

## Hydraulic Systems



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### Description

This class will start out with an introduction to hydraulics and teach the participant how to successfully maintain and troubleshoot industrial hydraulics. The course will be a hands-on instructor led class that will teach theory and principles up to advanced troubleshooting skills. An in-depth study of pressure control, flow control, directional control, cylinders, motors, pumps and more.

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### Outline

- Introduction to Hydraulic Principles
- Hydraulic Filters and Reservoirs
- Hydraulic Pumps (Fixed and Variable)
- Pressure Control in Hydraulics
- Flow Control Valves
- Directional Control Valves
- Hydraulic Cylinders
- Pilot Operated Control Valves
- Hydraulic Accessories; Accumulators, Filtrations, Flow Devices

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### Prerequisites

There are no prerequisites required for this course other than an interest in hydraulics and a willingness to participate in an instructor-led hands-on classroom environment.

This class is an excellent entry course for apprentices and a great refresher course for general, production mechanics, journeymen in machine repair, pipe fitters and electricians.

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### Course Length

32 hours.

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### Performance Objectives

At the completion of this course the participant will be able to:

- Demonstrate a thorough knowledge of hydraulic systems.
- Successfully troubleshoot a hydraulic system.
- Properly select the correct valve for a job.
- Correctly maintain an industrial hydraulic system.
- Contamination control.
- Troubleshoot by reading schematics.
- Identify components from circuit diagrams.
- Understanding of piloting.
- Distinguish between aeration and cavitation.