

# Enhancement in Automobile Vehicle Safety System & Reduce Human Errors in Vehicle Operating System

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## Abstract

We all enjoy driving vehicles. But there are certain safety and security concern about which you must aware while driving an automobile vehicle. The biggest concern is with hand brake, gear and seat belt system on the vehicle. In this system that all three sensors and switch ensure much more safety in the automobile vehicle the security and safety of your automobile vehicle can be increased by proper installation of mechanism.

**Keywords:** enhancement, vehicle system, reduces human effort, safety system, vehicle design, sensor, limit switch, push switch

## I. INTRODUCTION

There are 7 types of safety system in the automobile vehicle for safety to the people.

- 1) Hand brake safety system.
- 2) Gear safety system.
- 3) Sheet belt safety system.
- 4) By pass system.
- 5) Car door safety system.
- 6) Dipper safety system.
- 7) Exhaust gas maintenance system.

## II. PROCEDURE FOR DIAGRAM SUBMISSION

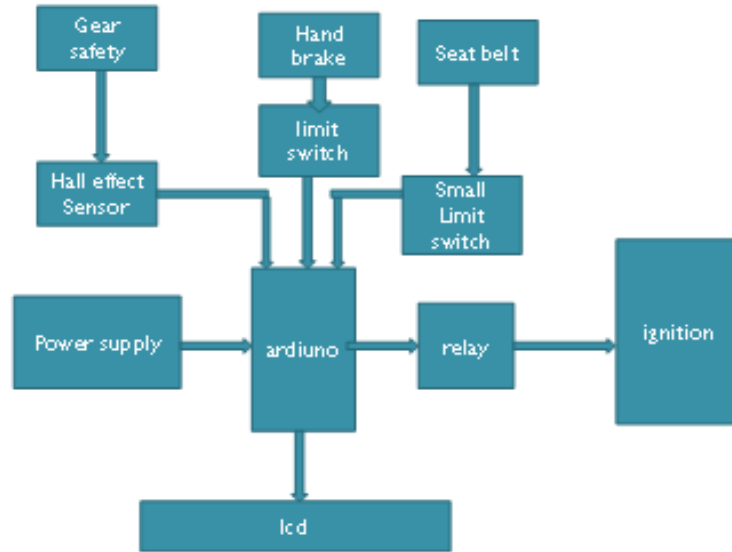


Fig. 1: Procedure for Diagram Submission

## III. ADVANCED INFORMATION ON CREATION OF ELECTRONIC IMAGE FILES

### A. Hand Brake System

- “When the hand brake is on and the car start running so that is a maximum chances of failure of brake- pads but by this system when the hand brake is open the car will never start.”
- “The system are the very use of car tyers safety and car brakes safety.”



Fig. 2: Hand Brake System

### B. Gear Safety System

“By using this system the car will never start when it is in gearing condition. it is a safe when the car is in gearing condition and we don't know”.



Fig. 3: Gear Safety System

### C. Sheet Belt Safety System

“We know that most of us don’t wear a seat belt take as mandatory but it is the one of the most important safety feature. by using this system the car will not start until the seat belt in not wear”



Fig. 4: Sheat Belt Safety System

### D. By Pass System

- “This system is used to stop of by-pass above three-system. So that in emergency it can be help such as when car stops in slopping condition”.
- This device is easily use of human.

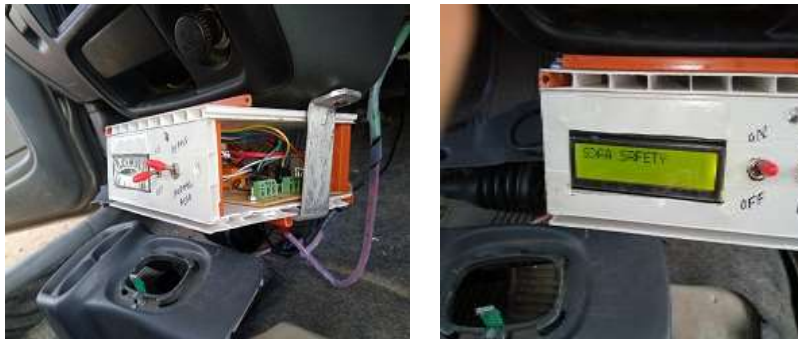


Fig. 5: By Pass System

### E. Car Door Safety System

“When we forget our keys in car then it creates a big problem. So by this safety when there is less than 25kg weight on the seat then the door was not close. So it was helpful also for child sitting on the seat”.



