

**AUTOMOTIVE ENGINE HEAT MANAGEMENT SYSTEM  
SHMS – SMART HEAT ENGINE MANAGEMENT**

By

MOHD ZULHELMIE BIN DERAMAN

DISSERTATION REPORT

Submitted to the Mechanical Engineering Programme  
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(Mechanical Engineering)

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Universiti Teknologi PETRONAS  
Bandar Seri Iskandar  
31750 Tronoh  
Perak Darul Ridzuan

**CERTIFICATION OF APPROVAL**

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MOHD ZULHELMIE BIN DERAMAN (10217)

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Approved by,

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(AP.Dr.Hussain Al-Kayiem)

Universiti Teknologi PETRONAS

Tronoh

Perak Darul Ridzuan

## **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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Mohd Zulhelimie Bin Deraman

## **ACKNOWLEDGEMENT**

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## ABSTRACT

This proposal discusses about the automotive heat engine management system project including the theory, concept and related information to be performed during the preparation, fabrication and experiment. The objective of this project is to create systems that able to monitor the engine temperature and prevent the engine from overheat besides helping the user to get an extra time and traveling distance to search for safe place to stop their vehicle or nearby workshop. This system will also equipped with feature that will inform the user when their vehicle's engine turn into danger state and will also automatically start the emergency indicator. The engine will be force to turn off when the counter reach zero. This feature will help to stop the engine before facing an overheat problem.

This system will be designed to be PnP “plug and play” system so it would not be a trouble for any kind of vehicles to install this system as an extra safety features for the engine. The system must pass the entire test that will cover all the possible causes that may lead into an overheat problem. During the experiment, the system will be tested for the reliability and estimation of the life- span to makes it worth of investment. Referring to the theory study, this system will definitely worth of investment because the overheat problem may cause permanent damage to the engine and the repairing cost are always expensive for severe damage that caused.

The complete assembly of the system will be further tested to test the performance and the reliability. The system will always be analyzed for possibility to cut the cost without compromising the system performance.

The methodology involves in the experiment are device preparation, conduct experiment, data collection, analyze data from experiment, model development, model experiment for system performance, comparison of result, discussion and conclusion.

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## **LIST OF ABBREVIATIONS**

SHMS --- Smart Heat Management System

MSS----- Mist Spray System

IC----- Integrated circuit

NTC----- Negative Temperature Coefficient

LED----- Light Emitting Diode