

Steam Systems Maintenance, Safety & Optimization™

Increase the Efficiency of Your Steam System and Prevent Steam Blast

For a schedule of open enrollment classes or to bring this training to your plant or facility, contact us @

1-877-97-TRAIN

www.AmericanTrainco.com

Don't Open a Steam Valve in a High Pressure Steam System Until You Have Taken this Course!



LEARN TO:

- Safely Repair Steam Systems
- Test Steam Traps
- Prevent Steam Blast
- Save Energy
- Prevent Water Hammer

Not Normal: If your Steam Pipes Look Like This, You Need to Take This Course.



- This seminar can also be presented at your facility for larger groups
- Reserve Your Space Now! Call 1-877-97-TRAIN
- Check us out on online at www.AmericanTrainco.com for a complete listing of all seminars coming to your area

Real World Training...for Real World Needs™

▶ "I'm going straight back to the plant and apply what I learned."

▶ "I didn't realize how much energy our steam system was losing."

Steam Systems

Maintenance, Safety & Optimization™

PURPOSE OF TRAINING

Steam Systems are not only one of the biggest consumers of energy in most plants or facilities, but they can also be hazardous to work on or around if proper care is not taken. This course will teach you how to keep your steam system working efficiently and how to fix common problems and work safely. Emphasis is given so that a maintenance technician can quickly identify and solve common problems in steam systems and take corrective actions to reduce energy loss.

We approach our students as if they were our own employees and give them the real world education they need to do their job. By the end of this seminar, students will be able to go back to their facility and immediately apply what they learned to help make their steam system more efficient and safer. Training like this never costs – it pays!

LEARNING OBJECTIVES

Upon completion of this course students will receive a training certificate and 1.4 Continuing Education Units indicating that the student has learned to:

- Understand how steam is created and works
- Identify the major components of a steam system
- Use proper materials, fittings and fixtures for steam piping
- Identify and solve potential water hammer situations
- Understand pressure and temperature controls in a steam system
- Remove and install piping insulation
- Understand condensate recover systems
- Repair common steam valve problems
- Test steam safety relief valves
- Check for steam leaks
- Understand effects of steam on mechanical equipment
- Describe how water chemistry can effect steam
- Identify and solve heat loss in steam systems
- Describe the function and value of a steam trap
- Safely work on and around steam systems
- Implement a steam system maintenance program

TEACHING PHILOSOPHY

"Real World Training...for Real World Needs", is not just our slogan, but also our mission statement. At American Trainco, we approach our students as if they were our own employees. We instruct and guide them in practical knowledge that allows them to immediately go back to their workplace and apply what they have learned. Our instructors are seasoned veterans with years of *real world* experience, and the students who attend our seminars often get more from a few days of training than an entire year of reading textbooks or watching videos. How do we know? They tell us.

Anyone can teach theory, but there simply is no substitution for experience. What sets American Trainco apart is our ability to communicate that experience to our students. As one attendee told us at the end of his two-day training course, "I think I can go back to work now and teach the veterans a thing or two."

Mission accomplished.

ABOUT OUR INSTRUCTORS

All American Trainco instructors are required to have a formal education *and* real world work experience. They need to be leaders in their field. We don't hire field people without teaching experience, and we don't hire teachers without field experience. They must have both. And since attendees critique the instructor at the end of each class, a positive and enjoyable learning experience is virtually guaranteed.

TRAINING CERTIFICATE

After completion of this seminar students will receive a personalized Certificate of Completion and 1.4 CEU's (Continuing Education Units) approved by the Maintenance Training Association of the Americas.

UNAFFILIATED and NON-COMMERCIAL

Unlike some training experiences, you won't get a sales presentation at an American Trainco seminar - all

you get is an honest, commercially unbiased education. We do not engage in the practice of selling or promoting any other company's products or services, so you know that by attending one of our seminars, your time and money is well spent.

HIGH QUALITY PRESENTATIONS

Black and white transparencies never made it in the door at American Trainco. From the start we demanded that all our presentations would be lively, attractive, crisp and clear. Our instructors use state-of-the-art computers, projection equipment and software to bring you a high quality visual experience. And our books are designed with the maintenance person in mind too. We know that they don't always have a lot of time to read volumes of literature so our manuals are quick and to the point, providing students the same charts, descriptions, pictures and bulleted items they'll see in the presentation.

WHO SHOULD ATTEND

Attendees to this seminar come from a wide variety of industries, skill levels, company sizes and job titles, so if you're not sure you will fit in or will benefit from the class, don't worry – you will – as long as your job involves working around boilers and steam systems. From the apprentice mechanic to the seasoned engineer, this course successfully addresses the questions and concerns of all those who need steam system knowledge, including

- Maintenance Technicians
- Boiler Operators & Technicians
- Mechanics
- Steam Driven Equipment Operators
- Building Owners
- Plant Engineers
- Facility Managers
- Multi-Craft Technicians
- Design Engineers
- Anyone interesting in improving steam knowledge

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COURSE OVERVIEW

Students who participate in this two-day program will walk away with a better understanding of steam systems starting with boilers and burners all the way up through the pipes and control valves to points of use. This course is designed for anyone who needs to understand the fundamentals of steam systems, how to identify and solve common steam system problems, how to minimize energy loss and how to do all of this in a safe and efficient manner. Practical applications and solutions for keeping systems from down time are discussed.