Fig. 6: Car Door Safety System

### F. Dipper System

- “When driving at a night time. We forget to the dipper but by using this system. When there is a car in front of us so automatically the system uses the dipper”.
- LDR sensor is used in dipper system.



Fig. 7: Dipper System

#### G. Exhaust Gas Maintenance System

“When the exhaust gas in above limit it will show that the car needs maintenance. So we can use for better efficiency of the car”



Fig. 8: Exhaust Gas Maintenance System

### IV. HELPFUL HINTS

Net sketch angle dia. of above system attached on a car.

#### A. Hand Brake System Angle Diagram

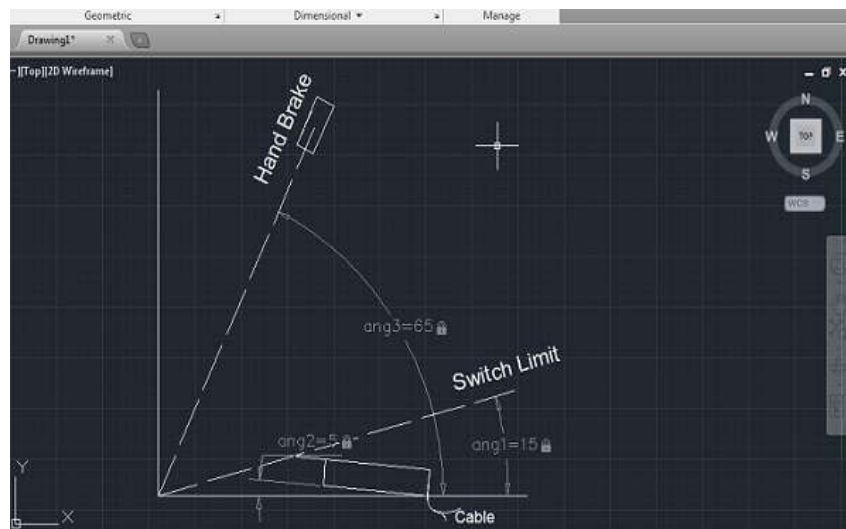


Fig. 9: Hand Brake System Angle Diagram

### B. Gear Safety System Angel Dia.

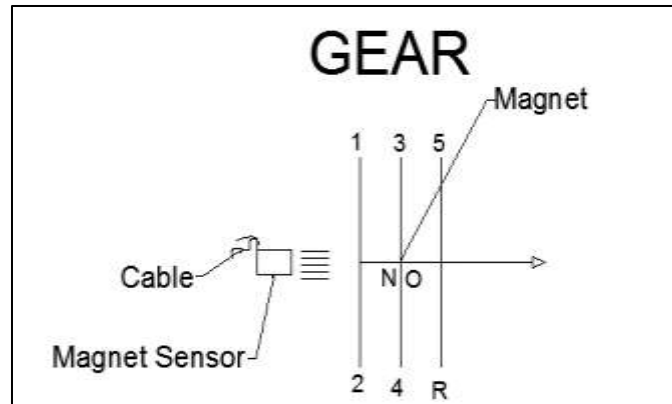


Fig. 10: Gear Safety System Angel Dia.

### C. Sheet Belt Safety System Angle Dia.



Fig. 11: Sheet Belt Safety System Angle Dia.

