

RACING KART POWERED BY POWER TOOLS (CHASSIS)

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ABSTRACT

This report is basically based on the construction of the chassis of a go-kart. The go kart is to be constructed in line with the rules and regulations of the Bosch Power Tools Asia Cordless Race 2011 and it is segregated into three major parts: steering gear, brake and power system, and the chassis design. The purpose of this project is centralized on the design and construction of the chassis of the go kart.

Initially, this project was instigated through extensive research on the concept of chassis and its importance in the go kart to understand the elements that are required in designing a chassis. In this paper, the design procedure for a new chassis concept for competition go-karts is presented. Such a vehicle requires an unconventional design procedure for the frame due to the lack of suspensions and the need to sustain load transfer from the ground with the help of the tires' radial stiffness. It was further followed by constructing designs for the chassis when a new chassis design concept was selected. Furthermore, the materials for chassis were investigated and selected in terms of its strength, safety, cost, availability and compatibility. Then, the hands on work was required afterwards to build the actual chassis through determining the proper dimensions, cutting the materials in accordance to it and specific welding.

The chassis is finally built according to the proposed design and ready to be assembled with the other parts which include the steering system and the brake and power system, in order to construct the go kart.