

RACING CART POWERED BY POWER TOOLS STEERING GEAR AND BRAKE SYSTEM

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ABSTRACT

The title of the project is 'Racing Cart Powered by power Tools'. As the name suggest, it is a racing go-kart which has cordless impact drills as its main power system.

The objective of the project is to build a go-kart powered by power tools which can be driven by a driver safely and comfortably. However, the design has to be compatible and accordance with the Bosch Cordless Race competition. The building of the go-kart project consists of 3 group members, each having their own part. The parts are:

- Chassis
- Power system
- Steering and braking system

However, for my part of the project, it is mainly focused on the steering and braking system, thus, this report conversely will only focus on the explanation of the Steering and Braking system and seat arrangement.

The aim of the project is therefore to design and build a well-functioning steering gear that will enable the go-cart to steer freely. This mean that, the driver will have a steering wheel reachable from both of his hands and can effortlessly steer the go-cart. The other one is to have an efficient braking system which will help the go cart to stop anytime and anywhere. The last part is the seat arrangement, which will accommodate the driver on the go-cart, provided with the safety features.

According to the Bosch Power Tools Asia Cordless Race 2011 competition, the guidelines for the design are:

- Vehicle should have a minimum ground clearance of 70mm with driver on board.
- The vehicle shall be easy to steer, the driver shall be able to drive easily straight and take a bend, by normal force applied.
- The vehicle should be able to turn a 10 m wide race track (turning circle).