



VARIABLE VALVE TIMING

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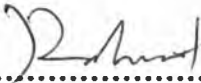
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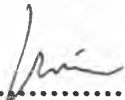
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We declared that this thesis is the result of our own work accepts the ideas and summaries which we have clarified their sources. The thesis has not been accepted for any diploma and is not concurrently submitted in candidature of any diploma.

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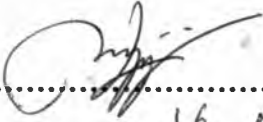
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1.1 Objectives

The main objective of this thesis is to study the different types of **Variable Valve Timing (VVT)** used by carmaker manufacturers.

The other objective is to learn about the basic principal and the mechanisms use in VVT. In this thesis we make comparisons between the two well-known car largest manufacturers in the world TOYOTA and HONDA that uses **Variable Valve Timing**. From the different types of **VVT** we will analyze and try to detect the weaknesses of the **VVT** system if any. We will then come up with suggestions on the new **VVT** system to achieve better engine performance as compared to the conventional **VVT**.

Aside from the above, we hope to also improve our computer skills during the writing up of the thesis where Microsoft words will be used. Cooperation skills and group teamwork will be further developed. Last but not least, most importantly, we will be able to enhance our knowledge in a new technology of **VVT** and the entire concept related to the **VVT** system.

1.2 Background

In this thesis our main focus is on the automotive car engine cam that drive the valve to open and close in the engine operating cycle process. With retarding or advancing the opening or closing the valve we can manipulate the performance of the engine whether to achieve high or low performance in relation to slow or higher revolution of engine. To ensure we get better performance in each revolution, the engineer has to explore and design variable valve timing that eliminate the issues of valve timing limitations. In today's technology mechanisms, more than one cam were used where each cam represent for either high revolution or slow revolution of RPM. With this innovation, more torque and power can be produced continuously.