

# Design, Analysis, Optimization and Manufacturing of Disc Brake

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**Abstract:** Braking system is one of the very critical system in automobile. Braking System should say the safety and comfort of the passage, Driver and other Road user. The Brake must be strong enough to stop the vehicle during Emergency within shortest distance. This is possible if there is no Skidding and driver has proper control over vehicle. In this project we minimize the break fail to avoid the accident. Recently, disc brake are most widely used. Its operation is simple. It also requires low maintenance. It is our new idea & new concept those we present in model form. Hence there are many advantages by introducing this machine. While manufacturing vehicle at competition level, many problems may arise while selecting brake rotor. The size of rotor according to our design calculations may not be available in the market. In case, we select any available disc, it may be the case of overdesign. Also due to fix shape of the disc, we may have to compromise with various other design parameters. With modification in size shape and material, disc can be effectively used in vehicle of same transmit motion and power. This will provide same braking effect without any overdesign and altering any of the design parameters. Also due to fix shape of the disc, we may have to compromise with various other design parameters. With modification in size shape and material, disc can be effectively used in vehicle of same transmit motion and power. This will provide same braking effect without any overdesign and altering any of the design parameters.

**Keywords:** Braking system

## REFERENCES

- [1]. Automotive Engineering-Crolla.
- [2]. Fundamentals of vehicle dynamics - Thomas D Gillespie.
- [3]. Race Car Vehicle Dynamics Milliken.
- [4]. SAE India Rulebook.
- [5]. KENNEDY, F. E., COLIN, F. FLOQUET, A. AND GLOVSKY, R. Improved Techniques for Finite Element Analysis of Sliding Surface Temperatures.
- [6]. Metallurgy textbook.
- [7]. Vendor Catalogues.
- [8]. Introduction to Finite Elements in Engineering – Tirupathi R. Chandrupatla and Ashok D. Belegundu.
- [9]. Various Research Papers.