

FINAL YEAR PROJECT REPORT

DESIGN AND DRAFTING PROFILE OF SHIP PROPELLER BY USING AUTOCAD - AUTOLISP

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PREFACE

This project (thesis) is to develop a computer system in term of programming using AutoLISP and produce the geometrical modelling for propeller profile by using AutoCAD.

In the actual design process of propeller, many considerations have been taken to determine values which can be standardized. Taking the Netherlands Ship Model Basin for propeller series B, program is written in AutoLISP that includes of input data (from the standard) and calculation process. The flow of the program is only concentrated on types of propeller profile, which can be assumed as neglecting all engineering aspects.

AutoCAD act as a compiler of the AutoLISP program. Besides that, the program also consists of AutoCAD built-in command as a support to produce the modelling profile either in screen monitor or hard copy. Points, which are generated by the program, would then be used in mesh modelling process to produce the flexible size profile on screen.

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1.0 INTRODUCTION

1.1 Historical Perspective

1.1.1 History of CAD/CAM

More than 50 years ago, all jobs which in engineering application is done by manually. The process of research, design, drafting of the specified product consume a lot of time to complete. The job for engineers was tedious, less precision and the design of such things are not very flexible.

Since late of 1940s when the first digital computers appeared, most of the related jobs in engineering, business, education, medicine, science and other sectors were changed. The first and largest of this generation of computers was the 5-ton Automatic Sequence Controlled Calculator, or the MARK 1 [1].

However scientist who was make a lot of research in electronics, found that the relays and other mechanical moving parts in the previous computers must replace by vacuum tubes which contained of electronic 'flip-flop'. This kind of part based on the principle of on and off, was installed in computers named ENIAC and developed for the U.S Army in 1946.