



**AUTOMOBILE BRAKE PAD FRICTION AND WEAR
TEST RIG: DESIGN**

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In the name of Allah, the most gracious and most merciful

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ABSTRACT

This thesis is written to design of the Automobile Brake Pad Friction and Wear Test Rig Machine. The thesis is a final year project for Faculty of Mechanical Engineering student and of course this machine is basically using an automobile brake as a main component for braking system. My thesis starts with the understanding of different type of friction and wear testing machine and how to get the data from the machine. In general, friction and wear test rig machine is a test for determining the coefficient of friction and the rate of wear of the brake pad material when brake is applied at a certain time and at various speeds. The wear of the specimen can be determine by weighing the specimen. In designing the test rig machine, the components consist of several parts that include the frame, motor and speed reducer base, pulley, belting and the bearing. Besides that, drawing by computer (CATIA) required in the designing of friction and wear test rig machine is also carried out. I use this technical drawing as a guide to imagine and design test rig machine before the fabrication process. After designing the friction and wear test rig machine, fabrication stage takes place. Fabrication stage begins after selection and purchasing component was done in order to see whether the frame designing are suitable for the component or not. In this fabrication process, I change some of the initial design in order to achieve the objectives of this project. For detail about fabrication process, refer to 'Automobile Brake Pad Friction and Wear Test Rig: Fabrication' by Ismail Bin Mesror. This stage was done with supervision by the advisor. Cost of the project is one of the main considerations during the designing and development stage. Advisor has given me the range of budget to work with and it must not exceed this budget. Finally, I hope this thesis will be extended to other project students who are interested to explore and development of the automobile friction and wear test rig machine.

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