# Fluid Systems
SPH4C

The hydraulic press is an example of a fluid _____, an arrangement of components used to _____ in a fluid.

The initial source of energy for the system can be an electric motor or other device that drives a _____ (for liquids) or a _____ (for gases).

The symbol for a compressor or a fixed-displacement single direction hydraulic pump (the arrow shows the direction of the fluid _____).

The pump or compressor transforms _____ energy to fluid energy, and then the _____ transforms the fluid energy back to mechanical energy.

The symbol for a single acting _____, the actuator for the hydraulic press you constructed.

<u>More Symbols</u>

Transmission lines (through which the fluid travels)

A continuous line is a _____

A dashed line is a _____ or _____

A diamond is a fluid _____

(filter, separator, lubricator, heat exchanger)

One square indicates a _____ control function

Two or three adjacent squares indicate a _____ control

The most commonly used directional controls are _____.

<u>Example</u>: 3 ports / 2 positions

A normally closed directional control valve with 3 ports and 2 finite positions looks like:

A normally open directional control valve with 3 ports and 2 finite positions looks like:

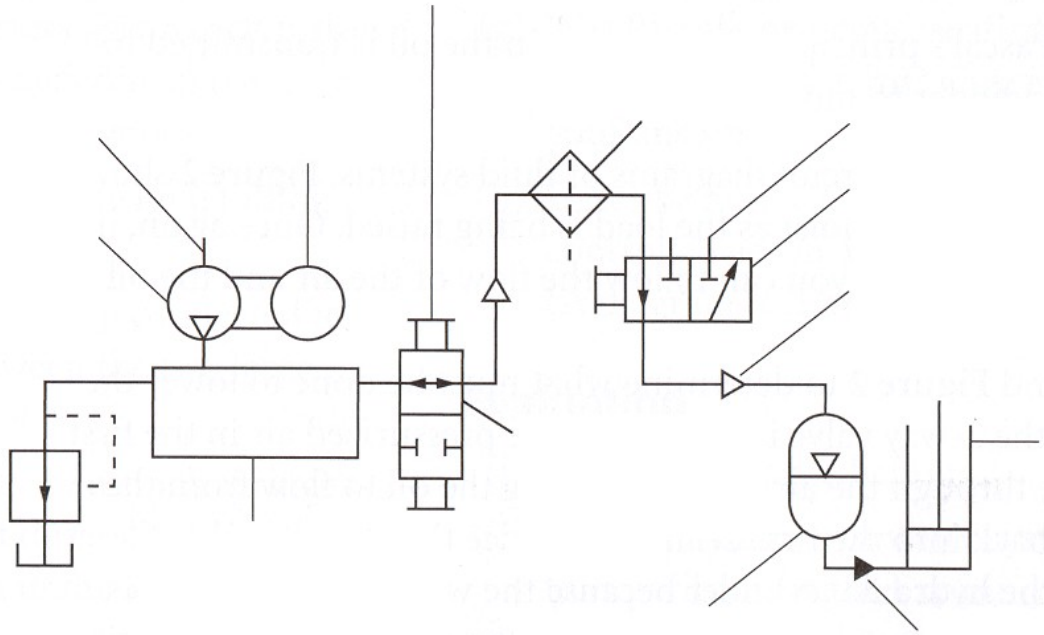
The general symbol for a manual control is
(without showing the control type)

a pushbutton

a lever

a foot pedal

Example System: A Car Hoist



When the hoist is lowered,

the valve's _____ changes: