



# Education Program

## 2010

**COURSE DATES**

**JUNE 8**

**PPMCSA TRAINING  
CENTER**

**Eastwood Office  
Center, Suite 22  
810 S. Eisenhower  
Boulevard  
Middletown, PA  
(717) 902-0210**



**SEPTEMBER 2**

**RODEWAY INN &  
CONFERENCE  
CENTER**

**(Formerly Days Inn)  
Routes 22 & 309  
Allentown, PA  
(610) 395-3731**

**9:00 a.m. - 4:00 p.m.**



## **ECM TECHNOLOGY & BOILER INSTALLATION & SYSTEM PIPING**

TWO-IN-ONE, This two half day informational packed presentation will be presented by Tim Wolf, Technical Advisor for Thermo Pride and Ron Beck, Manager of Training for Burnham Hydronics.

An HVAC system that has a variable speed motor or ECM (electronically commutated motor) are systems that have a higher efficiency rating than the typical electric blower or condenser fan motor. ECM motors are here and they offer a higher efficiency because they use less energy and provide benefits that the typical electric motor cannot offer. Tim Wolf will cover the ECM blower motor in depth.

The other half of this full day program, Boiler Installation and System Piping, will be presented by Ron Beck. Ron's presentation will review the different types of Hydronic Systems. Attendees will learn about the two type of primary/secondary systems and when to apply each and how to connect the boiler. When combustion air is required and how much, along with chimney and power venting practices.

Both of these programs will cover troubleshooting/problem solving and much, much more!

**PPMCSA Training Center limited seating 24**

**SIGN-UP NOW!!**

**PENNSYLVANIA PETROLEUM MARKETERS & CONVENIENCE STORE ASSOCIATION**

P.O. Box 68  
Highspire, PA 17034-0068



Please enroll the following in your **ECM TECHNOLOGY & BOILER INSTALLATION & SYSTEM PIPING**:

**NAME** (Please PRINT Clearly or TYPE in FULL)

**JUNE 8**

**SEPT. 2**

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**COMPANY** \_\_\_\_\_

If subsidiary or branch of member, print parent company below:

\_\_\_\_\_

**NO REGISTRATION WILL BE ACCEPTED  
UNLESS ACCOMPANIED BY PAYMENT IN FULL**

**MAILING ADDRESS** \_\_\_\_\_

**CITY** \_\_\_\_\_ **STATE** \_\_\_\_\_ **ZIP** \_\_\_\_\_

**PHONE** (\_\_\_\_) \_\_\_\_\_ **FAX** (\_\_\_\_) \_\_\_\_\_

**AUTHORIZED BY** \_\_\_\_\_

**TITLE** \_\_\_\_\_

**REGISTRATION FEE**  
**\$125.00 per person**  
**CONFIRMATION WILL BE SENT THREE**  
**WEEKS PRIOR TO THE PROGRAM.**  
**Seminar will start promptly on time.**  
**Please allow ample time for road conditions.**

**Authorized E-Mail** \_\_\_\_\_

Check Enclosed for \$ \_\_\_\_\_

Charge my:  MasterCard  Visa  Discover Account Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Cardholder's Name (Please Print) \_\_\_\_\_ Signature \_\_\_\_\_

*Detach here and mail today!*

**WHAT THE ECM TECHNOLOGY AND INSTALLATION & SYSTEM PIPING WILL COVER:**

1. What is an ECM blower?  
Explain what ECM stands for and the evaluation of this technology.
2. Advantages of an ECM blower.  
Discuss the comfort this blower can achieve by providing a two speed constant air flow at a very low cost, also included is the quiet operation and the dehumidification features available with this package.
3. Operation of an ECM motor.  
Examine how the ECM motor works including electrical and electric components.
4. Adjust the Fan Control board for peak comfort and efficiency.  
Discuss adjusting dip switches for different CFM's and blower timings.
5. Troubleshooting  
Troubleshooting both the ECM motor and the Fan Control board. Also included is emergency no heat motor replacements.

1. Boiler Sizing
  - a. Why is proper boiler sizing more important today
  - b. How does over-sizing affect the more efficient boilers
  - c. Myth busters on common sizing techniques
2. Combustion Air
  - a. Learn the formula for combustion air
  - b. How does combustion air affect the operation of the boiler and controls
3. Review of System Types
  - a. Loop system
  - b. Reverse return system
  - c. Monoflo system
4. Vent Oil Boiler
  - a. Proper chimney venting
  - b. Power Venting
5. Near Boiler Piping
  - a. Proper components placement in new boiler piping
  - b. Why we did it this way and what changed
  - c. Boiler protections why's and how's
6. Primary/Secondary Systems
  - a. Discuss when to use primary/secondary
  - b. How to pipe the two types
  - c. Differences between the two types

**PAYMENT POLICY:** Payment can be made by check or credit card. Visa, MasterCard or Discover information may be faxed to PPMCSA at (717) 902-0290.

**CANCELLATION POLICY:** Cancellations will be accepted up to 3 days prior to the program date. No refund will be made unless the cancellation is **received more than 3 days prior to the scheduled program.**

**CERTIFICATE OF TRAINING AND NORA CEU CREDITS:** Will be awarded to each student who completes the course and passes the examination.

**OVERNIGHT ACCOMMODATIONS:** Lodging, transportation and meals (other than lunch) are the responsibility of the student.