



THE H.A.S. BREATHER!

Welcome to Richmond's H.A.S. Breather Magazine. Every other month we bring you facts, anecdotes, satire, and grown up silliness, that's designed to improve your health, lower your energy consumption, and extend the life of your HVAC systems. **This year the EPA made the most radical changes to residential code in HVAC history!** Virtually every ownership guideline, maintenance mantra, and replacement cycle recommendation, from manufactures, dealers, and the internet, became obsolete on 01/01/25! For the 1st time in HVAC history, **new systems don't just save, they earn!** Shush!! The manufacturers and dealers are so busy dealing with refrigerant challenges and model changes that they simply haven't grasped this yet! When they do inevitably begin to adjust, it will have adverse effects on pricing, performance, reliability, maintenance costs, repair costs, warranties, and maintenance plans, for the next, "12 -15 year", "equipment life cycle", and beyond. In this issue you will discover that they're not finished. More mayhem is coming in December of 2028! This newsletter will keep your perspective fresh, pragmatic, and conscientious enough to laugh when you hear, read, or are offered things that just aren't logical anymore! Thanks for reading!

Gimme a "V"!

Tune Up or Toon Up?

Burning the Midnight Oil!

The Next Horizon!

Gimme A "V"!

Ventilation, ventilation, ventilation! It is a Heating, Ventilation, and Air Conditioning System. It's not a forced heating system. It's not a forced air conditioning system. It is a forced air ventilation system that heats and cools. You can get a forced air heating system that is not required to cool. You can get a forced air cooling system that is not required to heat. You can not purchase a forced air heating or cooling system that is not required to ventilate!!



A residential ventilation system functions as the respiratory network of a home by exchanging indoor air with outdoor air to ensure a healthy living environment. This process maintains indoor air quality by removing excess moisture, odors, germs, bacteria, and airborne pollutants while ensuring a consistent flow of fresh air through your living spaces.



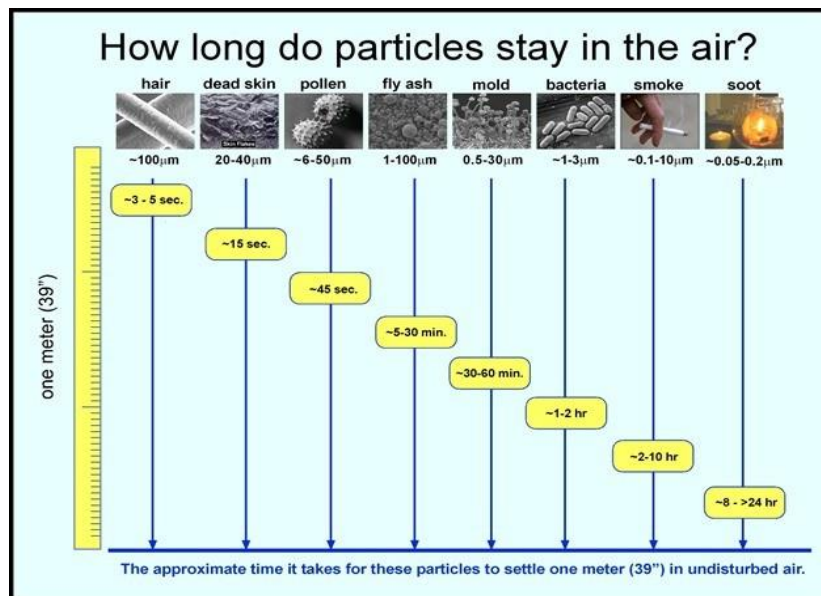
Now for the part that either no one else understands or are always willing to let consumers misdirect themselves about. **Up to 90% of indoor air pollution is in the form of gases and vapors!** Commonly known as VOC's,(Volatile Organic Compounds), which include formaldehyde, benzene, acetone, xylene, perchloroethylene, and Ethylene Glycol. The primary symptoms of these are headaches, dizziness, eye, nose, throat, and respiratory irritation. The primary sources for these VOC's are Furniture,

cosmetics, detergents, fabric softeners, air fresheners, plastics, carpets, pesticides, adhesives, lubricants, aerosols, paints, new fabrics, cooking, and open flames of any kind. The most aggressive method for removing these vapors and gases is to open your windows and doors!



