

## 1-Day Live Online Hydraulic Troubleshooting

### LIVE ONLINE SEMINAR

Courses Available  
Throughout the Year

[NFPITRAINING.COM](http://NFPITRAINING.COM)

**COST: \$595.00**  
**INCLUDES:**  
 Class Manual  
 Certificate of Completion



1. **Fundamentals of Hydraulics**
  - Flow
  - Pressure
  - Torque
  - Horsepower
  - Speed
2. **Reading Schematics & Graphic Symbols**
3. **Understanding System Operation**
  - System Efficiency
  - Advantages & Disadvantages
  - Braking Systems
  - Open Loop & Closed Loop
  - Load-Sense
  - Steering Systems
4. **Recognizing the Need for Cleanliness & Filtration**
  - Viscosity Effects
  - Micron Ratings
  - Effects of Contamination
5. **Understanding Flow in the System**
  - Slow Or Erratic Actuator Operation
  - Component Wear – Effects Of Contamination, Pressure & Heat
  - Case Drain Monitoring
6. **Diagnosing Plumbing Problems**
  - Fittings (NPTF, SAE, JIC 37°, Straight Thread O-Ring)
  - Hose, Tubing & Pipe Sizing
  - Pressure Ratings
7. **Cavitation & Aeration Problems**
  - Inlet Restrictions
  - Sizing Filters and Strainers
  - Atmospheric Pressure
  - Pump & Motor Shaft Speeds
8. **Troubleshooting Components**
  - Pumps & Pump Controls
  - Motors
  - Cylinders
  - Valves
  - Pressure Controls
  - Steering Systems
  - Braking Systems
9. **Pressure Control Adjustments**
  - Relief Valves
  - Sequence Valves
  - Pilot Operated Valves
  - Counterbalance Valves
  - Unloading Valves
  - Pressure Reducing Valves
  - Brake Valves
10. **Speed Control Adjustments**
  - Meter-In
  - Bleed-Off
  - Meter-Out
  - Variable Displacement
  - Variable Speed
  - Pressure Compensated
11. **Heat Removal from Hydraulic Systems**
12. **Start-Up Procedures**
13. **Hydraulic System Safety**

## REGISTRATION FORM

PERSON TO CONTACT FOR CONFIRMATION: \_\_\_\_\_

STUDENTS: \_\_\_\_\_

COMPANY: \_\_\_\_\_ PHONE: \_\_\_\_\_ EXT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ EMAIL: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

STUDENT(S) ( \_\_\_\_ ) @ \$595 PER PERSON \$ \_\_\_\_\_

CHECK IS ENCLOSED       USE OUR PURCHASE ORDER NO. \_\_\_\_\_

VISA       M/C       AE      # \_\_\_\_\_ EXP: \_\_\_\_\_

ENROLLMENT ARRANGEMENTS SHOULD BE RECEIVED A MINIMUM OF SEVEN DAYS PRIOR TO THE SEMINAR DATE

For more information or to register contact us: 800-704-1066 or email [info@nfpitraining.com](mailto:info@nfpitraining.com)