

AUTOMATIC BREAKING FLUID LEAKAGE DETECTION WITH SAFETY BYPASS BREAKING SYSTEM

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ABSTRACT

Presently a day, Machines are broadly controlled by control framework. To address the issue of detonating populace financial and successful control of machines is fundamental. The point is to plan and build up a control framework based an electronically controlled programmed break disappointment marker by utilizing IR Sensor. Programmed break disappointment marker and helper slowing mechanism is comprising of IR sensor circuit, control unit and edge. The sensor is utilized to identify the break wire, the control flag to the caution unit. Thus, the assistant brake is settled to the wheel edge and this can apply the brake and stop the vehicle. A weight transducer sensor screens the weight in brake lining. At the point when the essential water driven circle brake falls flat, the sensor identifies the weight misfortune and gives cautioning sign to the driver and furthermore Actuates influence supply to the optional braking unit which is a centre point engines in raise wheels. This capacities as an optional braking unit and encourages the driver to stop the vehicle and along these lines guarantees wellbeing of the passengers. The fundamental reason is brake disappointment, it caused to because of poor upkeep and also item deformity, keeping in mind the end goal to safe watch the profitable human for mischance the mishap observing of brake is critical thing in car Vehicle security is the shirking of car crashes or the minimization of unsafe impacts of mischance, specifically as relating to human life and wellbeing. Exceptional security highlights have been incorporated with vehicles tenants just, and some for the wellbeing of others. We have joy in presenting our new undertaking "Programmed Braking Liquid Spillage Discovery with wellbeing sidestep Stopping mechanism". This is prepared by sensors and assistant braking unit. It is honest to goodness extend which is completely prepared and intended for car vehicles.

Keyword - Brakes, fluid leakage, detection, bypass secondary brakes line safety

1. INTRODUCTION

Auto security is the evasion of car crashes or the minimization of unsafe impacts of mischance, specifically as relating to human life and wellbeing. Uncommon security highlights have been incorporated with auto's tenants

just, and some for the wellbeing of others. We have joy in presenting our new venture "programmed head light diminish/brilliant controller and motor over warmth alert" which is completely prepared by sensors circuit, diminish/splendid light and motor over warmth caution circuit. It is veritable undertaking which is completely prepared and intended for car vehicles. This structures an indispensable piece of best quality. This item experienced test in our car vehicles and it is great.

In this Project we are using control unit to check the Brake condition and Engine heat. Here we are sending the signal voltage through the Brake Wire from one end to other end. At the other end in the wheel the signal conditioning unit checks that whether the signal voltage in the Brake wire is available or not.

The stopping mechanism of an auto is without a doubt one of its more vital component. The point of this work is to make a superior stopping mechanism with pointer. Brake disappointment happens simply because of exhausted of brake shoe and cut in liner. It comprises of two sensors. One sensor is associated with the brake shoe. The other sensor is the brake liner. The flag from the two sensors is given to a microcontroller. At the point when the brake shoe is exhausted, the sensor detects flag to the microcontroller. Additionally if the brake liner is cut, the sensor sends flag to the microcontroller. The microcontroller investigations the flag and works the comparing marker. It nothing incorrectly, green pointer will sparkle and if any one basic, red marker will shine. In the event that the brake is disappointment in running time, an other brake will be worked by the microcontroller consequently. This anticipates pointless mischance framework is exact and working legitimately. In the event that slowing mechanism comes up short the red Drove sparkles and the bell don't beep when the brakes are connected.

The vast majority of the brakes for the most part utilizes grating between two surfaces squeezed together to change the type of the dynamic vitality of the moving article into warm, regardless of the way that different techniques for vitality transformation might be utilized for the same. For instance, regenerative braking changes over a lot of the vitality to electrical vitality alongside the warmth vitality, which might be put away or can be sent back to the hotspot for later utilize. Some different techniques change over the dynamic vitality into potential vitality in such put away structures as pressurized oil or pressurized air. Attractive fields are utilized as a part of Vortex current brakes to change over active vitality into electric current in the brake circle, balance, or rail, which is changed over into warm vitality. Still there are other braking strategies to change dynamic vitality into various structures, for instance by exchanging the vitality to a turning flywheel.

