



Hydraulics Training System

Model CES 7044

Students are introduced to the principles and applications of hydraulic technology. While learning to use compressed oil hydraulic circuits safely, the student connects the various components to create a hydraulic circuit; complete experiments and activities; and interpret graphic symbols and schematics.

At this workstation, you will have a hands-on career exploration in hydraulics. You will use some of the same components, including cylinders, valves and regulators, that professionals in the construction industry use.

This job experience project will expose you to the basic fundamentals of hydraulics. You will be given important tips on how to work with compressed oil hydraulic circuits safely. You will learn how to connect the various components on your trainer to create a hydraulic circuit. Different circuits will be used to complete various experiments and activities.

CURRICULUM

Curriculum manual is provided in a three-ring binder, with pages contained in page protectors. Easy to follow step by step activities are highlighted using full color photographs. Once introduced to career related information (job description, education and training requirements, job prospects, and income ranges) the student begins a "hands-on" work experience, using professional tools of the trade to complete projects or tasks. An audio tape follows the manual word-for-word. Pre and post tests, worksheets, answer sheets, and instructors guide.

HANDS ON ACTIVITIES

- Connect oil line hoses
- Prime the pump
- Demonstrate input, control, transmission, and output
- Test compressibility of fluids
- Perform experiment using Pascal's Law
- Develop a circuit using a pressure regulator, flow control valve, and directional control valve
- Perform cylinder bore size experiment
- Complete experiment to validate Bernoulli's Law
- Use force-pressure-area formula to solve practical problems
- Identify and operate air piloted and electric solenoid directional control valves

HYDRAULIC TRAINER INCLUDES:

Pressure regulator; needle valves (2); supply ports (2); return ports (2); pump; manual directional valve; flow control valve; check valve; cylinder #1 double acting; cylinder #2 double acting; lever/arm and fulcrum mounting; tee fittings; on/off switch & indicator light; and in-line test gauge. Note: All fluid power components and fittings are safety rated at 150 psi maximum.



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