CERTIFICATION OF APPROVAL

Development of Spreadsheet MRP model for Panel Front Door Left Hand Side Assembly

by

Nazri Talib

A project dissertation submitted to the

Mechanical Engineering Programme

Universiti Teknologi PETRONAS

in partial fulfilment of the requirement for the

BACHELOR OF ENGINEERING (Hons)

(MECHANICAL ENGINEERING)

Approved by,	
(Ir. A.P. Dr. Mohd Amin Bin Abd Maiid)	

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
June 2010

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the

original work is my own except as specified in the references and acknowledgements,

and that the original work contained herein have not been undertaken or done by

unspecified sources or persons.

NAZRI BIN TALIB

ABSTRACT

The project focus on the development spreedsheet model of material requirement planning (MRP) for panel front door left hand side assembly for an automotive part. The objective of the study was to identify the elements of MRP implementation and develop the model. Three major inputs required to develop MRP model were identified. There were production schedule for the panel front door left hand side assembly, inventory status records, and bill of material of the components. Using the inputs, mathematical modelling of products was developed and integrated using a spreadsheet, the model was expanded to MRP model. The developed MRP was used to prepare MRP for 12 components of the panel. Simulation results indicate the MRP was able to estimate the net requirements for all components for each period based on lot-for-lot.

ACKNOWLEDGEMENTS

First and foremost, I would like to praise God the Almighty for His guidance and giving me the strength to complete a Final Year Project (FYP) although difficulties occurred. I would also like to take this opportunity to acknowledge and thank everyone that has given me all the support, guidance and facilities throughout the whole period of completing the project of 'Develop spreadsheet MRP model for Panel Front Door Left Hand side Assembly'. My deepest appreciation goes to my supervisor, Ir. Ap Dr. Mohd Amin Bin Abd Majid who has given me endless support and guidance throughout the one year period of this final year project. He never stopped given me guidance even though I have made some delays and errors upon completing the project. Apart from that, I would like to thank my colleagues for their support and advices. Finally, special thanks to my parents and family for their continuous love and support. Thank you.

TABLE OF CONTENTS

CERTIFICATIO	N					•	•	•	i
ABSTRACT		•		•	•		•	•	iii
ACKNOWLEDG	SEME	ENT							iv
CHAPTER 1:	INT	ROD	UCTIO	N					
	1.1	Bac	kground	d of stu	dy				
	1.2	Pro	blem sta	temen	t				
	1.3	Obj	ective						
	1.4	Sco	pe of St	udy	•		•	•	
CHAPTER 2:	LIT	ERA	TURE	REVII	E W			•	4
	2.1	Con	ceptual	Model	l .		•	•	4
	2.2	Con	ceptual	Model	Meth	odolo	ogy	•	5
	2.3	MR	P Appro	oach	•		•	•	8
	2.4	MR	P Paran	neters	•		•	•	12
CHAPTER 3:	ME	ГНОІ	OOLOG	ξY	•			•	15
CHAPTER 4:	RES	ULT	S AND	DISC	USSIC	ON	•	•	25
CHAPTER 5:	CON	ICLU	SION		•		•	•	31
REFERENCE		•			•		•	•	32
APPENDIX									33

LIST OF FIGURE

MRP	Material Requirement Planning
MPS	Master Production Schedule
BOM	Bill of Material