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## Mechanised side stand lock

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### Abstract:

Transportation is essential to our everyday lives because it allows us to travel where we need to go swiftly and effortlessly. Vehicle crashes, high speeds, drunk driving, driver distractions, red light jumping, and many other mishaps may occur as a result of this rule. Careless moves, such doing a sidestand, etc., cause many mishaps. To react to it and reduce some of the causes of accidents, we may create tools or gadgets that provide us the remaining information. By zeroing in on the problems that occurred because of the side stand, we might maybe come up with a solution to make these problems less common.

### KEYWORDS

Pneumatic System, Direction Control Valve, Compressor, Sheet Cutter, Bending Punch & Die.

## INTRODUCTION

frustrating aspect is that we repeatedly make the same mistakes when driving. Most drivers are aware of the most fundamental traffic laws and safety procedures, yet accidents and collisions still happen because drivers are reckless. The most common reason for accidents and collisions is when humans make mistakes. This article describes some of the most common human behaviours that cause accidents.

1. Pumping it up on the gas Driving
2. While Intoxicated
3. Distractions for Drivers,
4. Violent Flashing Lights
5. Not Using Required Safety Gear, Like Seat Belts and Helmets
6. Sliding into oncoming traffic without looking and crossing lanes

From what we can tell from national and international research, these are the top three driving habits that lead to accidents.

### **Over Speeding:**

In most cases, people die because they were travelling at an unsafe speed. The capacity for extraordinary feats is inherent in the human soul. Man will undoubtedly achieve unlimited speed if given the chance. On the other hand, when we have to share the road with other drivers We will constantly be trailing a vehicle. Speed increases the likelihood and severity of accidents. incidents involving cars moving at faster speeds are more common, and the consequences of these incidents are more likely to be devastating. The risk grows in proportion to the velocity. Because of the increased stopping distance needed at high speeds, braking distances are greater. Because of the rule of idea, a faster vehicle needs a lot more time to stop after skidding for a shorter distance than a slower one. The number of casualties in an automobile accident is directly proportional to the speed of the vehicle. The ability to anticipate possible dangers is also diminished while driving at high speeds, which raises the risk of making an error in judgement and, eventually, a crash.

## **2. RELATEDWORK**

Activate the side stand With this kind of signal, an LED light on the dashboard of our bike would alert us whenever we open our side stand. The main issue with this approach, however, is that we tend to be too busy to see the red flags that an accident is imminent. We may take the required measures to fasten our side stand if we get an alert indicating that it is open while the ignition is switched on.

earlier stage. The fact that our people and economy are in a vulnerable financial position as a developing country is the greatest concern with this option. So, a lot of us purchase motorcycles without repairing them, which leads to problems like the alarm not working due to a dead battery. Because of this, accidents occur. These are the choices available to consumers in the present market. As a result of the country's strong economic growth, the number of motorised automobiles in India has been consistently increasing. The number of registered autos in India reached 210 million as of March 31, 2018. Users of the road prefer private transport over public transport, according to statistics on car manufacture and pattern of category-wise growth rates. Vehicular penetration, the ratio of cars to people, has increased dramatically in India

during the 1980s, going from 8 in 1981 to 167 in 2015. The decline of public transport and the growth of private alternatives have far-reaching consequences for traffic congestion and safety. One typical cause of accidents involving two-wheelers is people forgetting to lift the side stand, which may lead them to crash into other vehicles. A little mistake is possible if you're rushed. Give them the extra cash or just make it plain that the stand isn't for people on bikes or scooters; either way, it will be fixed. We may not be able to stop people from getting into mishaps like automobile crashes or ramming into walls and obstacles, but we can definitely make them happen less often.

### 3. IMPLEMENTATION

Now the steps for implementing the sidestand engine lock system are as follows:  
.For setting up this system, wiring connections have to be made between the reed switch and ignition.

Our module works on the principle of magnetic to connect with Arduino so that the code can also be included hence we have connected the DC motor to Arduino.

#### Hardware Description

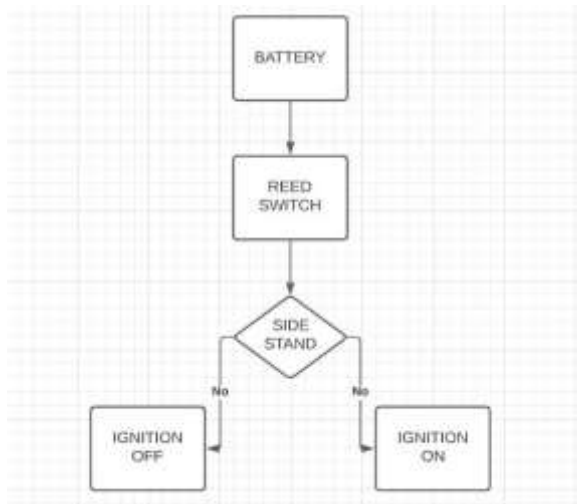
- BIKE STAND
- MAGNETIC REED SWITCH
- MAGNET
- CONNECTING WIRES
- SHRINK TUBE
- RELAY SWITCH
- ARDUINO
- LIMIT SWITCH
- ADAPTOR
- DC MOTOR

