

VINCENT'S NEWS

The 'Van-Go' Gallery



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



Here I am with long time Vincent's customer, Tim Koury (left) and MIOSHA Safety Officer Jerry Zacharczuk (center).

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Did You Know...

...The Amana brand furnace features a tubular style heat exchanger made with stainless steel? This is why Amana is the only brand that promises to give a complete new furnace to the original owner for life should the heat exchanger fail.

OWNER'S CORNER

THROUGH MY EYES

Safety is a high priority for me. Both for you as a client of Vincent's Heating & Plumbing when we serve you and for all of our technicians in the field and our office staff. That is why in August we participated in the Michigan Occupational Safety and Health Administration (MIOSHA) "Take a Stand Day". "Take a Stand Day" is when a company or employer

can invite MIOSHA to send an inspector to visit the company facility and jobsites. It is just like a regular MIOSHA inspection to find safety violations or hazards except there are no citations or penalties. Essentially, on "Take a Stand Day" the company gets a 'free pass' for any safety

violations found except that it must agree to correct all serious conditions discovered.

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HOW A FURNACE HEAT EXCHANGER GOES BAD AND WHAT YOU CAN DO ABOUT IT - Part 1

Every gas furnace has a heat exchanger. In simple terms, a heat exchanger is an exhaust pipe that is the heart of the furnace. Inside this exhaust pipe are hot gasses from which your home is heated. The function of a heat exchanger is to transfer or 'exchange' the heat to the air in your home while channeling the unwanted gasses – including deadly carbon monoxide – to the chimney or vent. Heat is transferred when cooler house air blows

across the outside surface of the heat exchanger. To allow time for the heat transfer to occur, heat exchangers are designed to slow the passage of the hot gasses through the furnace with baffles and multiple winding passages. Due to physics and chemistry over time every heat exchanger will eventually fail by 'cracking' or developing holes. When this happens the gasses contaminate the house air, and either the heat exchanger or the

furnace itself must be replaced. So why does a heat exchanger fail?

Failure Reason #1 - Metal fatigue

Metal fatigue is the number one reason heat exchangers fail. This has to do with physics. The heat exchanger is made of steel and when the furnace operates it reaches temperatures over 400°F. When the metal heats up it expands. Conversely, when it cools

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Heat Exchangers (Continued from Page 1)

down metal contracts. In every furnace cycle the heat exchanger first expands and then contracts.

This expansion and contraction is essentially no different than when you bend a metal paper clip back and forth. Eventually, the paper clip 'fatigues' and breaks. A furnace heat exchanger is no different. Over its life, a furnace will cycle (first heating up and then cooling down) 10,000 or more times. Eventually this causes it to break or 'crack' – just like the bent paper clip breaks. This is dangerous as the flue gasses – including carbon monoxide – can now mix with and contaminate the house air that you breathe.

Failure reason #2 Heat Exchanger Design Issues:

Design issues include type of metal used and engineering style.

Type of metal used: typically a furnace heat exchanger is made of aluminized steel or stainless steel. Stainless steel heat exchangers last longer – which is what I recommend. Note: be aware that when a brand advertises a 'stainless-steel secondary heat exchanger' you should verify that all the heat exchanger is stainless steel.

Engineering style: there are two basic styles of heat exchangers.

1. Clamshell style – Restaurants provide 'clamshell style' leftover boxes where the top half and the bottom half are folded together. For a clamshell style heat exchanger, two pieces of metal with matching concave channels pressed into them are joined together to form the exhaust passageway. The two halves are then welded or folded together.

2. Tubular style - a tube of metal is heated and bent into an S-shape. Multiple sections of these tubes in parallel make up the heat exchanger.

In my opinion the tubular heat exchanger design is preferable. Here's why: with a tubular heat exchanger the expansion and contraction that occurs during a heating cycle is more evenly distributed over the entire length of the S-shaped tubes. In contrast, because each side of a clamshell style heat exchanger is a single metal plate the expansion and contraction creates more stress on the metal.

This month I have focused on heat exchanger basics and manufacturing differences. In Part 2 I will focus on how furnace operation can affect heat exchanger life and what you can do about it. –
Daniel Squires

"...Over its life, a furnace will cycle (first heating up and then cooling down) 10,000 or more times. Eventually this causes it to break or 'crack' – just like the bent paper clip breaks...."

