

FINAL YEAR PROJECT REPORT
DIPLOMA IN MECHANICAL ENGINEERING
SCHOOL OF ENGINEERING
MARA INSTITUTE OF TECHNOLOGY
SHAH ALAM, SELANGOR D.E.

WHEATWORTH QUICK-RETURN
MECHANISM ANALYSIS

AHMAD FARIZAL BIN ABDUL GHAFAR

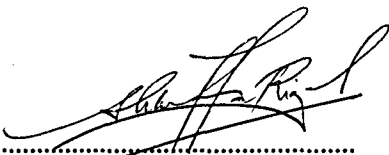
88256687

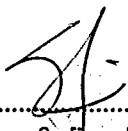
ABU SOFIAN BIN ABU HASSAN

88245139

NOV 1992

A report submitted to the School of Engineering, MARA Institute of Technology, Shah Alam, in partial fulfillment of the requirements for the Diploma in Mechanical Engineering.

Signed: 
Ahmad Farizal bin Abdul Ghafar
(Student)

Signed: 
Abu Sofjan bin Abu Hassan
(Student)

Date:

Signed:
Mohd Azmi bin Ayob
(Project Advisor)

Date:

Signed:
En. Rosdi bin Meor Endut
(Head of Mechanical Department)

ABSTRACT

This report describes an interactive computer program which is an analysis to Whitworth Quick-Return Mechanism. This program describes how the mechanism really works when certain speed were given to the link and then computer calculate the displacement, velocity and acceleration of the slider.

This program can tell you what happen to the ratio of the Whitworth Quick-Return Mechanism when certain link is expend. This program used CHAIN files to chain one and another to solve memory problems. The coding of this program was done in POWER BASIC.

ACKNOWLEDGEMENT

We would like to express our gratitude to all who had helped us in producing this work. We are particularly indebted to En. Mohd Azmi bin Ayob, our project advisor for sparing his valuable time to discuss with us on every stages of this project.

We gratefully acknowledge the assistance of Tuan Hj. Yaacob Abdul Rahman, Puan Razidah, Peridah and En. Khalili for their help.

We are also gratefull to En. Mohd Fakri Shaari and Dr. Dahlan for their contractive criticism and their valueble advice.

Last but not least our deapest appreciation and highest gratitude to our friends who have unselfishly shared long working hours with us, in duration of the project.

CONTENT	PAGE
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
CHAPTER 1	
1.0 INTRODUCTION	1
1.1 CONTENT ARRANGEMENT OF THE REPORT	2
CHAPTER 2	
2.0 EXPLANATION OF PROGRAM	3
2.1 INTRODUCTION	3
2.2 HOW THE PROGRAM WORKS	3
2.2.1 CHAIN WQRM_NOF.PBC	5
2.2.2 CHIAN WQRM_OUP.PBC	5
2.2.3 CHAIN WQRM_ODW.PBC	6
2.2.4 CHAIN WQRM_SR1.PBC,WQRM_SR2.PBC, WQRM_SR3.PBC AND WQRM_SR5.PBC	6
2.2.5 CHAIN WQRM_HR1.PBC,WQRM_HR2.PBC, WQRM_HR3.PBC AND WQRM_HR5.PBC	7
2.2.6 CHAIN WQRM_PR1.PBC,WQRM_PR2.PBC, WQRM_PR3.PBC AND WQRM_PR5.PBC	7
2.2.7 CHAIN WQRM_US1.PBC,WQRM_US2.PBC, WQRM_US3.PBC AND WQRM_US5.PBC	8
2.2.8 CHAIN WQRM_UH1.PBC,WQRM_UH2.PBC, WQRM_UH3.PBC AND WQRM_UH5.PBC	8
2.2.9 CHAIN WQRM_UP1.PBC,WQRM_UP2.PBC, WQRM_UP3,PBC AND WQRM_UP5.PBC	9
2.2.10 WQRM_US7.PBC, WQRM_UH7.PBC AND WQRM_UP7.PBC	9
2.2.11 CHAIN WQRM_DS1.PBC,WQRM_DS2.PBC, WQRM_DS3.PBC AND WQRM_DS5.PBC	10
2.2.12 CHAIN WQRM_DH1.PBC,WQRM_DH2.PBC, WQRM_PS3.PBC AND WQRM_DS5.HBC	10
2.2.13 CHAIN WQRM_PS1.PBC,WQRM_PS2.PBC, WQRM_PS3.PBC AND WQRM_PS5.PBC	11
2.2.14 CHAIN WQRM_DS7.PBC,WQRM_DH7.PBC, AND WQRM_DP7.PBC	11
CONCLUSION	
FOR R1 AND R2	12
FOR R3 AND R5	12
FOR R7	12

CHAPTER 3

3.0 DERIVATION EQUATION

3.1	QUICK-RETURN	14
3.2	SLIDER CRANK	15
3.3	FOR OFFSET UP	17
3.4	FOR OFFSET DOWN	19

CHAPTER 4

4.0	GRAPHICAL METHOD	21
4.1	VELOCITY DIAGRAM	21
4.2	ACCELERATION	22
	4.2.1 TANGENT COMPONENT	22
	4.2.2 NORMAL COMPONENT	22

CHAPTER 5

LAB SHEET	24
-----------	----

APPENDIX

PROGRAMS	29-57
GRAPHS	58-102
FLOW CHARTS	103-108
PROGRAMS INDEX	109-111