

# Design and Development two wheeler bike stand

Prof. Abhang sir<sup>1</sup> Thokale sachin<sup>2</sup> Guldagad ketan<sup>3</sup> Chatraband tushar<sup>4</sup>

Department of Mechanical Engineering

PREC LONI, INDIA

## Abstract: -

Side stand in two wheelers function the entire weight of the vehicle when it is parked. They are perfect on quick stops when one needs to leave the vehicle for a short while. They are provided with a spring that pulls it back into position to ensure extra safety.

Sometimes the person who drives the two wheeler may forget to release the side stand. This will tend to unwanted danger and lack of concentration while driving.

Now a day's sensors are used to ensure that the stand is in released condition or not by indicating it using small lights in dash board. There is also a possibility to forget to see the light. This project focuses on to completely reduce the possibility of driving two wheelers without releasing the side stand. This may be appropriate for all kind of two wheelers which are driven in gear system with low cost.

In this project we are proposing an idea to overcome one of those accidents which take place due to the non-folding of the bike stand. In the case of the classical bikes, the side stand should be folded manually.

Unfortunately, it will not work at the urgent times. We are just human beings. We often use to forget to fold the kick stand at the hurry-burry times. While taking a deep curve or any obstacles coming on the way, sure there is a maximum feasibility to meet with an accident. So to avoid this accident, we find a new way to fold the side stand automatically.

## I. INTRODUCTION

Today, Motor cycles are used everywhere in all over the world. Designer should design each and every component in the two wheelers with very at most safe and the product should be economical. In motor cycles, the side stand plays major roll while the vehicle is in rest condition. While the driver starting the motor cycle, there may be a possibility of forget to release the side stand. This will tend to unwanted troubles. To avoid the driver has to ensure that the side stand is released.

Side stand in two wheelers function the entire weight of the vehicle when it is parked.

They are perfect on quick stops when one needs to leave the vehicle for a short while.

They are provided with a spring that pulls it back into position to ensure extra safety.

A side stand style is a single leg that simply flips out to one side, usually the non-drive side, and the bike then leans against it. Side stands can be mounted to the chain stays right behind the bottom bracket or to a chain and seat stay near the rear hub. Side stands mounted right behind the bottom bracket can be bolted on, either clamping the chain stays or to the bracket between them, or welded into place as an integral part of the frame.

## II. WORKING

The side stand retrieve system works on gear lever when we push the gear lever the lever arm push link1 which disconnect the side stand link 1 due to spring force side stand always try to up lift.

When the gear lever push down then the power gets transmitted through connecting rod which is further

connected to the link 1 whose function is to make up and down motion. Link 1 is mounted with frame assembly. Link 1 locks the stand when driver push down the stand.



## III. SIDE STAND

It is a device on a Motorcycle that allows the bike to be kept upright without leaning against another object or the aid of a person. A stand is usually a piece of metal that flips down from the frame and makes contact with the ground. It is generally located in the middle of the bike or towards the rear.



## III. SPRING

A spring is an elastic object that stores mechanical energy.

Springs are typically made of spring steel. In this spring help to side stand to come up.



#### IV. GEAR LEVER

Gear lever or that which include extra strip at bottom.



#### V. ADVANTAGES

- This method is does not affect the engine efficiency.
- It's cost wise less than other method.
- Electrical supply not required.

#### VI. CONCLUSION

"Automatic Side Stand Lifting System" will definitely good retrieve system since the setup is compact it does not affect the performance of the vehicle because of the power is obtained from gear lever. Definitely this system could be used in only for gear bikes for retrieving the side stand, it will be the major system to control accidents due side stand problem and protect the careless rider. This system can be implemented in all types of bikes by changing small variation in size and cost of this system also very low and so it will not affect the economic level also while compare to other system this "AUTOMATIC SIDE STAND RETRIEVE SYSTEM USING GEAR LEVER" will be the life saver.

#### VII. PROBLEM STATEMENT

Introduce an "DESIGN AND DEVELOPMENT OF TWO WHEELER STAND" for minimising the rate of accidents caused by people's recklessness to slide their side stands (lift up the stand) on starting their bike.

#### REFERENCES

- [1]. K.Gowtham, G.Gokulnath, K.Jeevanandhanetal "Automatic Side Stand Retrieves System" in IJRSET ISSN (Online): 2319-8753.
- [2]. Akhil Ramesh, Mohammed Misfar K , Mohammed Rizwan N," Sprocket Side Stand Retrieval System" in IJRSET ISSN (Online) : 2319 – 8753.
- [3]. Pravin Barapatre, Pushpak Manmode, Prashant Khadatkar,"Automatic Side Stand Lifting Mechanism" in IJRSET ISSN: 2278 – 7798