DESIGN OF A PORTABLE TRENCH EXCAVATOR

Project Report Submitted by

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In partial fulfilment of the requirements for award of the diploma of Technician engineer in Mechanical Engineering of the Higher Technical Institute, Cyprus.

JUNE 1989

SUMMARY-CHRISTAKIS CHRYSOSTOMOU

The aim of this project is to design a portable trench excavator.

The portable trench excavator was designed to be powered by an Internal Combustion engine and making a ditch of dimensions 40 by 40 cm.

The excavator is suitable for personal use as well as for production purposes.

The approach followed is an engineering approach developed recently. The approach is a design process in which creativity, decision making and optimization design phases are applied to the problem to be tackled.

By applying these three phases of design first identify the need - A portable trench excavator - and then "create" out a number of possible solutions. Finally by combining some of the possible solutions and taking into consideration some of them terminate to the best solution which satisfies the objectives of the project.

After deciding the solution to be used , design calculations, selection procedures and detailed manufacturing drawings were carried out.

L I S T O F C O N T E N T S

C H A P T E R II

EXCAVATOR'S BUCKET

C H A P T E R III

ESTIMATION OF ALL THE FORCES NEEDED IN THE DESIGN

C H A P T E R IV

DESIGN OF THE LINKAGES & ARMS

C H A P T E R V

DESIGN OF THE WELDS

C H A P T E R V I

HYDRAULIC SYSTEM

CHAPTER VII

COST ANYLYSIS