2. OBJECTIVES

The main objective of this project is to avoid accidents due to brake failure. The specific objectives of this project were:

- 1) For the protection of lively hood.
- 2) To reduce accidents of vehicle due to the brake failure.
- 3) To sense the change in hydrostatic pressure difference while brake failure.
- 4) In order to indicate the failure of brake.
- 5) It can operate and monitor all the brake units in the vehicle by using auxiliary brake bypass line.
- 6) It can sense the leakage of the fuel.
- 7) To connect the indicator with a sensor to indicate the brake failure

3. CONCEPT DESIGN

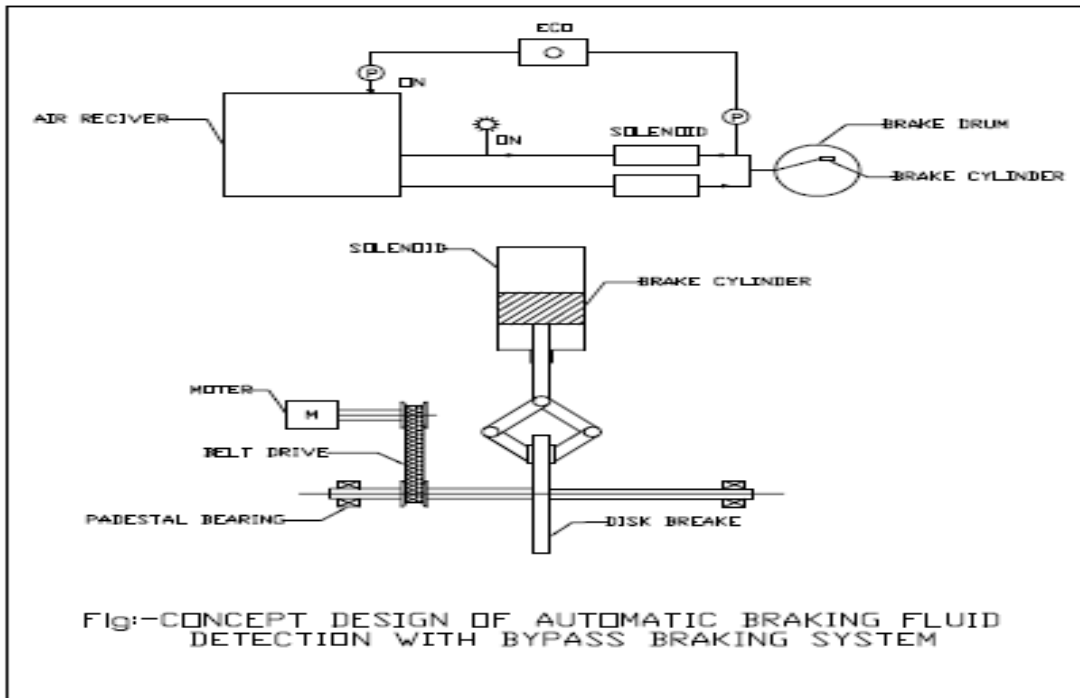


Fig 3.1 CONCEPT DESIGN



Fig 3.2 ACTUAL MODEL

3.1 WORKING

Programmed break disappointment marker and assistant slowing mechanism is comprising of weight differential sensor circuit, control unit and edge. The sensor is utilized to distinguish the break liquid line, the control flag to the braking valve unit. Likewise, the assistant brake is settled to the wheel outline and as this air spillage is keeps from essential port valve naturally auxiliary valve can on which can apply the brake and stop the vehicle frequently. A weight transducer sensor screens the weight in brake lining. At the point when the essential air plate brake falls flat, the sensor identifies the weight misfortune and gives cautioning sign to the driver and furthermore Activates influence supply to the auxiliary braking unit which is a centre engines in wheels.

This capacities as an auxiliary braking unit and encourages the driver to stop the vehicle and subsequently guarantees security of the travellers. The fundamental reason is brake disappointment, it caused to because of poor support and in addition item deformity, keeping in mind the end goal to safe protect the significant human for mishap the mischance checking of brake is essential thing in car Vehicle wellbeing is the evasion of car crashes or the minimization of unsafe impacts of mischance, specifically as relating to human life and wellbeing. Uncommon wellbeing highlights have been incorporated with vehicles inhabitants just, and some for the security of others. We have joy in presenting our new venture "Programmed Braking Fluid Leakage Detection with security sidestep Braking System". This is prepared by sensors and assistant braking unit. It is certified undertaking which is completely prepared and intended for car vehicle

3.2 FUTURE SCOPE

The brake developed by us is pneumatically operated. Thus, in old braking system it is needed to give full attention of worker to operate the brake during starting stops the vehicle in case of brake failure. This brake can be modified to fully automate pneumatic controlling brake by using programming. This automated brake with brake failure prevention system can perform specified work in minimum time, speed, reliably and with high accuracy so that it does not need any regular attention for braking in case of brake failure.

