

# Design and Experimental Analysis of Two-Wheeler Disc Brake for Performance Enhancement

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**Abstract:** *Building a Project plays a vital role in improving skills as well as in boosting career opportunities for an engineer. Designing and building any machine comes with its share of success and failures. This is a way of brainstorming, creating new ideas which help in betterment of our future and also opens to other new ideas. Disc brakes have evolved over time to be a reliable method of decelerating and stopping a vehicle. There have been different designs of disc brake systems for different applications. This review gives a description of different aspects of the components and the materials used in a disc brake system. In spite of all the improvements, there are still many operational issues related to disc brakes that need to be understood in greater detail and resolved. There has been a lot of research going on about these issues and at the same time different methods are being proposed to eliminate or reduce them. There has also been intensive fundamental research going on about the evolution of the interface of the disc-pad system. One major purpose of the present paper is to give a comprehensive overview of all such developments. The basic principle used in braking systems is to convert the kinetic energy of a vehicle into some other form of energy. For example, in friction braking it is converted into heat, and in regenerative braking it is converted into electricity or compressed air etc. During a braking operation not all the kinetic energy is converted into the desired form, e.g., in friction braking some energy might be dissipated in the form of vibrations.*

**Keywords:** Disc Brakes, Braking Systems, Electricity or Compressed Air, Kinetic Energy, etc.

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