

ANALYSIS OF VIBRATION IN CAM FOLLOWER
SYSTEM

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We certify that the project entitled “*Analysis of Vibration in Cam Follower System*“ is written by *Mohd Hanaffi Bin Othman*. We have examined the final copy of this project and in our opinion; it is fully adequate in terms of scope and quality for the award of the degree of Bachelor of Engineering. We herewith recommend that it be accepted in partial fulfillment of the requirements for the degree of Bachelor of Mechanical Engineering with Manufacturing Engineering.

.....
Mr. Lee Giok Chui

ANALYSIS OF VIBRATION IN CAM FOLLOWER SYSTEM

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A report submitted in partial fulfillment of
The requirements for the award of the degree of
Bachelor of Mechanical Engineering
With Manufacturing Engineering

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SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Mechanical Engineering with Manufacturing Engineering.

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STUDENT'S DECLARATION

I hereby declare that the work in this project is my own except for quotations and summaries which have been duly acknowledged. The project has not been accepted for any degree and is not concurrently submitted for award of other degree.

Signature :

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Date :

To my beloved parents

SEMEK@HASMAH BINTI MAMAT

To my supervisor
Madam Mas Ayu binti Hassan

To my Academic Advisor
Mr. Muhamad Zuhairi Sulaiman

To all FKM's staffs and lecturers

To all my classmates

And To my Special friend out there
Siti Norsyahinas Binti Che Man

Thank you for your supporting and teaching.

Thank you for everything that you gave during studies and the knowledge that we shared.

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ABSTRACT

Cam is a mechanical component that translates movement from circular to reciprocating by using mating component, called the follower. The principal aim of this work is to study and analysis the vibration factor on vertical position cam using heart shape cam. Then, verifies the data using DYNACAM simulated and analysis the effect of impact force on vibration in cam follower system. The parameters such as displacement, velocity and acceleration are involved in finding the optimum force to the system of vibration cam in high speed rotation per minute (RPM). The analysis process will be done using DYNACAM simulation software that able to verify the results from obtained the experiment whether the data are correct or not for principal of vibration in cam follower system. The analysis process also focus on the jump force of follower, that effect of vibration factor in cam mechanism system. During analysis data will be process, high speed will be select from the types of speed of cam in follower system. The speeds that will be used are 300RPM and it is suitable for analyze the vibration factor and more accurate. When high speeds system pumping chemically processed air can have gradually applied loads.

ABSTRAK

Sesondol merupakan komponen mekanikal yang menukarkan pergerakan daripada pusingan kepada pergerakan timbal balik dengan menggunakan pasangan komponen yang dikenali sebagai penurut. Matlamat utama kajian ini adalah untuk mempelajari dan menganalisis faktor getaran pada kedudukan tegak menggunakan sesondol berbentuk hati. Kemudian kajian pada seseondol akan menggunakan simulasi DYNACAM dan menganalisis kesan daya impak getaran pada sistem penurut. Parameter seperti jarak, halaju dan pecutan terlibat dalam mencari daya yang sesuai kepada sistem getaran sesondol dengan menggunakan kelajuan pusingan sesondol pada kadar yang tinggi. Parameter yang dipilih untuk eksperimen ini ialah sudut pusingan dan kelajuan sesondol. Setelah menjalankan eksperimen, analisis akan tercapai dengan mengesahkan menggunakan simulasi DYNACAM sama ada keputusan eksperiment adalah betul atau salah dengan bersandarkan prinsip getaran pada sistem sesondol penurut. Proses analisis juga melibatkan kesan daya impak pada penurut, dimana juga memberi kesan kepada kesan getaran sistem sesondol. Pada proses analisis kelajuan sesondol yang digunakan adalah pada kelajuan 300RPM, dimana kesan getaran lebih sesuai untuk dikaji pada kelajuan yang tinggi.

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