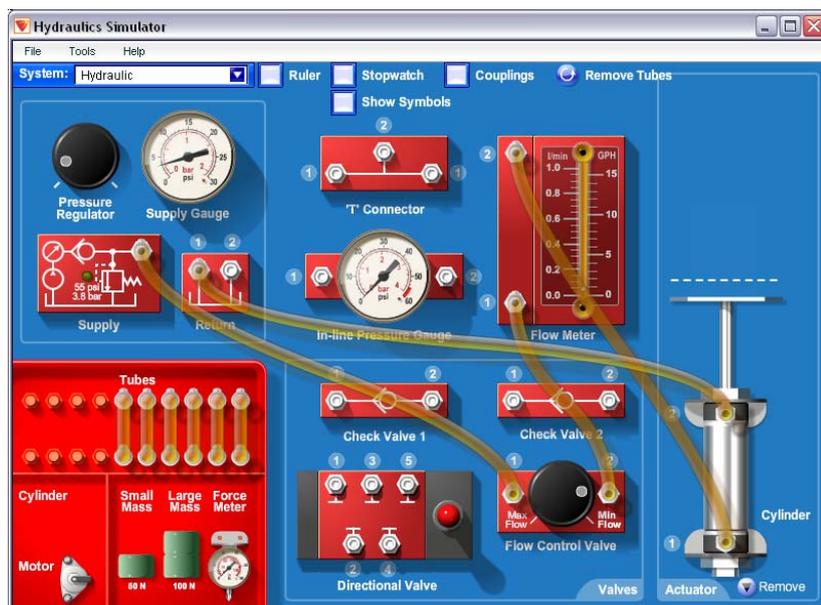




Virtual Hydraulics Trainer



User Guide



The simulator includes a user guide, which explains how to access and use the hydraulic systems.

This interactive simulator enables students to explore hydraulic systems.

Custom systems can be built using a variety of components including valves, a cylinder, a hydraulic motor, pressure gauges, a flow meter and a force meter.

The principles of hydraulically operated levers can be investigated by measuring the forces involved in first, second and third order levers.

A problem solving activity puts hydraulic knowledge into practise by offering the user the ability to build and operate a hydraulic system for a dump truck.

Hydraulic System

The hydraulic system is comprised of several components that can be connected using the tubes provided to make hydraulic circuits.

Components include:

- Pressure regulator
- Supply (with pressure gauge)
- 'T' connector
- In-line pressure gauge
- Flow meter
- 2 check valves
- 5-port directional valve
- Flow control valve
- 10 tubes
- Cylinder (customizable)
- Motor
- Small and large masses
- Force meter

Hydraulically Operated Lever System

First, second and third order levers can be investigated using a pre-configured hydraulic circuit.

Control over the system is provided by the use of the pressure regulator, flow control valve, by selecting the type of lever used, the size of any mass applied to a lever and by adjusting the size of the cylinder.

Dump Truck System

The dump truck contains a hydraulic system that enables it to raise and lower loads contained in the body. The hydraulic components of the dump truck can be configured to lift loads of different sizes and at different speeds.

The cylinder size and position will determine how far the load can be tipped. How the flow rate is adjusted will affect the speed of raising/lowering the body.

Minimum Computer Requirements

- Windows® 2000 or later
- 50 MB free hard disk space
- Flash Player v9 or later (supplied on CD)

Languages Supported

- English (US)
- English (GB)
- Spanish
- Arabic

Order as:

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