, water lines and drain lines are in good order and that there are no problems developing.

- ***Were you aware that cast iron drains that were installed in homes built before the 70's are wearing out and starting to crack and leak as they reach the end of their useful life?***

This is the sort of potential problem that our plumbing technician can 'head off at the pass' so you can be aware of potential issues that are developing before they become major problems. Then there are the plumbing emergencies that come out of nowhere—would you be ready for one?

- ***Do you know where your main water shut-off is? - and - if you do know where it is - does it work?!?***

In addition to the plumbing inspection, we'll show you where the main water shut-off to your house is AND we'll test it to make certain that it will actually work when you need it. And for good measure we'll test ALL of your water line shut-offs and emergency stops to make certain that they will work.

- ***With a Plumbing & Water Heater Service visit you can KNOW:***

- √ ...that your water heater failsafe (the T&P Valve) that keeps it from becoming a bomb is working.
- √ ...that the gas to your water heater will shut off rather than dump gas in your home if it doesn't work.
- √ ...that your water heater isn't dumping poisonous exhaust gasses into your home.
- √ ...that there are no faulty electrical shorts or signs of burning on your water heater.
- √ ...that your water heater has gotten the required annual maintenance it needs.
- √ ...that your gas lines to the water heater aren't leaking.
- √ ...that a plumbing professional has looked over your home's plumbing.
- √ ...that you will be ready for a plumbing emergency

There are two ways you can have this peace of mind service:

- ***GOOD:*** Invest in a single Plumbing & Water Heater Service visit - only \$199
Your total cost for all the above benefits is only \$70 more than our normal \$129 service charge!
- ***BEST:*** Make a Plumbing & Water Heater Service an annual visit & save 25%!
You can add this to your VHP Enhanced Service Plan and receive an annual Plumbing & Water Heater Service visit annually for only an extra \$12.45 per month - \$149.40 per year - save 25% starting today!

Call (810) 985-7103 to Schedule a Plumbing & Water Heater Service Visit

- **Monday - Friday 7 a.m. until 6 p.m. Saturday 8 a.m. until 2 p.m.**

Vincent's Heating & Plumbing Inc.

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"Wherever You See a Vincent Van Go You Know the Job Will Be a Work of Art!"