

M-HYD101 – Basic Hydraulics

Course Overview

About this course

The course is 3 days in length and designed to provide the trainee with an increased understanding of the design, maintenance and safety aspects of hydraulic systems. Using advanced technologies such as our Hydraulic System Simulator trainees are encouraged to create and test their own systems. In addition to detailed training lectures, attendees receive easy-to-understand, richly illustrated learning materials as well as invaluable reference tools.

Who should attend?

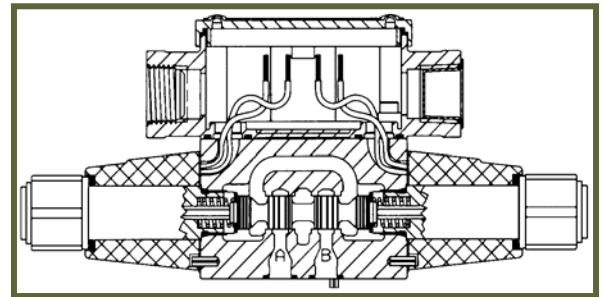
Supervisors, millwrights, electricians, maintenance planners and anyone who needs to really understand hydraulic systems.

What will you learn?

- Hydraulic fundamentals
- System maintenance
- Design principles
- Component sizing
- Operating hints
- Fluid power safety
- Troubleshooting techniques
- And much more!

Course content

- Introduction
- Hydraulic Theory and Principles
- Contamination Control
- Directional Controls
- Pressure Control Valves
- Flow Control Valves
- Actuators (Linear & Rotary)
- Pumps
- Symbols and Schematics
- Hydraulic Safety
- Conductors and Line Sizing
- Filtration



Provided materials

- Student Workbook
- Vickers Hydraulic Manuals
- Womock Fluid Power Databook

Features and benefits

- Hands-on training
- Interactive training sessions using the latest in Coe Newnes/McGehee hydraulic technology
- Learn to use schematics for fast effective troubleshooting
- Computerized hydraulic simulator
- Training lectures that lay a solid foundation in hydraulic theory
- Gain hands-on experience in safely and correctly setting up pump and relief combinations
- Question and answer sessions

For more information contact our Technical Training group:

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Synopsis

Day 1

- Introduction and course overview
- Basic hydraulic theory and principles
- Pascal's law
- Fundamental hydraulic calculations
- Principles of pressure
- Principles of flow
- Hydraulic schematic reading
- Series and parallel circuitry
- Heat and horsepower
- Hydraulic fluids
- Hydraulic cylinder
- Fluid motors

Day 2

- Flow control types and applications
- Flow control circuit demonstration
- Directional control valves
- Directional control valve applications
- Directional control valve pilot arrangements
- Directional control valve circuit demonstrations

Day 3

- Relief valves
- Pilot operated pressure controls
- Pressure reducing valves
- Counterbalance valves
- Pressure control demonstrations
- Fluid lines, ports and connectors
- Practical fluid line sizing
- Fluid line sizing lab
- Contamination control
- Hydraulic pumps
- Pressure compensation
- Pressure compensated pump and relief valve adjustment lab
- Setting and using cleanliness level targets
- Filter ratings and selection
- Hydraulic safety