

Total Air Supply's Fall 2022 Training Schedule

6 Hour Gas Training for NH Gasfitter License Renewal, 2021 & 2022 Modules, \$80—Class will cover the 2021 & 2022 Code units required by the State of New Hampshire for license renewal. *Those who want to attend just one unit or the other may attend the 2021 segment from 8-11 am or the 2022 module from 11 am to 2 pm depending on your needs. The cost will be \$40 per unit or \$80 for both.*

Nashua Classroom: Saturday October 22nd, 2022 – 8 am to 2:30 pm

Derry Classroom: Saturday November 19th, 2022 – 8 am to 2:30 pm

Nashua Classroom: Saturday December 17th, 2022 – 8 am to 2:30 pm

Derry: 6-Hour Gas Furnace Troubleshooting, Tuesday & Thursday Oct. 25th & 27th, 2022 from 5:30 pm to 8:30 pm \$60— This Two evening, 6-hour Gas Furnace Troubleshooting webinar will start from the beginning with the theory of how a gas furnace works and its sequence of operations. This is necessary for any technician to know in order to be a successful troubleshooter. After all, if a technician doesn't understand how a furnace works, it can be a daunting task to figure out how to fix it. *If you would like to improve your gas furnace knowledge and troubleshooting skills, this is a class you should attend.*

***FREE* Thermal Expansion Valves (TEV to some, TXV to others) Seminar covering what they are, how they work, and how to diagnose & troubleshoot.**

Online: Wednesday October 26th, 2022 from 6 pm to 8 pm

Because of the NEW SEER Ratings coming in January of 2023, ALL evaporator coils will come with a Thermal Expansion valve due to orifice type (piston) metering devices being unable to meet the new seer rating. Because many are not familiar with thermal expansion valves, we want to offer this opportunity for you to get up to speed on these metering devices.

To Register for the Thermal Expansion Valve Webinar [Click Here](#)

Derry Classroom: Duct Sizing with Manual D Tuesday Nov. 1st, Wednesday Nov. 2nd, Thursday Nov. 3rd, 2022 and Monday Nov. 7th, 2022 from 5:30 pm to 8:30 pm \$170—This 12 hour, Four evening class, covers what is needed to size a residential duct system. We start on night 1 with some basics of heat loss and gain and finish by completing two residential Duct Designs, one in the basement and one in the attic including grilles, registers and diffusers. This is not a Duct Design Software class. **Attendees will do all sizing work on Manual D worksheets so they will see what is going on at every step of the process.** *This class contains an incredible amount of information so pdf files of the presentations and other documents will be given for further review at the attendee's leisure.

Gas Troubleshooting:

The **first evening** will include: the components of a furnace, the theory behind them, the role of pressure and pressure differentials, temperature and temperature differentials, airflow, voltages, ohms, continuity, micro amperage, etc. and putting together the devices necessary to test them. We then will talk about how to use the sequence of operations, error codes and troubleshooting flow charts to aid you in solving your customer's issues.

The **second evening** will be spent going over the many issues that can happen in a gas furnace and the many test that a technician may need to perform. We will cover standard test such as limits, pressure switches, ignitors, flame sensors, grounding, temperature and pressure, when & how to check inlet or outlet gas pressure, static pressure, using pressure differential to solve airflow issues, using a jumper wire to isolate components, low voltage, etc. but also testing that has to be done on single, two-stage or modulating furnace gas valves, power venters and circulator blower motors and more. How to use devices such as your manometer or meter and the different accessories for them will be explained as we go through the various test.

Some other Duct Sizing Class Topics

Why a Manual J block load calculation is ok for equipment sizing when doing an equipment change out and how this will most likely allow us to down size the equipment.

Why you need a room-by-room Manual J load calculation in order to do a proper ACCA Manual D Equal Friction Method Duct Design. The benefits of correctly sized equipment, single stage vs 2 stage vs modulating furnaces, PSC vs ECM motors,

Things to ask and information to gather during the home visit or from the builder when adding or replacing equipment and/or duct work.

The theory of how and why air flows or will not flow through a duct system and the test necessary to prove airflow. Why static pressure, velocity, cfm, pressure drop, available pressure, etc. and the relationship between cfm, static and amps matter. The importance of choosing evaporator coils with less pressure drop using the AHRI matching charts and choosing the right filters.

The "Do's and Don'ts of Duct Design and Duct Fittings" that can make or break your design. What is equivalent & effective length? Why do they matter? Why fitting choices matter and the consequences of choosing poorly.

We will go over how to correctly use a duct calculator for duct sizing. You will learn what friction rate is, how to calculate for it and then use it to size ducts. You will also learn to use it for velocity numbers, sizing rectangular ducts or round pipe, etc. This will help with retrofit issues as well

We will close out the class by walking through a small, two story residential Duct Design using the ACCA Manual D Duct Design Friction Rate and Duct Sizing worksheets and manually calculated your pressure drops and available airflow, choose our fittings, calculate our longest runs, room airflow needs, and duct sizes.

A Minimum class size of 7 people is necessary for the class to run. All classes will have food & drink provided unless otherwise stated. All classes will be at the Perry Haymann Memorial Training Room at our 171 East Hollis St., Nashua, NH location or our 1B Street, Derry, NH location. Start time is 5:30 PM and end at 8:30 PM, unless otherwise stated, except Saturday morning Gasfitter Seminars that start at 8 AM. Call, fax, or ask at counter for more details and sign up sheet.

*Seating is limited and will be filled on a first come, first reserved basis. **No billing for training is done until after the training is over.** If more than one person is attending, please duplicate this form as necessary and make *checks payable* to Total Air Supply. * Applies to non-account holders only.*

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If registering multiple people on one form please fill in the name, contact # & desired classes section for each attendee. You can print and fax the information or Microsoft word savvy people can fill out the form and email it back to randal@totalairsupply.com

Total Air Supply, 171 East Hollis St., Nashua, NH 03060 Phone: 603-889-0100

Fax sign-up Sheet to: 603-425 -6117 Attn: Randal

Company Name: _____ Company Phone: _____

Name of Attendee: _____ contact #: _____

Classes desired: _____

Email Address Registration link will be sent to: _____

Name of Attendee: _____ contact #: _____

Classes desired: _____

Email Address: _____

Billing to company—authorized by: _____

Card type: Please circle one-----Visa-----Master card-----American Express

Name on credit card: _____

Card Number: _____

Billing address for card: _____

Expiration Date: _____ Security Code: _____

Phone number associated with card: _____ Amount enclosed: _____

Authorized Signature: _____