



Understanding & troubleshooting Hydraulics

This development course is available in both virtual and in-person, instructor-led formats, it is a two-day course about Understanding & troubleshooting Hydraulics, providing the knowledge needed to be proficient working with industrial hydraulics and fluid power.

Description:

Troubleshooting hydraulics systems and operating and maintaining your own hydraulic equipment starts with simply understanding how and why all the various components work, and this course gives team members the basic building blocks for doing so.

Course Outline:

Day One – Topics

Day one of this hydraulic repair and troubleshooting course focuses on examining what hydraulic systems are and how they work. Team members will start with an overview of hydraulic principles and progresses through hydraulic system components including pumps, valves, cylinders, motors, rotary actuators, accumulators, and filters with emphasis placed on component structure and the identification of the components by the proper symbol as standardized by ANSI and ISO. Topics include:

1. Hydraulic Principles
2. Positive-displacement Pumps
3. Flow Control Valves
4. Directional Control Valves
5. Check Valves
6. Hydraulic Cylinders
7. Hydraulic Motors
8. Hydraulic Rotary Actuators
9. Pressure Control Valves
10. Pilot Operated Pressure Control Valves
11. Accumulators



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- 12. Fluid Conductors
- 13. Reservoirs, Heat Exchangers, and Filters

Day Two - Topics

Day two builds on the knowledge gained on day one to include troubleshooting of your hydraulic system. TPS knows that it is critical to avoid downtime in your facility and your team members will use this day to focus on maintaining an efficient system and doing it safely.

- 1. Application of Hydraulics
- 2. Troubleshooting
- 3. Hydraulic Safety
- 4. Basic Troubleshooting Requirements
- 5. Generalization on Hydraulic Troubleshooting
- 6. Noisy and Cavitating Pumps
- 7. No System Pressure
- 8. Low or Erratic System Pressure
- 9. No Movement of Actuator
- 10. Slow or Erratic Actuator
- 11. System Running Hot
- 12. Common Cylinder Problems
- 13. Solenoid Failure
- 14. Internal and External Leaking Control
- 15. Troubleshooting Hydrostatic Transmission