#### Methodology

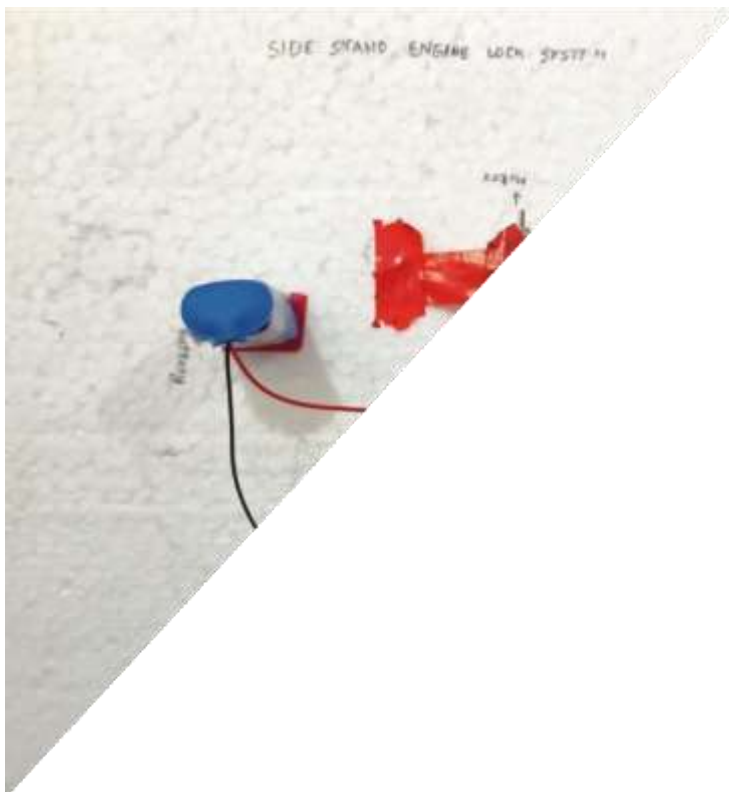
Our project's overarching goal is to make vehicles safer for drivers and passengers by reducing the likelihood of unexpected malfunctions in the sliding system—a problem that plagues current automated side stand designs.

The reference and conventional system studies informed our parameter selection for the project, which was based on two-wheeler accidents and occurrences, side stand and frame design, drive and power aspects of the system.

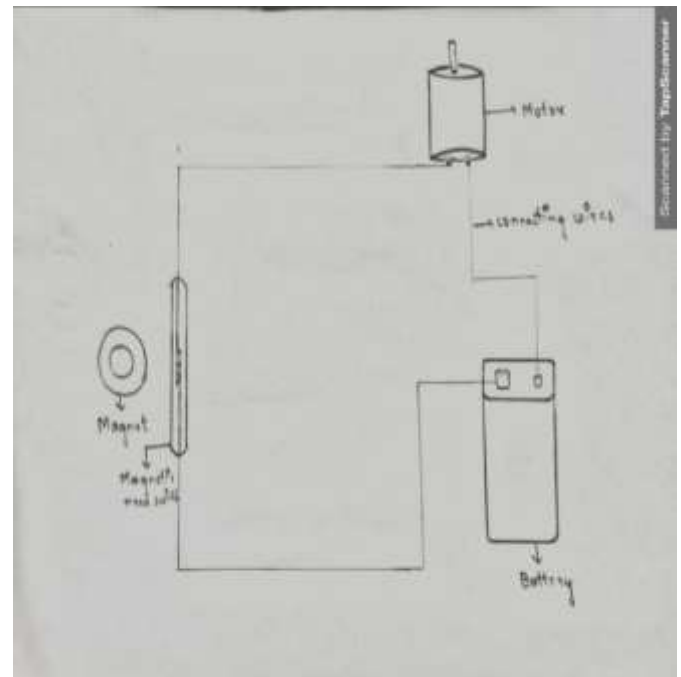
## Block Diagram



## RESULTSANDDISCUSSIONS



**CircuitDiagram:**



Side stand slider incidents have been reported more often lately. Retrofitting an existing two-wheeler with a "SIDE-STAND ENGINE LOCK SYSTEM" improves its security, looks, and performance. It will be more user-friendly than other conventional systems because to its lower installation and maintenance costs and lower likelihood of malfunction. Furthermore, the design and drive of this system are independent of the main engine and transmission system, meaning it will not hinder the two-wheelers' operation. The cheap cost and high degree of safety offered by this technology will be advantageous for all types of cars. With more widespread use of this technology, the system's electrical circuitry and ergonomics may undergo further development into a state-of-the-art model.

**CONCLUSION**

People had to be able to go from one place to another to get their hands on the things they needed, which is what ultimately led to the development of the automobile industry. To get more freedom of movement, more and more people are opting for two-wheeler vehicles instead of the more traditional automobiles with four or three wheels. This means that motorcyclists need to be much more careful to avoid injuries when out on the road. Because it safeguards not just himself but also others who depend on him, he values personal safety highly. An indicator of the vehicle's steadiness is the sum of the rider's and the vehicle's Centre of Gravity (CG). At this point, every force is at work. Many two-wheeled vehicles come with convenient supports to keep them upright while not in use. With a kickstand, you won't need anything else—not even a person—to keep your bike or motorcycle upright. Former Louisiana governor Dave Treen's father, Joseph Paul Treen, developed the kickstand. A kickstand is a metal attachment that many bicycles have; it juts out from the bike's frame and touches the ground. It is usually located in the middle or rear of the bike.

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