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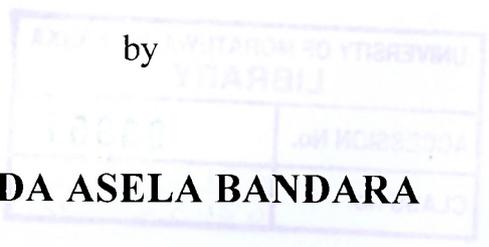
DESIGN OF GREEN TIRE PAINTING MACHINE

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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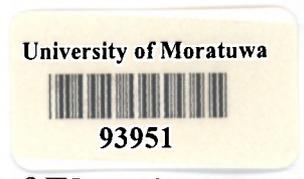
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DECLARATION

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.

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I endorse the declaration by the candidate.

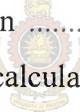
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Supervisor: Dr. Nalin Wickramarachchi

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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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