



## Worksheet HI04 & Training Record Hydraulic Component Basics

## Explore Hydraulics

Email:

Course:

Provider:

Learning Objectives/Expected Outcomes: (60-120mins)

1. Appreciate how hydraulic fluid is used to transmit power.
2. Appreciate hydraulic pumps supply the flow, valves control the operation, and actuators drive the loads.
3. Recognize how Pressure Relief Valves are used to protect against failures.
4. Start to recognize how symbols are used to represent the hydraulic components.
5. Start to recognize how components are arranged to complete a circuit.

Previous Knowledge Required:

Students should have completed worksheet HI03 'Comparing hydraulic, pneumatic and electrical drives' or have a good working knowledge of where hydraulics is used.

Terminology:

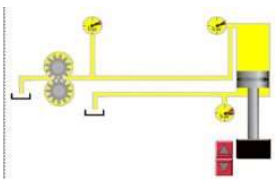
Hydraulic pump, directional valve, actuator, cylinder pressure relief valve, fluid, flow, pressure.

Record of Achievement:



Click the mail icon to post your results to any free or standard LRS/LMS systems. See [www.e4training.com/xapi/](http://www.e4training.com/xapi/) for more details. Complete and keep this training record sheet along with any additional written work or sample calculations.

*Coursework investigation and instructional video*

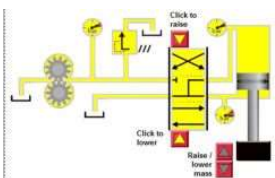


Estimated time: 15 minutes, skill level 2

Date:

Complete

*Virtual test rig experiments*



Estimated time: 15 minutes, skill level 2

Date, score:

Tick when posted



## Interactive tutorial



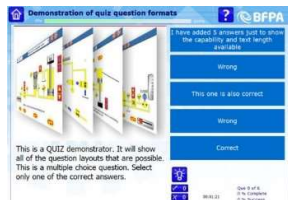
Estimated time: 15 minutes, skill level 2

Date, score:

Tick when posted

Complete the 'Introduction to hydraulics' tutorial at [www.e4training.com/hydraulic\\_courses/intro\\_to\\_hyd1.php](http://www.e4training.com/hydraulic_courses/intro_to_hyd1.php)  
Complete quick quiz at end and post results.

## Interactive quiz to check and reinforce learning



Estimated time: 15 minutes, skill level 2

Quiz name, date, score:

Tick when posted

Complete the 'Introduction to hydraulics' questions at [www.e4training.com/hydraulic\\_test2.php?Quiz - Hydraulics Free](http://www.e4training.com/hydraulic_test2.php?Quiz - Hydraulics Free)  
Post result via LRS, LMS when complete.

## Key questions / Plenary

- What function do hydraulic pumps perform?
- What component would you use to lift a mass using fluid power?
- What valve would you use to drive a cylinder up and down?
- Why does a relief valve make hydraulic circuits safer?

Repeat above if the answer is no

### And Finally:

Complete this worksheet and keep for your records. Submit any written coursework etc. to your training course provider.

### Follow-on Course Worksheets:

Recommended follow-on worksheet:  
HI05 – Hydraulic circuit basics

For more specialist course worksheets visit

[www.e4training.com/hydraulic\\_courses/worksheets1.php](http://www.e4training.com/hydraulic_courses/worksheets1.php)

### Notes