Opening doors and windows is good, but VOC's change state. One minute it's a gas, the next minute they have attached themselves to airborne particles or household surfaces, the next minute they're back to a gas again. It simply means there has to be a dual/balanced approach!

What we're saying is that the ratio of gas, vapor, and particles is in a constant state of flux. Sometimes it's 80%/20%, sometimes it's 70%/30% etc.



Pay close attention to the above chart. Door height is 80 inches. To properly understand how long everything floats, you must double the time for each column!! So what is the 10%-30% made up of? The 10%-30% is the combination of absorbed gases, vapors, and/or Particulate Matter and/or liquid droplets that are suspended in the air. Many of these particles are small enough to get into the lungs and even into the bloodstream! Pet dander, dust, soot, mold, and dust mites, are also among the offenders.

Your weapons for superior indoor ventilation and air quality are, open doors, open windows, bathroom vents, attic vents, kitchen vents, your vacuum cleaner, wet cleaning, ceiling fans, box fans, and your HVAC system.



It does not have to get complicated to be effective. We all know what cross ventilation is. Turn on every fan, turn on your AC fan and feel the breeze for about 5 minutes. The fresh air is the wash cycle, your HVAC is the rinse cycle, and your HVAC air purifier is your fabric softener!! Before rush hour, after dusk, and while you vacuum or sweep, are the best times all year round to wash your air!!

Tune Up or Toon Up?



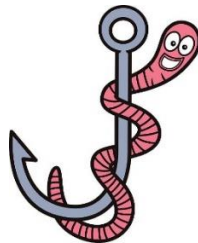
How frequently should you get a tune up? Manufacturers recommend that you get tune ups twice a year. Treat your HVAC like NASCAR. Imagine if they said we won the race, just put gas in and change the filters and let's go race again. Lol No, no, no, no, no! The winter season, that's a race. The summer season, that's a race. A tune up in the spring and a tune up in the fall is the perfect way to treat your system before and after an intense seasonal performance.



*How long should a tune up take? **Here's where all the professionals agree. A thorough tune up takes 60-90 minutes. Longer if you are washing coils.** Why does it take so long you ask... because of what it's supposed to include. Gaining access to electro/mechanical areas for testing, locating the equipment, and engaging the system, 10-15 minutes, hooking up the refrigerant gauges 5-10 minutes, allowing the system to run long enough to reach temp for the season 5-10, checking the CFM and temperature at the supply registers and the intake registers 5-10, inspecting and checking the air handler 5-10, changing to the other temperature function and waiting for the system to reach temperature 10, checking supplies and intakes again for CFM*

and temperature 5-10, spraying and washing compressor and air handler coils 20-25, closing it all up 5-10. That's 50-85 minutes for the fall and 110 minutes for the spring.

Did your last tune up take this long? Did the technician go into multiple rooms in your home? Did they show you any of the readings from their equipment? Did you see them carry any test equipment or record any of the readings? No is the answer I regularly get from customers when they've had a seasonal tune up, but I'm there for a service call!



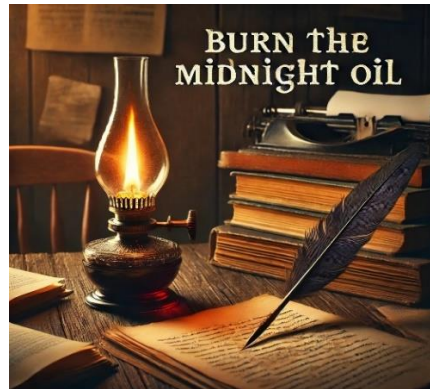
How much should a tune up cost? According to google, a tune up is supposed to be between \$100.00 and \$300.00. Ours is just \$99.00 for the regular and add \$50.00 if you'd like the coils cleaned. At this point HVAC and water heaters are all that we do. If you've read the newsletters our primary goal in offering inexpensive HVAC maintenance is to get referrals! We don't do TV, we don't do radio, and we don't tele market! Customers and employees are all we care about!

