5 DAY HYDRAULICS TRAING COURSE

COURSE AGENDA

The course is staged on the customer's premises. It includes the following: -

DAY 1

1. Introduction

After all personnel have assembled there is a brief introduction where I outline the agenda for the course which includes

> a) A Pre-test
> b) Basic Principles
> c) Hydraulic symbols and basic hydraulic circuits
> d) Theoretical fault diagnosis and rectification
> e) Contamination Control
> f) Use, Care , and Storage of hydraulic fluids
> g) Leakage Control
> h) Related hydraulic systems (A machine of the customers choice)
> i) The Post-test
> j) A question and answer session relating to the course

2. Pre-test

So that we can assess the progress made by course member they have to complete a 35 question Pre-test. This also helps to assess their existing knowledge of hydraulics

3. Basic Principles

This section of the course covers such things as: -

> a) Pascal principles
> b) Pressure, units, and conversions
> c) Simple hydraulic machines
> d) Pressure generated by head
> e) The function of atmospheric pressure
> f) Cavitation and its causes
> g) Aeration and its causes
> h) Generation of Pressure

i) Flow, units, and conversions
j) The relationship between Area, Velocity, and Flow rate
k) Laminar and turbulent flow
l) The relationship between Pressure and Flow
m) Generating pressure
n) Flow and Pressure testing
o) Heat Generation
p) Series and Parallel flow paths

DAY 2

1. Hydraulic symbols and Circuits

This section of the course covers such things as: -

a) Types of Hydraulic components
b) Symbols to ISO 1219 identification of common components
c) Open & Regenerative circuits
d) Closed circuits, there make up, and the fault diagnosis of.
e) The function of the boost pump in a closed circuit

DAY 3

1. Fault Diagnosis and rectification

This section of the course covers such things as: -

a) The "Hit and Miss" approach
b) Line Services
c) Checking faults
d) Continuous Monitoring
e) Logical fault finding
f) Flow and Pressure Testing
g) Safety procedure for machine shutdown
h) Machine Re-start procedure
i) Test procedures

2. Contamination Control

This section of the course covers such things as: -

a)   Types of fluid contamination
b)   How systems are contaminated
c)   Generation of contaminate
d)   Effects of fluid contamination

e) Absolute and nominal filtration
f) Beta ratio
g) Types of filtration
h) Filter location
i) ISO 4406
j) Oil sampling methods

DAY 4

1. Use, Care and Storage of hydraulic fluid

The subject covered in the part of the course include: -

a) Storing hydraulic fluid
b) Filling and topping up hydraulic systems
c) Environmental considerations

2. Leakage control

The subject covered in the part of the course include: -

a) Types of leakage
b) Effects of fluid leakage
c) Minimising fluid leakage

3. Related hydraulic circuits

This section of the course covers a machine of the customer's choice. Using the circuit diagram the course members are instructed on the method of operation and fault finding on the hydraulic circuit(s).

DAY 5

1. Site Visit

A site visit is undertaken to familiarise the participants with component identification of related hydraulic circuits.

2. The Post-test

The test that was undertaken at the start of the course is re-taken to assess the progress that the course members have made.

3. Question and Answer session

This is the opportunity for the course members to comment on all aspects of t he course. These comments are noted and can be used to improve subsequent courses.

Related items

Starting and finishing times are usually geared to the normal working day of the course members. It is usual to have a mid morning and afternoon break of about 15 minutes with a break for lunch at around mid-day to suit your normal arrangements

A full set of course notes are provided in addition we also provide folders, note pads and a pen. A certificate of attendance is supplied to each course member