



MODELLING AND ANALYSIS OF A COMPOSITE LEAF SPRING OVER CONVENTIONAL LEAF SPRING

A Project report submitted
in partial fulfillment of the requirements for award of
Degree of
BACHELOR OF TECHNOLOGY
IN
MECHANICAL ENGINEERING

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(PERMANENTLY AFFILIATED TO JNTU-KAKINADA, ACCREDITED BY NBA &
NAAC, APPROVED BY AICTE, RECOGNISED BY UGC 12f & 2b)

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2014-2018

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CERTIFICATE

This is to certify that the thesis entitled “**MODELLING AND ANALYSIS OF A COMPOSITE LEAF SPRING OVER CONVENTIONAL LEAF SPRING**” in partial fulfillment of the requirement for the award of the degree of BACHELOR OF TECHNOLOGY in MECHANICAL ENGINEERING is a record of bonafide work done by him under my supervision during the academic year 2017-18 and is being submitted by

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EXTERNAL EXAMINER

ABSTRACT

Automobiles today are over 63% iron and steel by weight. With rising energy and environmental concerns, as well as increases in electronics and other on-board vehicle systems. Vehicle light-weighting continues to be a prominent concern for vehicle manufacturers. New structural materials - metals, ceramics, polymers or hybrid materials derived from these, called composites – open a promising avenue in automobile industries.

This project deals with design and analysis of composite leaf spring over conventional leaf spring. The modeling has been done by using CATIA software and the analysis has been done by using ANSYS software with the help of static structural tool. A three layer composite leaf spring with full length leave made of E-Glass/epoxy composite material has been used. The results of Conventional steel leaf spring have been compared with the present results obtained for composite leaf spring. E-glass/epoxy material is better in strength and lighter in weight as compared to the conventional steel leaf spring.