

Review Paper on Steering System of Go- KART

Abhishek Joshi¹, Suresh Nojaram Kharwad², Jay Prakash Soni³, Mohsin Khan⁴, Praveen Singh⁵

¹Assistant professor, Mechanical Engineering Department, GITS Udaipur

^{2,3,4,5} Student, Mechanical Engineering Department, GITS Udaipur

Abstract- Steering is an integral part of the vehicle. The steering system contains a universal joint. The conventional way of turning is controlled by steering in these articles we shall see the steering system and it's typing. The various impact on the wheels while turning the on road and off road availability. The article also includes precise diagrams to which we can understand fully. The steering mechanism is classified into two, namely Davis and Ackerman's steering

The steering system can be classified as manual steering and power steering.

The manual steering system can be employed in the following:

Rack and pinion.

Worm and wheel.

Recirculating ball and nut.

INTRODUCTION

The act of guiding the vehicle is called steering. The steering system is one of the major interfaces between driver and vehicle. It's a mechanism used to control the path allowed by the vehicle. The handling of the turning points becomes easy and reliable by a proper steering system. As the driver turns the vehicle it changes the rotary motion of the vehicle into the linear motion. The basic aim of the steering is to ensure that wheels are pointing in the desired direction.

The manual steering system is the string system where steering is connected to a rod that turns the wheels as per the steering direction. In this rotational motion of the steering wheel is converted into linear motion.

The power steering can be employed in the following:

Hydraulic

Electrical

Combination of hydraulic and electric

This system enables the driver to make effortless steering. The use of electric and hydraulic power is seen in this type of steering. There is a great need to adapt this system to reduce road shocks. And provide great safety and control under critical situations.

STEERING SYSTEM

The steering system can be defined as the collective sets of components, linkages, joints. These are responsible for controlling the vehicle. This system converts the rotary movement of the steering wheel in a diverse hand between the angular turn of the wheel. The steering system should provide a mechanical advantage over front wheel knuckles to help the driver for easy turning. The effort applied by the driver should be minimum.

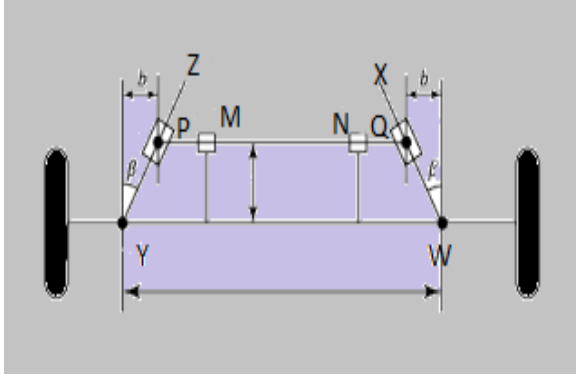
The steering should be at a certain degree irreversible so that the shocks of the roads are not transmitted to the hands of the driver. The steering should have self-centering action. The steering should turn wheel within the shortest possible time.

DAVIS STEERING MECHANISM

It is an exact steering mechanism. The Davis steering gear has sliding pair it has more friction than the turning pair that's why its wear out earliest and become inaccurate after a certain period. This is a type of side pivot mechanism that has a more sliding system.

According to the diagram:

TYPES OF THE STEERING SYSTEM

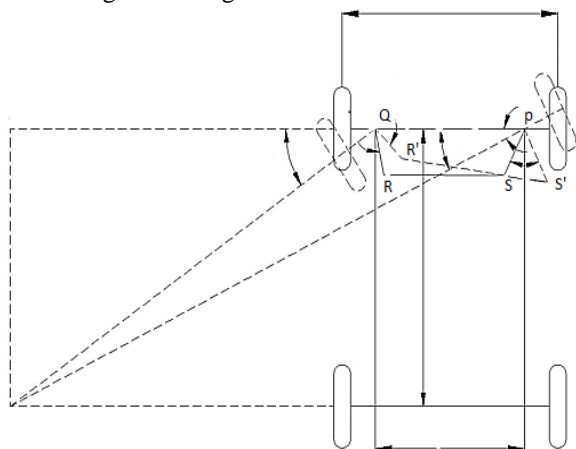


The slotted links WX and YZ attached to the front wheel axle while turn on the pivot W and Y respect. The rod QP is constrained to move in the direction of its length by sliding member N and M. These constraints are contacted link WX +YZ by sliding and turning part at each end. The steering is affected by moving QP to the right or left to its base position.

ACKERMAN'S STEERING MECHANISM

The Ackerman steering gear mechanism is simpler than the Davis steering mechanism. The whole Ackerman steering mechanism is mounted on the back of the front wheel this mechanism lowest of turning pairs. This type of steering mechanism is widely accepted personally we made a basic of kart project and proved the steering of the project by Ackerman's steering is simpler and better than other mechanisms.

According to the diagram:



In Ackerman steering gear the mechanism PQRS is a four-bar rank chain as shown in the diagram. The shorter link PQ and PS are of equal length which is

connected by linkage joints with front wheel axle. The lower links PQ and PS are of equal length.

CONCLUSION

Thus, we can conclude that the four-wheel steering system is better equipped. However, it has some drawbacks like it is an expensive and complex system. The steering system is still in the research phase. The steering system has a scope to develop a new generation technology. Ackerman's steering mechanism can be successfully employed in Go Kart.

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