HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

PART PROGRAMMING ON A C.N.C VERTICAL MILLING MACHINE

By

IOANNOU CHRISTODOULOS

(M/747)

JUNE 1996

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING COURSE

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PROJECT NO
2589

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PROJECT REPORT SUBMITTED TO THE
DEPARTMENT OF MECHANICAL
ENGINEERING OF THE HIGHER TECHNICAL INSTITUTE

NICOSIA - CYPRUS

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DIPLOMA OF TECHNICAL ENGINEER IN MECHANICAL
ENGINEERING

JUNE 1996

HIGHER TECHNICAL INSTITUTE
PROJECT NO
2589

HIGHER TECHNICAL INSTITUTE
NICOSIA - CYPRUS
MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT 1995/96

Project Number : M / 747

Title : " Part programming on a C.N.C vertical milling machine and design of a milling fixture "

Objectives:

1. Study the programming characteristics of the Bridgeport IMII (with TNC 155 Heidenhein control) C.N.C vertical milling machine.

2. Write a part program for the manufacture of a component (to be decided with the student).

3. Make use of linear interpolation, circular interpolation and canned cycles.

4. Design a milling fixture to ensure location, support and clamping of the component to be manufactured.

5. Test of the above programmed component and fixture.

6. Produce detailed drawing of the manufactured component and fixture.

Terms and conditions:

1. All recommendations should be according to ISO.

2. Selection of components for the milling fixture should be according to standard components.

3. Professional guidance will be provided.

Student: Ioannou Christodoulos (3M1)

Project Supervisor: Vasilios Messaritis

THIS PROJECT IS DEDICATED,

TO MY FAMILY

AND SOMEONE VERY " SPECIAL "

ACKNOWLEDGMENTS

I would like to express my sincere thanks and appreciation to my supervisor Dr. V. Mesaritis lecturer in Mechanical Engineering Department at the Higher Technical Institute for his valuable assistance and guidance the project period.

Ioannou Christodoulos
3rd year student in
Mechanical Engineering
Higher Technical Institute
JUNE 1996

ABSTRACT

The main objective of the manufacture of a component using the C. N. C vertical milling machine and to location, support and clamping of the component to be manufactured.

To achieve this programming characteristics of the Bridgeport IMII (with TNC 155 Heidenhein) C. N. C vertical milling machine were studied and a manufacture for practice reasons.

Finally part programs were written by making use of linear interpolation, circular interpolation and canned cycles having as a result the manufacture of the component to be required.

Detailed drawings of the manufactured component and fixture, are produced.

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