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# DESIGN AND FABRICATION OF POWER WINDOWS FOR BUSES

<sup>1</sup>Vidyasagar N , <sup>2</sup>Vignesh G, <sup>3</sup>Tippanna kolli, <sup>4</sup>Prakash S T

<sup>1,2,3</sup>UG student, <sup>4</sup>assistant professor

Department of Automobile Engineering.

Srinivas Institute of Technology, Mangalore, India

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**ABSTRACT:** *If Bus disasters on fire, accident etc, to avoid casualties and human lives here we are proposing power window mechanism. On sensing any danger in the form of fire and smoke the window automatically will slide down making way for passenger way out from the vehicle. Power window consists of conduction sensor circuit control unit, wiper motor, glass frame. The sensor is used to detect fire or smoke. If there is any fire or smoke in bus cabin sensor sense the fire or smoke and giving the control signal to the wiper motor.*

**Key Words:**

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## 1. Introduction

The problem of vehicle accident is part of an endless list of disasters that could occur anywhere anytime. According to the Association for Safe International Road Travel, about 1.24 million die and 50 million are injured on the roads of the world every year. To overcome such problems, many vehicle manufacturers and automobile device companies have attempted to develop passenger and vehicle safe. We have pleasure in introducing our new project "**Design and fabrication of power windows for buses**", which is fully equipped by sensors circuit and wiper motor. This is an era of automation where it is broadly defined as replacement of manual effort by mechanical power in all degrees of automation. The operation remains an essential part of the system although with changing demands on physical input as the degree of mechanization is increased.

Degrees of automation are of two types, viz.

- ✚ Full automation.
- ✚ Semi automation.

In semi automation a combination of manual effort and mechanical power is required whereas in full automation human participation is very negligible.

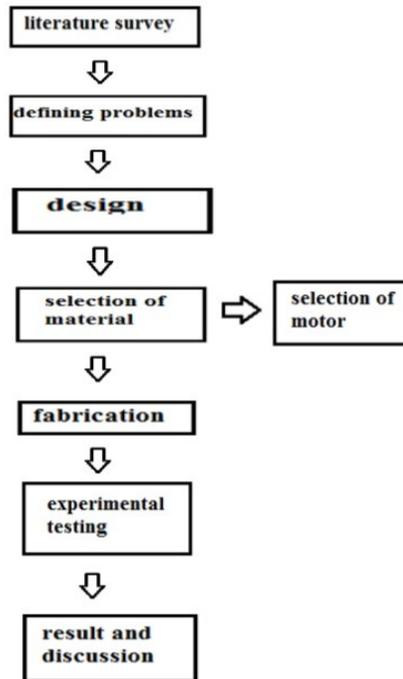
## 2. Working Principle

Fire and smoke sensors will be fitted at the interior part of the vehicle to sense the smoke and the fire, which is connected by the micro controller, where the micro controller is programmed by embedded C. This is done in such a manner when the sensors sense the fire or smoke, the DC motor operates to open the windows automatically. The movement of the windows is arranged with DC motors, the whole system needs battery power to operate.

## 3. Project requirement

- Glass frame
- Wiper motor
- Sensor circuit
- Battery
- Relay
- Frame
- Connecting wire
- Bolt and Nut

## 4. Methodology



4.1 fig showing flow chart of process

## 5. Design

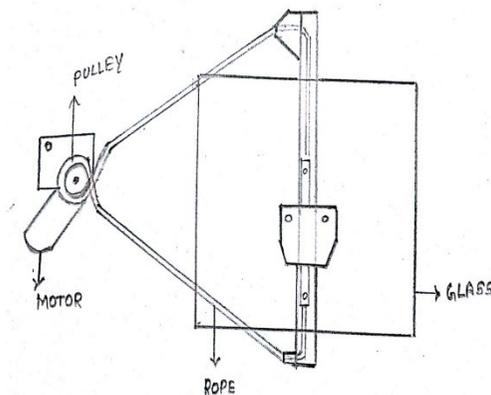


Fig 5.1 showing design of power window

## 6. Conclusion

This project work has provided us an excellent opportunity and experience, to use our limited knowledge. We gained a lot of practical knowledge regarding, planning, purchasing, assembling and machining while doing this project work. We feel that the project work is a good solution to bridge the gates between institution and industries. We are proud that we have completed the work with the limited time successfully. The POWER WINDOW is working with satisfactory conditions. We are able to understand the difficulties in maintaining the tolerances and also quality. We have done to our ability and skill making maximum use of available facilities.

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