

# METROPOLITAN NY CHAPTER Refrigeration Service Engineers Society

Continuing Education for the HVAC/R Industry

“Better Service Through Knowledge”

January 2018

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## Heating Tech-Tips

### Electronic Air Cleaners and Condensing Furnaces

Electronic air cleaners used on condensing furnaces can cause the secondary heat exchanger to become clogged with dirt. Since the secondary exchanger is basically grounded, it will attract the positively charged particles not attracted to the plate within the electronic air cleaner. Over a period of time this could cause the secondary heat exchanger to become plugged with dirt.

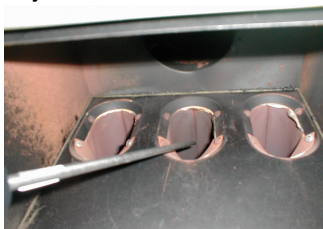
When servicing a condensing furnace with an electronic air cleaner which exhibit problems due to low airflow--such as tripping on its high temperature limit or a higher than normal temperature rise--a technician should always inspect the secondary exchanger as a possible cause. This can be easily overlooked since examining the secondary exchanger will many times require the removal of the fan housing. This is generally not a difficult task but can be slightly time-consuming, leading it to be skipped



### Combustion Test Points

When servicing natural draft forced-air furnaces, it may be helpful to perform a combustion analysis when troubleshooting a problem with the furnace. A technician can measure the O<sub>2</sub>, CO<sub>2</sub>, and CO levels of the flue gases, as well as the stack temperature and draft pressure, to determine if the furnace is burning cleanly and safely. Some technicians will also perform a combustion analysis to determine the combustion efficiency of a furnace.

When performing a combustion analysis on a natural draft forced-air furnace, the flue gas samples should be taken at the exhaust of each of the heat exchanger outlets, upstream of any draft diverter, as shown. This prevents the flue gas samples from being diluted while testing. If draft tests cannot be taken at this location; they should be taken downstream of the draft diverter.

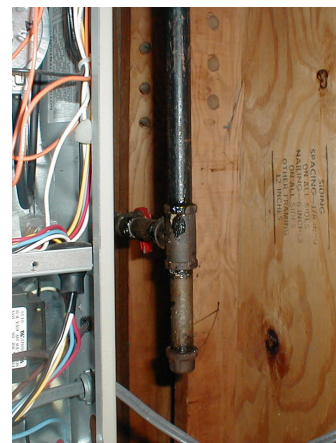


### Gas Piping

Installing gas piping for heating appliances is a common task for many technicians.

Below are important precautions to take when working with gas piping:

- Always follow local codes when installing any gas lines.
- Do not use cast iron pipe for gas lines.
- Copper tubing cannot be used if the gas contains sulfur.
- Aluminum tubing should not be used for gas lines in wet locations or for outdoor or underground applications.
- Aluminum tubing must be coated to protect against external corrosion in places where it is in contact with masonry, plaster or insulation.



Gas piping below 12 inches in diameter is expressed by its nominal inside diameter (I.D.). Pipe sizes with the same nominal size can have different wall thickness.

The wall thickness of gas pipe is expressed by the term "schedule". The higher the schedule the heavier the wall thickness.

Gas piping used for HVAC work should also conform to the American National Standard tapered thread.

Threads are expressed in terms of their nominal size, number of threads per inch and thread series symbol.

For example 3/4 - 14 NPT represents:

- 3/4 nominal thread diameter;
- 14 threads per inch;
- American (National) Standard Pipe Thread

***These are simple things you may have forgotten (and, in some cases, things you didn't know).***



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For Information Call: Stan Hollander, CMS (718) 232-6679

**In the unlikely event of meeting cancellations,  
announcement will be posted on our web site**

**Wednesday January 10th, 2018  
at 7:30pm**

at  
**RICCARDO'S**  
21-01 24th Avenue, Astoria NY 11102

***The Integrated Home & Business on the Net:  
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by  
Alex Lima & Daniel Maciel—FireIce Data, Inc.

**PRESIDENT'S MESSAGE**

On behalf of the Board of Directors and myself I want to wish everyone a Happy New Year. I hope the New Year brings you health, happiness and profits.

One way to increase profit is by being informed on the latest techniques and products. Our industry has evolved from going to a job and installing gauges and having to watch them to see system performance to being able to attach sensors and do other things while we watch the performance on our smart phones. Instead of having to call a wholesaler during business hours for price and availability we can log on to their web site and get price and availability 24x7. Now the manufacturer's products, specifications and troubleshooting are just a smart phone away.

Yes, our industry continues to evolve. That is where your chapter comes in. We do our best to provide you with the latest in products and procedures. Stan Hollander CMS has done an outstanding job in obtaining speakers. This month the AHR show is in Chicago. If you are going, please keep the chapter in mind. If you see anything you think would make a good topic for a meeting or seminar, please pick up the contact information and send it to Stan.

Please feel free to pass this meeting notice on to anyone you think might be interested in attending our meetings. Remember, you do not have to be a member—and there is never a charge to attend a meeting.