



Structural Analysis of Pick-Up Truck Chassis using Fem

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Abstract : One of the major components in vehicle system is the Truck chassis. Chassis acts as a base upon which various parts of the vehicle can be mounted. The most important requirement of any vehicle chassis is to provide good load-bearing characteristics along with less weight. In this research work, an attempt to investigate the static characteristics and also the fatigue life prediction of the chassis frame will be made. Static analysis involves determining the location in which maximum stress occurs and to evaluate torsional stiffness of the chassis frame. Torsional stiffness of the chassis frame was determined. Predicted values were validated with the results available in the literature and the maximum value of error was found to be 7.83%. Dynamic characteristics of the chassis frame were also evaluated to determine the natural frequencies and mode shapes.

Keywords : Truck Chassis, torsional stiffness, Modal Analysis, FEM.

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