Abstract

Design of an ATV Wheel Rim

This study involves modelling of the Suspension and Wheel assembly with the design parameters using the Autodesk FUSION 360 software and also it includes the determination of loads acting on the Wheel Assembly as a function of time. A Wheel assembly is a component by which i.e., turning of the wheels, reduction of loads of bumps, stability to vehicle takes place. It is not a standard component. It plays a major role in load control of the vehicle. In the present study, design of a durable and reliable Suspension and wheel assembly for an ATV is the goal to be achieved. This is done for finding out the minimum stress area. This component should be less in terms of weight and should have enough strength to withstand heavy and impact loads at regular intervals. The study is done by applying the different materials individually and simulating the component in the software for stresses developed upon the action of loads. This case study can be used as a reference for designing and analysing Wheel assembly for ATVs.

Key words: FUSION 360 software, suspension, wheel assembly, materials (Cast Iron, Aluminium 7075 and High carbon steel)

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