### D. Car Door Safety System Angle Dia.

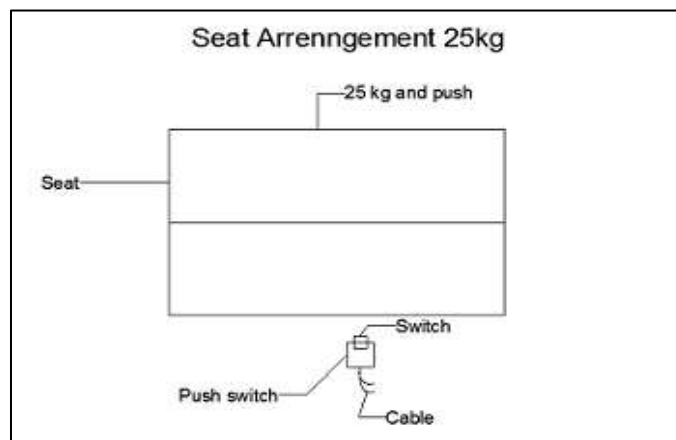


Fig. 12: Car Door Safety System Angle Dia.

## V. EDITORIAL POLICY

### A. Hand Brake

A traditional handbrake is very simple by pulling the lever up; you are pulling two cables which run to each of the rear brakes. By adding tension to these cables, this in turn causes the pads (or 'shoes' for cars with drum brakes) to squeeze against the discs



(or drums) to hold the rear wheels firmly in place. Some cars with disc brakes have separate handbrake drum-brake shoes or even a separate disc-brake caliper for the handbrake. Later electronic parking brake replaces this mechanical system with an electrical one. By pressing the switch, motors on each brake caliper squeeze the pads into the disc. We are trying to make hand brake mechanism even simpler using rack & pinion and proximity sensors.

### **B. Gear System**

A gear train may include a first planetary gear set, which may include a first sun gear, a first ring gear, and a first carrier. The gear train may also include a second planetary gear set, which may include a second sun gear, a second ring gear, and a second carrier. Additionally, the gear train may include a first clutch configured to selectively connect the first carrier with the second carrier, as well as a second clutch configured to selectively connect the first sun gear with the second sun gear. The gear train may also include a first brake configured to selectively fix the second sun gear, as well as a second brake configured to selectively fix the first carrier.

### **C. Sheet Belt System**

A seat belt safety system for motor vehicles wherein all seat belts of the vehicle are elements of a common electrical circuit operative to control the drive system of the vehicle, but independent from the operation of the vehicle's engine, wherein an unbuckled seat belt in any occupied seat of the vehicle will automatically prevent putting the vehicle in motion, except in reverse gear or the lowest forward gear.

### **D. Car Door System**

An injury-preventing system for automobiles comprises a radiation emitter for emitting electromagnetic radiation, detectors for detecting the electromagnetic radiation and an electronic control circuit which is designed to sense any disruption in the impingement of the electromagnetic radiation on the detectors. The system is located to monitor the space normally occupied by an automobile door. When impingement of the electromagnetic radiation on the detectors is disrupted, as by the placement of a person's hand in the space normally occupied by the automobile door, the electrical circuit activates a mechanical device, for example a solenoid, which places a small rubber rod in the path of the closing door, causing the door to bounce off the rod without closing, avoiding injury to the hand of the person.

### **E. Deeper System**

A road-adaptive vehicle headlight system includes at least one headlight device, which includes a curved base plate divided into an inner-side module, an outer-side module, and a middle module located between the inner-side and outer-side modules, and the middle module is further divided from top to bottom into an upper-side module, a basic module, and a lower-side module; a plurality of LED light sources differently distributed in the above modules; a power source assembly being connected to and driving the base plate to turn in different directions; and a controller electrically connected to the LED light sources and the power source assembly. With these arrangements, the headlight device of a car can quickly produce different light beam patterns, increase the road visibility and the illumination areas of the headlight devices, and accordingly, ensure high safety in driving.

## **VI. CONCLUSION**

- This system is used for the safety and it is also low cost and car used in day to day life.
- Using this system we can avoid road accident, rubbing of tyre and problem associated with gear.
- also it is use for problem in locking of car and when the car is in maintenance
- Human error reduce and highly safety system.

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