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HYDROSTATIC CLOSED LOOP SYSTEMS FOR ENGINEERS

Course Description: This course covers the fundamentals and principles of hydrostatic closed loop systems with emphasis on hands-on exercises. Safety, followed by basic fluid power principles first set a foundation. Conductors, fluids, and contamination are addressed. The operation and use of individual hydraulic components and how they impact closed loop systems then becomes the focus of the class. Specific components covered in this portion are actuators, pressure controls, flow controls, directional controls, pumps, and reservoirs. The remaining portion of the class is then dedicated to hydrostatic transmissions, hydrostatic steering, proportional valves, and servo valves.

Print reading is stressed throughout the course and the use of actual prints from the customer is strongly encouraged.

Prerequisites: Some working knowledge of basic hydraulics.

Textbook: Eaton/Vickers, Parker, Bosch/Rexroth or other industrial hydraulics manual plus Womack Fluid Power Handbook and CFC-Solar handbook.

Learning Objectives:

- Review basic hydraulic principles
- Overview of controls
- Preventive maintenance
- Discuss design of systems
- Discuss engineering guidelines of systems
- Evaluating reasons for failures
- Recognize causes of system failures
- Review correct start up procedures
- Troubleshooting tips