INNOVATIVE PROJECT FROM AKTU STUDENTS

INTRODUCTION

The main task was Design & Development of "GO-KART" and the object was to make vehicle low cost, comfortable, user friendly, lightweight & durable. The task included modeling with ANSYS 17.0 and CATIA software. The Reliability of the go-kart design was examined through FMEA (Failure modes and effects analysis) by using Software tools. The design was optimized to meet the design parameters. This included state of art selection of material, manufacturing techniques, and heat treatment. The complete hardware, the first Prototype was fabricated and tested. It is undergoing design validation test runs. The photograph of the entire hardware capable of running is pasted below for ready reference. The final design of each component and the assembled vehicle has been thoroughly validated with the help of above software. The prototype has been provided with additional security features over and above those available in current market e.g GPS traction and thumb impression engine starting.

REASEARCH AND DEVELOPMENT

The design is customer driven and hence, the data in respect to user requirements have been collected from various international journals of SAE, interaction with knowledgeable people in the field and the exhaustive information available on internet. Hence, the features like space efficiency, weight to power ratio to achieve higher power with low fuel consumption, ergonomics and driving comfort have been incorporated. Safety, Serviceability, Strength, ruggedness, Aesthetics, Standardization and Cost have also been taken due care of. Final design was frozen after thorough analysis of results and required modifications. The design process of the vehicle is iterative and is based on various engineering and reverse engineering processes depending upon the availability, cost and other such factors. The simulated model could be available with these considerations based on which the complete fabrication to realize the go-kart was under taken. The figure below gives the view of the simulated model and final assembly along with the team who work done it.

Functional Model of Project

INNOVATION:

- This is competence development exercise, abinitio design starting from scratch to final Prototype in running condition by the undergraduate students**.**
- It has advance security system that the vehicle can get triggered from registered thumb impression
- This system has GPS tracker which can locate the vehicle position.
- It gives an inspiration to the Upcoming generation of "Technocrats" that, We can do it and We are second to none as far as Innovation is concerned. The environment/infrastructure available in SRMGPC has enabled the team to do this Innovation apart from the inherent talent in the new generation .In SRMGPC, the talent is nurtured.