

COMPUTER AIDED DESIGN ~~OF~~
HELICAL AND LEAF SPRINGS

PROJECT REPORT SUBMITTED

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ABSTRACT

This project deals with the Computer Aided Design for Helical and Leaf Springs. It is divided into two parts.

Part A consists of 6 chapters where the mathematical analysis for the design of Helical (extension, compression, torsion) and Leaf Springs is presented.

Chapter 1: Introduction. Uses and classification of the Springs.

Chapter 2: Presents the analysis for the design of Helical Compression and Extension springs. Stresses in Helical Spring Deflection, Fatigue loading, Critical frequency, Buckling and other causes of spring failure and finally Energy Storage Capacity are included.

Chapter 3: Presents the analysis for the design of Helical Torsion Springs. (Stresses, Deflection and failure of the spring).

Chapter 4: Deals with the combination of helical springs.

Chapter 5: Presents the analysis for the design of Leaf Springs.

Chapter 6: Deals with the Spring materials and mechanical properties of both Helical and Leaf Springs Reference is made to Heat Treatment of Springs and Tolerances.

Part B consist of 2 Chapters where the computer programs are presented.

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