WHAT OUR CLIENTS ARE SAYING:

To all the great "Vincent Group",

8-27-15

I would like to express my special thanks and gratefulness for the amazing work your technicians (Tom and Rob) did installing my new heating and cooling system. Special "thank you" to Andy who explained everything in detail prior to the installation.

They are very courteous and efficient.

Customer service and satisfaction is very important and I appreciate all you did for me.

P.S. Special note of "thanks" to Nancy and Carol for all their kindness whenever I had to call – and to the technician Tom who kept the old A.C. working prior to the new unit being installed.

I like the look of the new furnace & A.C. unit and thank Michael for checking it all out! Good job!

Nancy Marcero, Marysville

THROUGH MY EYES (CONT. FROM PAGE 1)

Now from an employer standpoint, the thought of a MIOSHA inspection is usually not a happy one. This is because it can happen after an incident where someone – typically an employee – has been injured or killed on the job - or on a surprise inspection. In both cases, the outcome of the visit may result in a (large) financial penalty in the form of a fine. But from my perspective, “Take A Stand Day” is a great opportunity to learn from a ‘free’ safety consultant. It is a terrific opportunity for me to have a second set of safety-oriented eyes see where there may be hazards or safety violations present that I may not have been aware of. The hoped for result is that we can end up with a safer working environment. Accidents happen – but I don’t want to have someone hurt in a situation that could have been avoided with better practices. This is actually the second time that we have participated. The first time they only inspected our office facility, but this time I decided to have the inspector

also visit a jobsite. And so in mid-August, Senior Safety Officer Jerry Zacharczuk of the MIOSHA Construction Safety & Health Division came to visit us. The office inspection went pretty well, although he gave us some items that we needed to correct. Like having better signage at the spots where fire extinguishers are located to identify them. Another thing I didn’t know was that we needed to inspect each fire extinguisher once a month to see that they are full – and then to initial and date the back of the tag on each one in addition to the annual inspection we have been doing. Good information. And then there were a few things like proper storage of gas cylinders, gasoline container vents and caps, and that first aid kits need to be checked every day and replenished as needed. This was all good stuff that we have already begun to implement. Then we went to a jobsite where we were installing an air conditioner for Tim and Lynn Koury of East China. They were gracious and understanding to allow us to

have a MIOSHA inspector visit their home while the work was going on. Ironically, Tim Koury had actually worked for MIOSHA in the past, and I learned that he is a safety consultant in his company, Blue Water Safety Consultants.

Having Jerry, the MIOSHA Safety Officer, at the job and interacting with our installing techs was great. He took time to educate the techs on a variety of subjects regarding their safety on the job and safe practices. From my perspective this was a homerun. First, because it communicates my commitment to safety to my employees and second, because hearing things about safety from a MIOSHA rep carries more weight than it does from me. Although only 3 techs were there to hear him, we are going to have an opportunity for them to share with the other techs at a company-wide service meeting. The bottom line for me is that I want to encourage a culture of safety at Vincent’s Heating & Plumbing. – Daniel Squires

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Vincent's Heating & Plumbing

2650 Oak St.
Port Huron, MI 48060

Phone: 810-985-7103
E-mail: sales@vhpinc.com
Website: www.vhpinc.com

Safety Word Search

T R L O V S B F M F F X I D G
S I O H H H N K H E B Y I A O
E R Y T A C X O N A J U H P G
V O W E A Z T E I E B W J K G
W S S E N R A H Y T E F A S L
O G R R M J I R M E U P N T E
L L H J E M M P D B E A A I S
L T A H D R A H S P G L C D I
E A R P L U G S M E Z K K Q S
Y G L O V E S Q I A R P I N T

Caution
Goggles
Knee Pads
Yellow Vest
Ear Plugs
Hard Hat
Respirator
Gloves
Hazard
Safety Harness

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Humor Section



Good News / Bad News

The quartermaster addresses the rowers of the Roman galley. "Men, I've got good news and bad news.

The good news is that everyone gets a double ration of grog to drink with tonight's supper!"

The oarsmen cheer wildly.

"The bad news is that after supper the captain wants to go water skiing!"