4 .LITURATURE REVIEW

Mr.Bhujbal: The auxiliary braking unit is used as secondary braking unit when the primary hydraulic disc brake of the vehicle fails. The secondary brakes receive power from battery. The secondary braking unit is a hub motor unit present at both the wheels of the rear axle. The hub motor also called as wheel hub drive is an electric motor incorporated into the wheels of the vehicle. Hub motors have their highest torque when they start. When the relay receives positive value from comparator, it connects the power source to the hub motor .The hub motor rotates in a direction opposite to the direction of rotation of the wheels. Therefore the hub motor provides negative torque to the wheels and retards the output power of the wheels. Thus the wheels are slowed down and the vehicle is stopped .

Mr. Abhishek Chaudhary: Antilock Braking System (ABS)- The Antilock Braking the locking up condition of the wheel which is not possible in the conventional Braking System. ABS constantly monitors each wheel through an electronic wheel sensor while in normal braking system brake fluid pressure is restored from the hydraulic pipes when there is no longer possibilities of the wheel locking up. System is basically used in order to prevent the wheels from "locking up" when the brake is applied by the driver. It is located between the brake master cylinder and the wheels of the vehicle. Its basic purpose prevent instability of the vehicle in the extreme braking condition. ABS modulates the fluid pressure applied on each of the front and rear wheels depending upon their speed and the weight shared by them While turning the vehicle, speed of inner wheels is slower than that of outer wheels and thus antilock system releases the pressure from the inner wheels of the vehicle. Even if the system is failed due to any reason, it is displayed with an indicator on the front panel in front of the driver and along with that brake shoes are also equipped with sensors in the Ant locking Braking System which constantly keep a check on brake shoe so if that brake shoe wears off it will notify the system so that it could be replaced.

Mr.V.Mallikarjuna: A buzzer or beeper is a signaling device usually electronic. These devices are used in automobiles, household appliances such as microwave oven. It consists of a number of switches or sensors

connected to a control unit that determines if and which button pushed or a present time has lapsed, sounds a warning in the form of an intermittent buzzing or beeping sound. Buzzer or beepers are output transducers converting electrical energy into sound. They contain an internal oscillator to produce the sound which is set at about 400 Hz for buzzers and about 3 KHz for beepers. In brake failure indicator, when the brake is applied the green LED blinks and the buzzer beeps for one second and if the brake fails, the buzzer stops beeping. Thus the buzzer functions as an indicator of brake failure.

5. CONCLUSIONS

We developed just a model of the pneumatic brake failure prevention break.. In this we have used piston-cylinders and pneumatic control with required specifications. But if we want to develop a actual brake that is to be used in the car, we can use the piston-cylinders and hydraulic or pneumatic controls with higher stroke and capacity to increase the efficiency of the system.

The main objective of this project is to avoid accidents due to brake failure. The specific objectives of this project were the protection of lively hood & to reduce accidents of vehicle due to the brake failure. The result of that system can sense the change in hydrostatic pressure difference while brake failure, in order to indicate the failure of brake .It can operate and monitor all the brake units in the vehicle by using auxiliary brake bypass line to prevent the brake failure.

6. ACKNOWLEDGEMENT

I express my sincere gratitude to my guide **Prof. S.S. Chavan** for his technical support which made this Project stage I – II possible. His constant encouragement, suggestions and ideas have been in valuable to this work. I immensely appreciate the time he devoted reviewing my writing and vastly improving my technical writing skills. His thoroughness, discipline and work ethic are laudable and worthy of emulation. I am grateful to them for providing their valuable time without that this dissertation is not possible.

I would also like to thank **Prof. P. G. Vispute, Principal** for reviewing my work. I am also grateful to **Prof. S. D. Ratnakar, Head Department of Mechanical Engineering** for constant support and for providing me with all possible facilities in the college. I would also like to thank the entire Faculty Members of Mechanical Engineering Department for all their valuable assistance in the Project Work.

I shall always be indebted to my family for their unconditional love, support and trust on my judgments during good and bad times. The dedication by my parents to provide the best of educational opportunities to me. They imbibed in us the importance of education, hard work and perseverance in attaining one's goals.

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