

Total Air Supply's Fall 2023 TAS Ed. HVAC Training Schedule & Sign-up Sheet

Now that we have added Alan Velleman to be our primary phone & field support specialist, Randal can expand our catalog of training classes. We call our new Training Program "**TAS Ed. HVAC Training**" because helping technicians improve their HVAC knowledge and skills is our focus.

This Fall, along with our regular offering of fall seminars, we have rolled out a series of **FREE Goodman** or **Amana** equipment specific installation & Start-up and Service & Troubleshooting classes to provide contractors and their technicians the information they need to be more knowledgeable and efficient at "Installing and Servicing" Goodman, Amana and Daikin Equipment and right after the New Year we will be offering certified Daikin mini/multi split classes in our Derry location with our live Daikin Units.

Most classes in our catalog can be done at our facility or yours except the Daikin Certified Install & Service Classes and the Amana S Series Installation & Service Classes. If you would like to have **Goodman** or **Amana** equipment Installation & Start-up or Service & Troubleshooting classes or some of our other training classes at your companies facility or in our Nashua or Derry classrooms, please call Randal at 1- 603-845-1710.

REGISTERING AND PAYING FOR TAS ED SEMINARS AND WEBINARS:

NOTE: All TAZ ED HVAC Training seminars can potentially have an **ONLINE** component. **DERRY** or **Nashua** indicates the Classroom location for the seminar.

When the **ONLINE** webinar is **FREE**, you still must click on the registration link, provide the information and click submit. *The Webinar link will be sent to you automatically.*

When the seminar has an **ONLINE component and a fee to attend**, you must complete Steps 1 and 2 below. *The Webinar link will be sent to attendee after payment is confirmed by sales.*

When the seminar **does not** have an **ONLINE** component, **You must complete Step 2 below** or send in a completed registration form

Step 1: Click on the link under the online date of the class you want to attend. If you want to take more than one class, you will need to complete this step for each class with an online component. You will be redirected to the registration page, click on the "Register Now" Box, fill out the form and click submit.

Step 2: Make Payment - Call Total Air Supply's sales department at 1-603-889-0100 or 1-800-370-0100 and let them know you need to pay for the upcoming class or classes you want to attend. You can pay with your credit or debit card or your Total Air Supply charge account, if applicable.

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6 Hour Gas Training for NH Gasfitter License Renewal, 2022 & 2023

Modules, \$80—Class will cover the 2022 & 2023 Code modules required by the State of New Hampshire for license renewal. *Those who want to attend just one module may attend the 2022 segment from 8-11 am or the 2023 module from 11 am to 2 pm depending on your needs. The cost will be \$40 per module or \$80 for both.* Two modules for a total of 6 hours is required for license renewal. Taking both the 2022 & 2023 modules will satisfy this requirement.

Derry Classroom: Saturday November 18th, 2023 – 8 am to 2:30 pm

Nashua Classroom: Saturday December 16th, 2023 – 8 am to 2:30pm

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DERRY: Goodman/Amana 92% and 96% Single or Two-Stage Non-Communicating Gas Furnaces—Installation

Wednesday October 25th, 2023 -- 5:30 pm to 8:30 pm

[Register Here](#) – This is an “in person” seminar in our **DERRY classroom.**

Review of the 92% & 96% Goodman and Amana Non-communicating furnaces, features, nomenclature, models, accessories, Installation best practices, tips we've learned along the way, grounding, various low voltage wiring options, Heating & Cooling set-up options, start-up/Commissioning Testing and completing the Data Test Sheet

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DERRY: Goodman/Amana 92% and 96% Single or Two-Stage Non-Communicating Gas Furnaces—Service & Troubleshooting

Thursday October 26th, 2023 -- 5:30 pm to 8:30 pm

[Register Here](#) – This is an “in person” seminar in our classroom.

The class will start with a functional overview of the furnaces, the different methods of viewing error codes, the control boards, and wiring diagrams before moving into the troubleshooting segment that will cover sequence of operation, the roles key components play in the system, the diagnostic test you need to know to confirm if a key component has failed, and test to determine if the problem is water or Airside related.

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ONLINE: Understanding & Troubleshooting motors Used in Goodman/Amana Furnaces

Monday October 30th, 2023 -- 5:30 pm to 7:00 pm

We will be discussing the three types of air circulation blower motors used in Goodman/Amana furnaces & AH's over the years, the Permanent Split Capacitor (PSC) Motor, Electronically Commutated Motor (ECM) Constant Torque Motor (CTM) and the ECM Variable Speed, Constant Volume Motor, both the 4 pin and 16 pin types.

We will discuss how each of the different motors work, how they are controlled, testing control and line voltages, Ohms testing, motor testers, determining if low airflow, a symptom of high static pressure, is the problem, is it the motor or the end bell, speed selection and more.

[REGISTER FOR MOTORS CLASS HERE](#)

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DERRY: Goodman/Amana GMVC96 2-Stage & GMVM97 Modulating Communicating Blue Tooth Furnaces--[Installation](#)

Wednesday November 1st, 2023 – 5:30 pm to 8:30 pm

[Register Here](#) – This is an “in person” seminar in our classroom.

