

Vehicle Ventilation System

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ABSTRACT

The current paper proposes a ventilation system for vehicles. More particularly, it describes about an automatic ventilation system for carrying waste gases out of vehicles. The system providing comfort to a person inside the vehicle by carrying harmful gases out of the vehicle. The ventilation system for vehicles having an exhaust fan for evacuating harmful gas produced inside the vehicle thereby eliminating the problem of suffocation.

KEYWORDS: Ventilation, Vehicle, Exhaust, Fan

INTRODUCTION

In recent times, there have been a significant number of fatal deaths of human beings due to suffocation when harmful gas is filled inside the vehicle[1]. When a person parks car directly under the sun, the heat produced by sun radiation increase the temperature inside the vehicle. When exposed to excessive heat of the sun for a long period of time without any air circulation, the interior components of the car heats up and toxic gases are released by these plastics[2]. The harmful gases are produced inside the vehicle when vehicle components made of plastic gets heated up due to sun radiation. This increases the temperature inside the car. This rise in temperature tends to suffocate a person sitting inside the car and even death in humans[3]. For protection of vehicle from direct sunlight, windshield sun protector, leather seats with a conditioner or wipe dash with a microfiber cloth is used. Due to the aforementioned drawbacks, we need to develop an automatic ventilation system for vehicles for carrying waste gases out of vehicles when temperature rises inside the car[4].

Working of Proposed System

The system comprises of; a temperature sensor for measuring the temperature inside the vehicle[5]. An exhaust fan for exhausting the gas outside from the vehicle. When vehicle is parked in the parking area directly under the sun, the temperature inside the car increases. When the temperature level of car increases above 30° C then, AC duct component is closed and exhaust fan duct component is opened with the help of a valve provided in the duct component[6]. The valve position is changed between the ac duct component and fan duct component with the help of a switch provided at the dashboard. The temperature sensor is a thermistor is used for measuring the temperature, when temperature rises above the pre-set temperature value then dc supply is provided to the dc motor and exhaust fans starts rotating[7]. The exhaust fan exhausts all the harmful gas from the car through exhaust fan duct components. When temperature measured by the thermistor fall below the pre-set temperature value then resistance of the thermistor gets increased, this breaks the connection between the dc battery and dc motor[8]. Due to this dc motor stops and hence exhaust fans stops running because power is not supplied by the motor.

CONCLUSION

The aforementioned paper proposes a safety system which provides automatic ventilation for vehicles for carrying waste gases out of vehicles when temperature rises inside the car.

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