

PART PROGRAMMING ON A CNC
VERTICAL MILLING MACHINE

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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
TECHNICIAN ENGINEER

in

MECHANICAL ENGINEERING

JUNE 1992



ABSTRACT

This project deals with the manufacture of a sprocket and two arms (left and right), where the pedals of the bicycle are bolted on. All three components are to be manufactured on a CNC vertical milling machine.

The theory of the project was firstly established with the Basic Principles of Numerical Control, which was followed by a general study of Bridgeport IMK II, TNC 155 Heidenhain control. Also a brief reference was done concerning programming and rate of metal removal.

The major part of this project is the part programming for the manufacture of the sprocket and the two arms and also the construction of a fixture which would ensure location, support and clamping of the components to be manufactured. All part programming has to be performed using linear interpolation, circular interpolation, canned cycles and subroutines.

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