HTI

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF A HYDRAULIC PRESS

M/1019

THEOCHAROUS MENELAOS

2004 - 2005

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BY

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PROJECT REPORT SUBMITTED TO

THE DEPARTMENT OF MECHANICAL ENGINEERING

OF THE HIGHER TECHICAL INSTITUTE

NICOSIA-CYPRUS

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DIPLOMA OF

TECHNICAL ENGINEERING

IN

MECHANICAL ENGINEERING

JUNE 2005

HIGHER TECHNICAL INSTITUTE
NICOSIA-CYPRUS
MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT 2004/2005

Project Number: **M/1019**

Title: **"Design of a Hydraulic Press"**

Objectives:

1. Carry out a survey on the design characteristics of existing hydraulic presses.

2. Design the press and use software to produce the assembly and test its functionality.

3. The press capacity will be 20KN.

4. Carry out stress analysis by considering different modes of failure on the different modules of the press.

5. Produce detailed drawings of the proposed designs.

6. Select the material and method of construction of the press.

Terms and Conditions:
Drawings must be constructed to ISO standards.

Student: (3M)

Supervisor: Dr. Lazaros Lazaris/Mr. P Demetriou

ABSTRACT

The goal of this project is to develop a design of a Hydraulic Press Bench, which is able to lift up a load of 20KN.

More detailed:

Chapter 1: Presents the aims and objectives of this project as well as the technique chosen for the development of the design.

Chapter 2: Presents the principle of the Hydraulic Press, also, discusses the advantages and applications of the Fluid Power, the functions and properties of the Hydraulic Fluid and the main components of the Hydraulic System.

Chapter 3: Describes working with deformed metal and types of available industrial Hydraulic Presses.

Chapter 4: Methodology adopted which includes procedure of executing the project and alternative solutions.

Chapter 5: Presents detailed 3-D drawings as well as 2-D drawings with all the dimensions of the different components. There is a detailed description for all the components which includes the use and where are connected.

Chapter 6: Displays the final complete design, all the stress analysis and the materials of the parts of the Bench Hydraulic Press.

Chapter 7: Conclusions and recommendations.

Chapter 8: Apprentices

The last page mentions the references.

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