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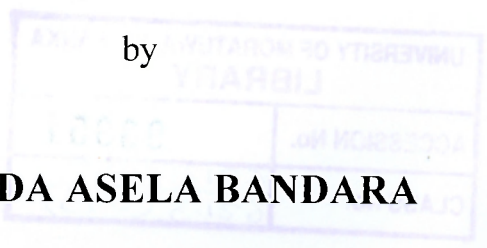
DESIGN OF GREEN TIRE PAINTING MACHINE

A dissertation submitted to the
Department of Electrical Engineering, University of Moratuwa
in partial fulfilment of the requirement for the
degree of Master of Science

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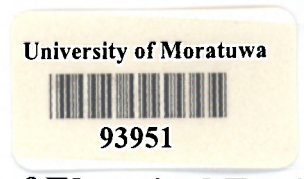
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August 2009

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DECLARATION

The work submitted in this dissertation is the result of my own investigation, except where otherwise stated.

It has not already been accepted for any degree, and is also not being concurrently submitted for any other degree.

UOM Verified Signature

Saminda Asela Bandara

I endorse the declaration by the candidate.

UOM Verified Signature

Supervisor: Dr. Nalin Wickramarachchi

CONTENTS

Declaration	i
Abstract	iv
Acknowledgement.....	v
List of Figures	vi
List of Tables.....	vii
1. Introduction	1
1.1 Background	1
1.2 Tire manufacturing process.....	2
1.3 Present method of the green tire painting	7
1.4 Objective of the project.....	9
2. Design Approaches	10
2.1 Initial attempts and problems.....	10
2.2 final approach.....	12
3. Detailed Design	14
3.1 Overview of the design	14
3.2 Loading Station	16
3.2.1 Loading station operational flowchart	17
3.3 Painting Station	18
3.3.1 Painting station operational flowchart	21
3.4 Unloading Station	22
3.4.1 Unloading station operational flowchart.....	24
3.5 Main arm rotation circuit	25
3.5.1 Main arm rotation flowchart	25
3.6 Clamping disk circuit	26
3.6.1 Clamping disk rotational flowchart.....	27
4. Components Selection	29
4.1 Pneumatic cylinders selection.....	29
4.1.1 Loading/Unloading cylinders.....	29

4.1.2 Clamping cylinder.....	29
4.1.3 Main painting cylinder.....	30
4.1.4 Inside/Outside painting cylinders.....	31
4.2 Pressure switch selection.....	31
4.3 Motor selection.....	31
4.3.1 Main drive motor.....	31
4.3.2 Rotary drive.....	33
4.4 Indexing gearbox.....	34
4.5 PLC selection.....	35
4.6 Proximity sensors / Reflective sensors.....	36
4.7 Nozzles.....	36
4.8 Encoders.....	37
4.9 Rotary air union.....	38
4.10 Display.....	39
5. Discussion, Conclusion and Future Developments	41
5.1 Discussion.....	41
5.2 Payback calculation.....	42
5.3 Future developments.....	43
References	44
Appendix-A PLC Ladder Diagram	46


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Abstract

The tire manufacturing process is a long process that includes lots of hazard operations. Manual green tire painting method is also considered in to this category. Green tire is the tire which builds according to the tire construction and which is ready for the curing process. Before the curing process, it has to apply lubricant inside the green tire and flow property improving agent on the out side. This application is called green tire painting. The main objective of this project is to design a new machine for green tire painting and protect operators from harsh environment, and improve the productivity.

This project is focused more on actual requirements and takes a practical approach. When selecting components, it is restricted to select popular brands, which is recommended by the company. All the selected components are available in the market with reasonable price. As this is an actual machine design, I focused more on durability, productivity, safety and budget.

The green tire painting machine is automated by the control unit which is a commercially available programmable logic controller (PLC). The requirement of the sensor units for the PLC and the control program is also implemented as part of this design.

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List of Figures

Figure	Page
1.1 Pneumatic tire manufacturing process	2
1.2 Cross section of a tire	4
1.3 Green tire	5
1.4 Green tire with polythin wrap around the bead	5
1.5 Tire mould in the press with curing bladder	6
1.6 Cured tire	6
1.7 Manual green tire inside painting method	7
1.8 Manual green tire outside painting method	8
2.1 Basic design of fist attempt	10
2.2 Basic design of second attempt	11
2.3 Final design	12
3.1 Main arm rotation and positions	14
3.2 Green tire loading-1	15
3.3 Green tire loading-2	15
3.4 Loading station operational flowchart	16
3.5 Clamping disk at painting position	18
3.6 Green tire at painting position-1	18
3.7 Green tire at painting position-2	19
3.8 Painting station operational flowchart	20
3.9 Unloading position -1	22
3.10 Unloading position -2	22
3.11 Unloading station operational flowchart	23
3.12 Main arm rotation flowchart	24
3.13 Clamping disk operation	25
3.14 Clamping disk operational circuit	26
4.1 Force distribution between green tire and grabbing arm	29
4.2 Pressure switch	30
4.3 Indexing gearbox	34
4.4 Retro reflective sensor	35
4.5 Paint nozzle	36
4.6 Incremental encoder	37
4.7 Rotary air union	37
4.8 Rotary air union assembly	38
4.9 TD 200C display	38

List of Tables

Table	Page
3.1 Digital position indication by Arm-1 & Arm-2 switches.....	15
4.1 PLC specifications	36
5.1 Costing	41



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List of Tables

Table	Page
3.1 Digital position indication by Arm-1 & Arm-2 switches.....	15
4.1 PLC specifications	36
5.1 Costing	41



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