Others in our industry have an agenda that is much broader. When your HVAC needs have been met, they are consistently contacting you to offer other services. They offer electrical work, plumbing, attic insulation, roofing, crawl space conditioning, windows, siding, generators... some even offer security systems!! That's a lot of stuff to be, Superior/an "Expert" at. They blur the line between customer convenience and just wanting to have another source of revenue!?

Google says that major providers will pay HVAC technicians \$25.00 to \$40.00 per hour. The government has determined that \$.55 per mile is good money. If

they charge less than \$99.00 and are at your home less than 50 minutes. Give us a call for your next tune up, repair, or replacement!

Burning the Midnight Oil!



Doing research is a labor of love for us. Digging in the books, reflecting, and then digging some more is what makes for unique discoveries and beneficial offers for our customers. We've been touting newsletter after newsletter that there are temporary advantages hidden in the changes that went into effect on 1/1/2025. We found deal, after deal, after deal, that could be used by the EPA to substantiate why don't need to give us a tax credit incentive to save money for a while! The EPA and DOE are also waiting for the industry to finish re-trending as well!! When asked, google will tell you that you can expect to pay \$2,000.00 to \$4,500.00 more than you used to pay for a 10 SEER heat pump. Well, that means a 10 SEER system has was \$8,000.00 to \$15,000.00 has jumped to \$10,000.00 to \$19,500.00. **The midnight oil comes in when you ask Google how much is a 16 SEER, an 18 SEER, and a 20 SEER, and it gives you the same answer!!** When I share the question and ask it later, I'm not guaranteed to get the same answer?! The computer is relying on outdated information and for the time being has no idea what the new prices for any system should be! Try it if you don't believe me. This is what we meant in an earlier newsletter when we said there are pricing blind spots in the new standard. Google is only as good as the information it's being given. Right now it's as confused as everyone else! lol

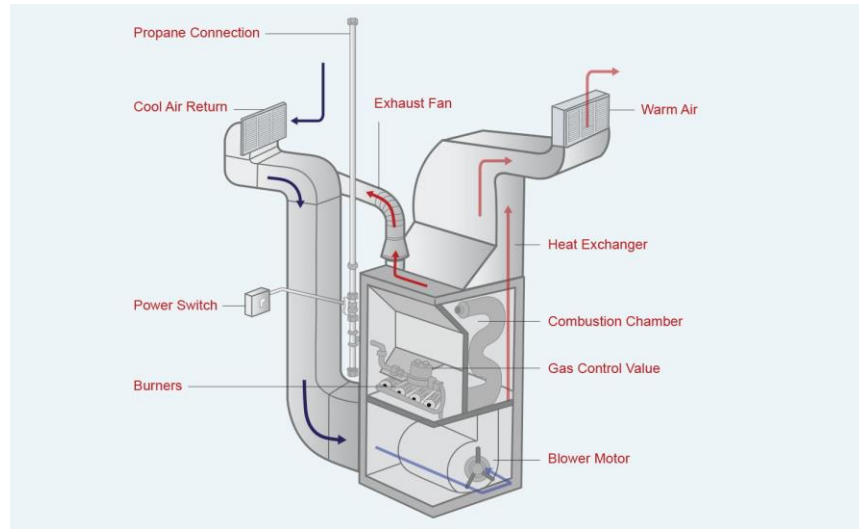


That's roughly 18 hours and 8 minutes. When they changed the standard on 1/1/2025 it meant the end of 10, 11, 12, 13, and 14 SEER machines!! 15 SEER is just 1 notch below systems that have, depending on the manufacturer, more energy efficient, communicating systems, variable speed inverters, and modulating compressors. Translation, the hidden deals are going to be on 16-20 SEER machines not on the 15 SEER! We want to tell you more, but other people in our industry are starting to catch on. Imitation is the greatest form of flattery. We went to a home a few weeks ago and found that someone else in our industry was actually using our newsletter to try to explain things to potential prospects. He was able to share the article, but wound up giving the customer inferior options anyway! **As long as other in this industry insist upon talking about change outs instead of change ups, they're never going to figure out which manufacturers, and which models are providing the most unique balance of cost, comfort, and efficiency during this transition!!** If your system is beyond its 10 year parts warranty, every dime you spend keeping it "running", is a missed opportunity to invest in something better while the window of opportunity exist! Time is running out! As always, get to us before they get to you!

