PUSAT PEMBANGUNAN USAHAWAN DAN KEMAHIRAN PERAK
PERAK ENTREPRENEUR AND SKILLS DEVELOPMENT CENTRE

PRACTICAL HYDRAULICS CONTROL SYSTEM

OBJECTIVES

The Practical Hydraulics Control System is designed to teach the fundamentals of hydraulics and its application in the industry while making potential automation technologist and technicians aware of its essentials in one of the technologies' automation applications. It provides smooth, accurate and high power actuator operation for important applications such as plastic injection moulding machines, conveyors, palletizers, presses and off-road vehicle. This course provides participants with the opportunity to set up and test real world hydraulic circuits as used in today's applications.

WHO SHOULD ATTEND

1. Anyone with general technical knowledge.
2. Working in a technical environment.
3. Technicians, Supervisors and Engineers who wish to enhance their knowledge in the operation of control system.

COURSE OUTLINE

- Introduction to Hydraulics
- Basic Concepts: Flow Generations, Pressure versus Force, Fluid Friction, Power and Work
- System Operation: Pumps, Motors Cylinders, Directional Control Valves, Relief Valves, Check Valves, Regeneration Circuits, Flow Control Valves, Flow Control Circuits, Cylinder Synchronization, Sequence Valves and Circuits, Pressure Reducing Valves and Circuits, Hydraulic Braking Circuits.
- Maintenance: Daily Inspection. Periodical Inspection.

DAY 1

1. Operation, Application, Components and Equipment familiarization of a Basic Hydraulic System.
2. Flow Generation, Pressure v. Force, Fluid Friction and Power & Work.
3. Pump-Volumetric Efficiency v. Pressure, Basic Operation of a Hydraulic Motor and Cylinder Speed v. Flow Rate.

DAY 2

1. Directional Control Valves: 2-way, 3-way and 4-way, Closed-centre Spool Leakage, Basic Check Valve Operation, Application and Regeneration Circuit.
2. Flow Control Valves and Circuits: Basic Needle Valve Operation, Bypass Flow Control and Independent Speed Control.
3. Cylinder Synchronization using Non-Compensated Flow Control Valves and Cylinders in Series.

DAY 3

1. Sequence Valve Operation-Clamp and Grind Sequence Circuits, Pressure Reducing Valve Operation-Clamp Circuit with Reduced Pressure.
2. Hydraulic Braking – Single Direction Braking Circuit.
3. Maintenance – Pre-Operation Inspection items for Hydraulics System.

TRAINER

PESDC has a panel of professionally qualified, well-trained and industrially experienced technical trainers.

COURSE FEE

(STECH-H01)

RM540.00 per pax (member)
RM660.00 per pax (non-member)

(Inclusive of course materials, lunch and refreshment).

Certificate of Achievement will be awarded upon successful completion of the course.

PROLUS claimable

COURSE DETAILS

Duration : 3 Days

Date :

Time : 9.00am to 5.00pm

Venue : PESDC Training Complex

For Further Enquiries, please contact:
Mr Thillai or Mr Jeremy Lai
PESDC Training Complex
Jalan Johan 2/2, Kaw. Perindustrian Pengkalan 2
31550 Pusing, Perak

Tel : 05 366 8869
Fax : 05 366 8870
Email : thillai@pesdc.edu.my or **jeremylyell@yahoo.com**
H/P : 019 542 3158 **016 5137368**