CERTIFICATION OF APPROVAL

Management, Selection, Design and Installation of the running chassis (steering system) and accessories of a simple vehicle for competition in Shell Eco- Marathon 2010 - 1

by

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Approved by,

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UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

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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.

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MOHAMAD SUHAIMI BIN YAHAYA

ABSTRACT

The Shell Eco-Marathon is an educational project that challenges the student teams to design and build the most energy-efficient vehicle to compete against other teams' vehicles. The principle of the Shell Eco-marathon is to design and build a vehicle that uses the least amount of fuel to travel to the farthest distance. Running chassis system is one of the important parts in a vehicle to control the movement and provide ride comfort of the vehicle on the road. The parts include in this system are steering, brake, wheel and suspension. The objective of this project is to design and fabricate the lightest and simplest steering system in order to reduce the weight of the vehicle and meet the sufficient turning radius to be participated in Shell Eco-marathon 2010. The requirement of the Shell Eco-Marathon states that the turning radius must be sufficient to enable safe overtaking as well as negotiating the curvature of the track. The project focuses on one part of running chassis which is the steering system. The steering system has to be designed as light and simple as possible. The design should meet the competition rule. The methodology of this project includes problem definition, conceptual design development, embodiment design development, detail design development, design fabrication, design analyzing and testing and lastly design communication. The steering system that was fabricated has been installed to on complete vehicle. Finally some analysis and testing will be done to ensure the car meet the requirement for entering Shell Eco-Marathon 2010.

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