PERIPHERAL MILLING MACHINES IN WOOD INDUSTRY

By MUHAMMAD RIZAL B. ABDULLAH

Final Project Submitted In Partial Fulfillment For The Diploma IN Wood Industry,
Faculty Of Applied Science,
MARA University of Technology

October 2003

ACKNOWLEDGEMENT

I would like to express my deepest appreciation and sincere gratitude to my advisor, Associate Professor Abdul Jalil b. Ahmad for his encouragement and guidance in designing and implementing this project.

Sincere thanks also due to Mr. Amran b. Shafie, Head Program of Diploma in Wood Industry, UiTM Pahang and Associate Professor Dr. Suhaimi for kindly extending all facilities and cooperation given during the course of study.

Thanks are also due to my beloved parent an my lover for their moral and financial support throughout the years of study. I also would like to extend my appreciation to those who are involved either directly or indirectly in completing this project. I believed, without their help, I would not be able to complete this final project.

For a shield from a storm

For a love to keep me safe and warm

I turn to you ...

For a strength to be strong

For a will to carry on

For everything you do

And for everything that's true

I turn to you....

TABLE OF CONTENT

	Page
APPROVAL SHEET	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
LIST OF TABLE	iv
LIST OFFIGURES	vi
ABSTRAC	vii
ABSTRAK	viii
CHAPTER I	
1.0 INTRODUCTION	
1.1 WHAT IS MILLING?	1
1.2 CLASSIFICATION OF MILLING	1
☐ Peripheral Milling	1
☐ Face Milling	2
☐ End Milling	2
1.3 METHODS OF MILLING	2 2 2 3
□ Up Milling	2
☐ Down Milling	
Types of Milling Machines	4
☐ Column and knee type of milling machines	5
☐ Bed type	5
☐ Rotary table	5
☐ Tracer controlled	6
1.4 TECHNOLOGY UPDATE	9
CHAPTER II	
2.0 COMPUTER NUMERICAL CONTROL	11
2.1 Advanced Controls For High Speed Milling	11
2.1.1 Relativity	12
2.1.2 Surfaces To Points To Surfaces	12
2.1.3 Chordal Deviation	13
2.1.4 Look-Ahead	13
2.1.5 High Feed Rates	14
2.1.6 The DNC Bottleneck	16
2.1.7 Direct CNC Networking	17
2.1.8 Digital Signal Processing	18
2.1.9 Open Systems Architectures	20
2.1.10 Multiprocessor Strategies	21
2.1.11 A Look At The Future	22

CHAPTER III	
3.0 TYPES OF COMPUTER NUMERICAL CONTROL MACHINE CNC	24
CHAPTER IV	
CONCLUTION AND RECOMMENDATIONS	38
REFERENCES	40
VITA	41

ABSTRACT

PERIPHERAL MILLING MACHINES IN WOOD INDUSTRY

By MUHAMNMAD RIZAL ABDULLAH

OCTOBER 2003

The machined surface may be flat, angular, or curved. The surface may also be milled to any combination of shapes. The machine for holding the work piece, rotating the cutter, and feeding it is known as the milling machine. In peripheral (or slab) milling, the milled surface is generated by teeth located on the periphery of the cutter body. Milling cutters are available in many standard and special types, forms, diameters, and widths. The teeth maybe straight (parallel to the axis of rotation) or at a helix angle. CNC expert covers the key factors behind making controls and the entire milling process move faster. A high speed control will gives you the ability to finish one task faster and move along to the next sooner. In drilling and tapping, this can result in faster hole-to-hole times, quicker spindle reversals for tapping, and substantial cycle-time reductions. Various milling machine components are being replaced rapidly with computer numerical control (CNC) machines. These machine tools are versatile and are capable of milling, drilling, boring and tapping with repetitive accuracy