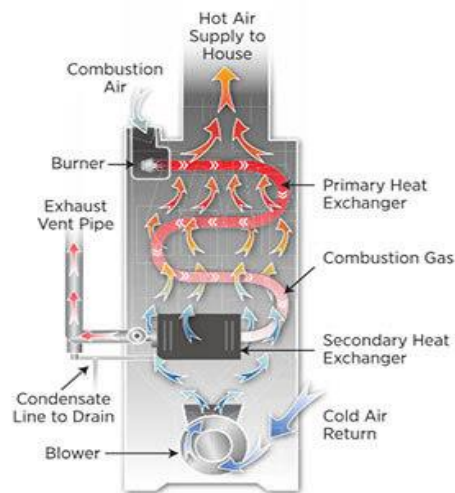
The Next Horizon!



The next mandated event by the EPA will take place in December of 2028. Unfortunately, it will not be as beneficial as the change we are experiencing from the change made in December of 2024. The reason the 2024 change has been so beneficial was not intentional! It's because of all the difficulties, challenges, disorientations, chaos, procrastination and confusions, that have been taking place at a point that is beyond the influence of contractors and customers! The HVAC contractor is not involved with the selection of refrigerants, model specifications, or wholesale pricings. Manufacturer and dealer pricing is starting to catch up, but there are still quite a few months left before the full effect of the change sinks in and all the prices for air conditioners, furnaces, and heat pumps go up that 15% to 26% that the internet has been forecasting! Our supplier sent out a notice of a 7% increase that will take effect on the 26 of June. There are only 5 major manufactures in the US regardless of how many different brands they're making! The places to hide from the increases are disappearing every day!



This is a basic furnace. It's intake/return air is taken from inside. That being the house, the crawl space, or the attic. It's exhaust air is sent through a "chimney" flu to the outside. This furnace is characterized by an efficiency of 80%. That means that 80% of the fuel it receives is used for combustion and heat and 20% is lost to the wayside.



High-Efficiency Gas Furnace

This is a rough rendition of the high efficiency furnace that will be required as of December 2028. It takes it's air in from the outside instead of the house, a crawl, or attic. It's exhaust air is sent through a second heat exchanger to be reheated instead of disbursed. This results in a 95% use of the fuel received with only 5% going to the wayside. The second heating of the air because of

the temperature differential, causes condensation. They are sometime called condensing furnaces because of this operation. Condensing furnaces must have condensing lines like your air conditioning. Condensing air conditioners must also have non metal exhausts.



The good news first. If the 95% furnace can be installed during construction, it stands to create savings over the 80% furnace. The EPA expects a 20 year cycle on the condensing furnace. Recycling the exhaust through another heat exchanger is technology at it's best and is another example of the electromechanical plateaus that we are approaching. 15 SEER air conditioners and 95% furnaces are both the dreams and nightmares of the last century. This article is your invitation to consider this now and know that in December of 2028 you've either got the most energy efficient system money can buy, you know why don't have it, and you know what inevitably you will have to do when it's time to replace one!

Now the bad news. The crawl space is the only place a furnace can already exist where holes will not have to be made in the walls, ceilings or both for the 2028 standard to be met. The air intake is 2 inches in diameter, the flu will be replaced with an exhaust that is 2 inches in diameter, and a condensation line like your air conditioner will have to be installed. The proper installation of the

new system will have guidelines, but they may vary depending on location. It is most likely that a permit will have to be pulled causing delays, disagreements, and additional expenses. The retrofit according to the EPA will save approximately \$17.00 per year. An insulting thing to make an act of congress. If you have an older furnace or plan on being in your home for a great length of time, make sure you weigh the amount of destruction you are willing to tolerate. After December of 2028, you will have 3 choices... keep fixing an old furnace, switch to electric, or accept the expense and destruction of the new standard.