STEAM FUNDAMENTALS

- Boiler & Combustion Process
- Thermodynamics
- Reading Steam Tables
- Steam Distribution & Utilization

PIPING & FITTINGS

- Piping Materials and Construction
- Pipe Sizing
- Pipe Lagging
- Steam Fittings
- Expansion Joints
- Guides & Anchors
- Support and Labeling Requirements
- Seismic Restraint Requirements

PIPING INSULATION

- Energy Loss
- Material Selection
- Sizing
- Asbestos Insulation
- Best Practices for Removal of Insulation

CONDENSATE SYSTEMS

- Condensate Removal
- Condensate System Designs & Operation
- Condensate Return Management
- Condensate System Testing & Maintenance

STEAM VALVE MAINTENANCE

- Types – Manual Control, Pilot Control & Automatic Operation
- Leakage
- Valve Testing – the Safe Way
- Valve Maintenance – Packing, Lapping & Adjustments

SAFETY RELIEF VALVES

- Types
- Codes
- Settings
- Testing
- Maintenance & Adjustments

STEAM LEAKS

- Checking for Steam Leaks – Safely
- Managing Steam Leaks & Maintaining System Operability

STEAM SYSTEM MANAGEMENT & MAINTENANCE

- Steam Effects on Mechanical Components
- Cutting
- Corrosion
- Thermal & Mechanical Shock
- Steam System Troubleshooting
- Best Practices in Steam System Management

WATER MANAGEMENT IN STEAM SYSTEMS

- Water Quality and Steam
- Water Hammer, Causes, Effects & Prevention

STEAM TRAPS

- Design & Operation
- Sizing & Selection
- Testing
- Repair

STEAM PRESSURE & TEMPERATURE CONTROL

- Pressure & Temperature with Steam
- Pressure Reduction
- Temperature Control
- Pneumatic Rotary Control
- Steam Isolation Valves

STEAM SYSTEM ENERGY MANAGEMENT

- Cost of Steam
- Heat Exchanger Efficiency
- Combustion Efficiency
- Efficiency Tests
- Flash Recovery Systems

SEMINAR AGENDA

7:30 am	Registration
8:00am	Class Begins
12:00-1:00pm	Lunch (on your own)
4:30pm	Class Ends

SEMINAR FEES: \$990 Both Days

NO RISK REGISTRATION & MONEY-BACK GUARANTEE

If you're not sure you'll be able to attend this seminar, you can still make a reservation to hold your space in class. While payment is due prior to the start of the seminar, you may choose a full refund or credit for cancellations made at least 24 hours in advance. Student substitutions can also be freely made at any time prior to the start of the seminar. Refunds will not be issued for registered attendees who fail to show up and have not given a notice of cancellation. In the rare event that you do not receive the expected value after attending our seminar, simply notify us in writing of your reasons and your money will be promptly refunded.

IN-HOUSE TRAINING

You can bring this or any other maintenance training program directly to your facility. Simply give us a call, tell us what you're looking for, and we'll provide you a quote. We also provide custom training for courses not listed in this brochure.

Call **1-877-97-TRAIN** and ask for Dan or Adam, or email AdamC@AmericanTrainco.com.

Visit us on the web at www.AmericanTrainco.com

OTHER SEMINARS

American Trainco presents a variety of maintenance training seminars throughout the country on a regular basis. Contact us to find out more about the training courses coming to your area, including:

- **Basic Electricity for the Non-Electrician™**
- **Electrical Troubleshooting**
- **Air Conditioning & Refrigeration**
- **Boiler Operation, Maintenance & Safety™**
- **Arc Flash Protection & Electrical Safety™**
- **2011 National Electrical Code®**

And 20+ other courses in the following areas:

- **Electrical / Electrical Controls**
- **HVACR**
- **Mechanical**
- **Facility & Plant Management**
- **Fluid Power**
- **Pumps / Piping**
- **Codes / Standards / Safety**

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SEMINAR FEE
\$990 Both Days

FIVE EASY WAYS TO REGISTER:

- 1) **Internet** www.AmericanTrainco.com
- 2) **Fax** (303) 531-4565
- 3) **Phone** Toll Free 1-877-97-TRAIN 1-877-978-7246 or (303) 531-4560
- 4) **Mail** this form to: American Trainco, Inc. P.O. Box 3397 Englewood, CO 80155
- 5) **E-mail** the information requested on this form to: sales@AmericanTrainco.com

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www.AmericanTrainco.com

▶ *"This course went right to the point. No bull."*

Authorizing Person/Supervisor: Name _____

Title _____ Company Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____ Email _____

Seminar Attendees: Name _____ Title _____ E-Mail _____ Seminar City _____

Name	Title	E-Mail	Seminar City

Billing Information: (Please fill out this section only if the "Bill To" name and address is different than the Authorizing Person's name and address above.)

Individual's Name _____	Title _____	Company Name _____
Address _____	City _____	State _____ Zip _____
Phone _____	Fax _____	Email _____

Other Seminars Coming To Your Area!

- Basic Electricity for the Non-Electrician™
- Electrical Troubleshooting
- Air Conditioning & Refrigeration
- Boiler Operation, Maintenance & Safety™
- Arc Flash Protection & Electrical Safety™
- 2008 National Electrical Code®

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- HVACR
- Mechanical
- Facility & Plant Management
- Fluid Power
- Pumps / Piping
- Codes / Standards / Safety

Call 1-877-97-TRAIN, or visit
www.AmericanTrainco.com
to get your complete schedule today!

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(Make payable to: American Trainco, Inc.)



PO Box 3397
Englewood, CO 80155



PROMOTION CODE

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