

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING COURSE

DIPLOMA PROJECT

DESIGN OF A SIX-BAR SLIDER-CRANK
POWER HAMMER

M/963

ANDREAS HARKA

JUNE 2003

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING COURSE

DIPLOMA PROJECT

DESIGN OF A SIX-BAR SLIDER-CRANK

POWER HAMMER

M/963

ANDREAS HARKA

JUNE 2003

HIGHER TECHNICAL INSTITUTE	PROJECT NO. 3438
----------------------------------	-------------------------

DESIGN OF A SIX-BAR SLIDER-CRANK POWER HAMMER

By

Andreas Harkas

Project Report

Submitted to

the Department of Mechanical Engineering

of the Higher Technical Institute

Nicosia Cyprus

in partial fulfilment of the requirements

for the diploma of

TECHNICIAN ENGINEER

In

MECHANICAL ENGINEERING

June 2003

HIGHER TECHNICAL INSTITUTE	PROJECT NO. 3438
----------------------------------	---------------------

Acknowledgements

I would like to express my thanks and appreciation's for the help and for the knowledge , how to construct and develop something on mechanical base. These benefits are given to me through this project from my supervisor Dr Costas Neocleous , senior lecturer at the Higher Technical Institute.

ANDREAS HARKAS

3RD YEAR STUDENT

IN MECHANICAL

ENGINEERING

H.T.I

**HIGHER TECHNICAL INSTITUTE
NICOSIA - CYPRUS
MECHANICAL ENGINEERING DEPARTMENT**

Diploma Projects 2002/2003

Project Number: M/963

Title: Design of a six-bar slider-crank power hammer

Objectives:

1. To apply the appropriate design process in order to completely specify a safe and reliable six-bar slider-crank power hammer.
2. To apply creativity, decision making and optimization techniques.
3. To present all necessary detailed calculations for the design of each component.
4. To present selection procedures and detailed specifications for all items that are not to be designed.
5. To specify all materials and required manufacturing processes.
6. To present detailed layout, assembly and manufacturing drawings.
7. To present a cost estimate.

Terms and Conditions:

1. The hammer to be able to apply a load of 1 tonne at a frequency of 1 strike per minute.
2. Due consideration to be given to the following design factors: safety, functionality, adjustability, ergonomics, reliability, manufacturability and cost.

Student Andreas Harka

Supervisor Costas Neocleous