A PROJECT REPORT ON

Design and Analysis of Disc Brake

A project report submitted in partial fulfillment of the requirements for the award of the

Degree of

BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGINEERING

SUBMITTED BY

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DEPARTMENT OF MECHANICAL ENGINEERING

AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(NAAC Accredited, accredited by NBA, Approved by A.I.C.T.E, Permanently Affiliated to J.N.T.U. KAKINADA)

TAMARAM (P.O), MAKAVARAPALEM (M.O), NARSIPATNAM (R.D)

VISAKHAPATNAM DISTRICT-531113

2018-2022

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CERTIFICATE

This is to certify that the project entitled "DESIGN AND ANALYSIS OF DISC BRAKE" in partial fulfilment for the of degree of Bachelor of Technology in MECHANICAL ENGINEERING at AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, MAKAVARAPALEM,VISAKHAPATNAM is a Bonafide work carried out by, RUTHALA MANIKISHORE (18811A0328), GUMMUDU PRAVEEN (18811A0311), KOTARU TEJA APPALA DURGA PRASAD (18811A0337), SINGAMPALLI CHANDRA SEKHAR (18811A0330), ADARI UDAY (18811A0302) under the guidance and supervision during 2018-2022.

PROJECT GUIDE

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Abstract
Design and Analysis of Disc Brake

Wheels have vital importance for the safety of the vehicle and a special care is needed in order to ensure their durability. The development of the vehicle industry has strongly influenced the design, the material selection and the manufacturing processes of the wheels. The wheels loading manner is a complex one; further improvement and efficient wheel design will be possible only if their loading will be better understood.

In this paper, the Disc Brake is analyzed with the finite element method

- Analysis of the existing design of Brake Disc Rotor
- Design changes to the Automotive Brake Disc Rotor
- optimization the existing Brake Disc Rotor
- Thermal-structural analysis is considered to determine the thermal flux and the Von Misses stresses established in the disc
- By observing analysis results, best material preferable for Disc Brake is suggested