

AUTOMATIC RAIN OPERATED WIPER

SYNOPSIS

The aim is to design and develop a control system based an electronically controlled automotive rain operated motor is called “**AUTOMATIC RAIN OPERATED WIPER**”.

Rain operated motor is consists of conduction sensor (Tough sensor) circuit, Control Unit, wiper motor and glass frame. The sensor is used to detect the rain or water flow. There is any rain on the class, the sensor senses the rain or flow water and giving the control signal to the wiper motor.

INTRODUCTION

We have pleasure in introducing our new project “**AUTOMATIC RAIN OPERATED WIPER**”, which is fully equipped by sensors circuit and wiper motor. It is a genuine project which is fully equipped and designed for Automobile vehicles. This forms an integral part of best quality. This product underwent strenuous test in our Automobile vehicles and it is good.

The Automatic rain operated wiper system is a fully automation project.

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.

NEED FOR AUTOMATION:

Automation can be achieved through computers, hydraulics, pneumatics, robotics, etc., of these sources, pneumatics form an attractive medium for low cost automation. Automation plays an important role in automobile.

Nowadays almost all the automobile vehicle is being atomized in order to protect the human being. The automobile vehicle is being atomized for the following reasons.

- ✘ To achieve high safety
- ✘ To reduce man power
- ✘ To increase the efficiency of the vehicle
- ✘ To reduce the work load
- ✘ To reduce the vehicle accident
- ✘ To reduce the fatigue of workers
- ✘ To high responsibility
- ✘ Less Maintenance cost

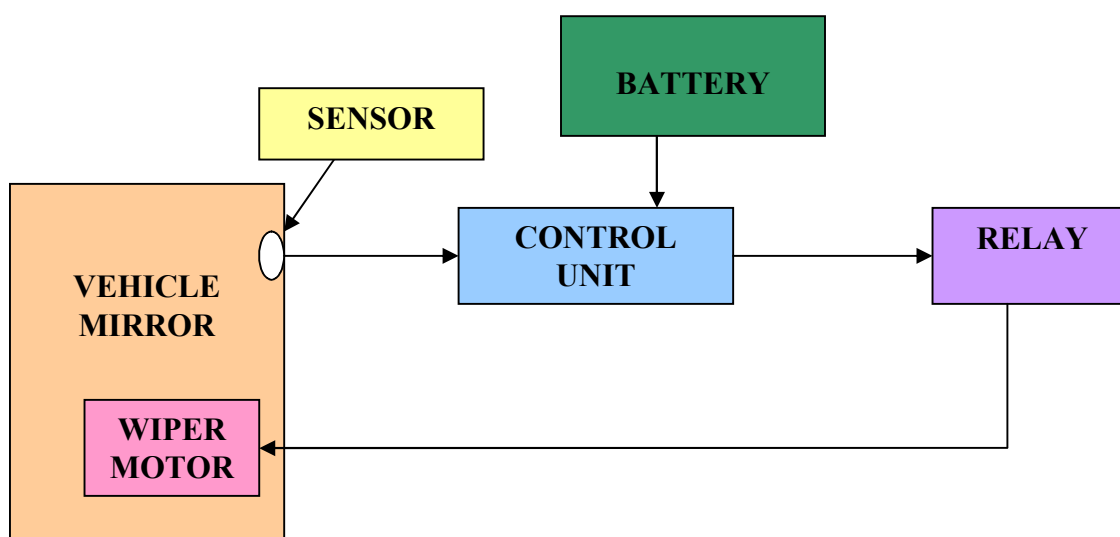
The major components of the “Automatic rain operated wiper” are follows

- ◆ Conductive Sensor
- ◆ Class frame and Supporting Structure
- ◆ Battery
- ◆ Wiper Motor and its arrangement
- ◆ Relay

WORKING OPERATION

The battery supplies the power to the sensor as well as rain operated motor. Wiper motor is automatically ON during the time of rainfall. The sensor is fixed in the vehicle glass. The conductive (Touch) sensor is used in this project. It senses the rainfall and giving control signal to the control unit. The control unit activates the wiper motor automatically. This operation is called “**Automatic rain operated wiper**”.

BLOCK DIAGRAM



ADVANTAGES

- ✚ Low cost automation project.
- ✚ Free from wear adjustment.
- ✚ Less power consumption
- ✚ Operating Principle is very easy.
- ✚ Installation is simplified very much.
- ✚ To avoid other burnable interactions viz.... (Diaphragm) is not used.
- ✚ It is possible to operate Manually/automatically by providing On/Off switch.
- ✚ Sensor cost is very low due to conductive sensor

APPLICATIONS

- Four wheeler application

DISADVANTAGES

1. This system applied in the case of water falling on the class only.
2. Addition cost is required to install this system to four wheeler.

AUTOMATIC RAIN OPERATED WIPER :-