These are Goodman/Amana's top of the line communicating furnaces. We start with explaining the features, nomenclature, models, accessories, & Blue Tooth Technology. We then move on to installation best practices, tips we've learned along the way, grounding, various low voltage wiring options, sensor installation and draining, The CoolCloud App, how to use it or the push buttons to set-up Heating & Cooling options, the algorithms explained, Dual Fuel settings, and start-up/commissioning Testing.

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DERRY: Goodman/Amana GMVC96 2-Stage & GMVM97 Modulating Blue Tooth Furnaces--[Service & Troubleshooting](#)

Total Air Supply's Fall 2023 TAS Ed. HVAC Training Schedule & Sign-up Sheet

Thursday November 2nd, 2023 – 5:30 pm to 8:30 pm

[Register Here](#) – This is an “in person” seminar in our classroom.

The class will start with a functional overview of the furnaces, the different methods of viewing error codes, the control boards, wiring diagrams before moving into the troubleshooting segment where we will cover troubleshooting with error codes and the CoolCloud App, rate of change algorithm, temperature sensor, sequence of operation, the roles key components play in the system, how to test them, and other tips and tricks you need to know to determine the cause of the problem and using the App to get start-up/commissioning sheet numbers.

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How to Use Electrical Theory, Sequence of Events, Diagrams, and your Electrical Meter to Troubleshoot HVAC Equipment \$60

Night 1: Online Tuesday November 7th, 2023 – 5:30 pm to 8:30 pm

Nights 2 & 3: Derry Wednesday & Thursday November 8th & 9th, 2023 – 5:30 pm to 8:30 pm

This 9-hour class will cover the basics of electrical theory, 1 ph. and 3 ph., different types of wiring diagrams, the different sections of a wiring diagram, the symbols and how to read the different diagrams both 1 ph. & 3 ph., we will go over series, parallel and series-parallel circuits, what each circuit is used for and how it functions, we will trace out safety and control circuits according to the sequence of operation on heating and cooling equipment, review meters and their use and finally attendees will put what they have learned in class to use by solving a series of trouble shooting questions by going through the wiring diagrams and marking where they would put their electrical probes in order to find the answers.

[REGISTER FOR ELECTRICAL CLASS HERE](#)

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Duct Sizing & Design Using Manual D: How you know your Duct designs will work \$150

Total Air Supply's Fall 2023 TAS Ed. HVAC Training Schedule & Sign-up Sheet

Nights 1 & 2 – ONLINE Monday November 13th & Tuesday November 14th, 2023 – 5:30 pm to 8:30 pm

Nights 3 & 4 – DERRY Wednesday November 15th & Thursday November 16th, 2023 – 5:30 pm to 8:30 pm

If someone asked you, "How do you know your duct designs work?" What would you tell them? Taking this 4 Evening, 12 hour class will provide the attendee with the information necessary to make a successful journey through the Residential Manual D Duct Sizing process from start to finish. Along the way we will go over information that will assure your duct design will work and the start-up test that will prove it. *See complete synopsis on last page of the training schedule.*

[REGISTER FOR DUCT DESIGN](#)

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Thermal Expansion Valves, TEV to some, TXV to others, Explained

ONLINE: Monday November 20th, 2023 – 6:00 pm to 8:00 pm

This 2-hour webinar covers what they are, how they work, and how to diagnose & troubleshoot.

[REGISTER HERE](#)

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Installation & Troubleshooting Goodman/Amana 1 & 2 Stage Heat Pumps

DERRY Tuesday 12-5-2023 & Wednesday 12-6-2023 – 5:30 pm to 8:30 pm.

[Register Here](#) – This is an "in person" seminar in our classroom.

This 6-hour, two-evening class will cover Goodman/Amana 1 & 2 Stage Heat Pumps. It will start explaining what a heat pump is, how they work, the heat pump refrigerant circuit and Goodman/Amana HP product lines, why the equipment must be correctly matched, Installation best practices, Line & low voltage wiring, pulling a vacuum,

Total Air Supply's Fall 2023 TAS Ed. HVAC Training Schedule & Sign-up Sheet

charging, and start-up. Along the way you will also learn about the defrost cycle, static pressure, superheat, sub-cooling, target superheat, and the tools you'll need to measure and adjust these items.

In the troubleshooting segment we will review the difference between legacy vs communicating wiring, connecting the CoolCloud App to communicating systems, go through the sequence of operation, troubleshooting contactors, defrost control boards, defrost thermostat, Hi & low pressure switches, condenser fan motor, basic compressor windings test & a couple other things that will tell you the compressor needs replacing, the 2 stage unloader, capacitor & hard-start kits, sensors and the refrigerant flow reversing valve, aka "the 4 way valve".

Duct Design Synopsis continues here:

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

Some basics of heat loss or gain

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,

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 2 small, two story residential Duct Designs using the ACCA Manual D Duct Design Friction Rate and Duct Sizing worksheets and manually calculated pressure drops and available airflow, choose our fittings, calculate our longest runs, room airflow needs, and duct sizes.

Finally yet importantly, we will close out with how grilles, registers and diffusers work and how to size them.

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If registering multiple people on one form please fill in the name, contact # & desired classes section for each attendee. 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: _____

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: _____

A Minimum class size of 7 people is necessary for the class to run. All In Person classes will have food & drink provided unless otherwise stated. All classes will be held at the Perry Haymann Memorial Training Room at our 171 East Hollis St., Nashua, NH location or our 1B Street, Derry, NH location. Starting time is listed in the class description. 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.