

Einstich Unsafe Pressure Alert System

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ABSTRACT: A EINSTICH UNSAFE PRESSURE ALERT SYSTEM (EUPAS) is an electronic system designed to monitor the air pressure inside the pneumatic tires on various types of vehicles. EUPAS report real-time tire-pressure information to the driver of the vehicle, via alarming the sound, or a simple low-pressure warning light. This alert system will give the pre-sound to the driver before the pressure in the tires will get reduced.

TARGET

- Avoiding traffic accidents due to under-inflated tires by early recognition of the malfunction of tires
- Reducing rolling resistance thus increasing overall fuel efficiency

REQUIREMENTS

A direct EUPAS consists of following requirements

- Tire;
- Rim;
- Arc welding machine;
- Circular MS plate;
- Pressure limit valve cap;
- ON/OFF switch;
- radio frequency module; and
- Alert speaker.

I. CONSTRUCTION

Initially the air pressure valve cap is split up and it is connected to the limit switch wire. It is designed to switch on the limit switch if the pressure inside the tube is reduced and it is connected to the transmitter which is attached inside the hub of the rim. The limit switch wire is connected with the transmitter and another limit is fitted nearby to the transmitter to stop the alarm. The receiver is connected with the burglar alarm. The receiver requires power source. The alarm will work at 220v. And also the transmitter contains a 12v battery in it. Then the receiver is connected with the burglar alarm to give the signal. The receiver also requires power source will get from the battery or from the power plug. They transmit through radio frequency which we saw before. We connect the pressure limit switch wire to the valve tube of the tire. We made some hole in the tube and attached another valve tube to release the air inside the tube to demonstrate. This is the total construction of EINSTICH UNSAFE PRESSURE ALERT SYSTEM

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This is pressure limit switch

II. WORKING

- Initially the pressure limit switch wire is fitted with the valve tube. If the pressure is enough inside the switch will be off.
- If the pressure will reduce the switch will gets on the transmitter will switch on and it will transmits the signal to the receiver.
- The receiver receives the signal and gives the alarm signal to the driver or particular person.
- This alarm will alert the driver to make particular precautions to avoid in-flat tire problems and to avoid accidents.



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III. PROJECT PHOTOGRAPHY



IV. ADVANTAGES

- Here is actually only one real advantage to EUPAS hardware, but it's a big one – it can save your life and/or your tires.
- EUPAS is designed to warn you by means of a dashboard light or by sending the alarm signal when any one of your tires has fallen below 25% of the carmaker's rated pressure.
- This will let you know you have a problem before the sidewalls of your tire begin to fold over and rub together, which is usually the first tactile warning of a problem.
- By this time your tires are already damaged beyond repair and unsafe. Running on them for much longer can cause the rest of the air in the tire to exit in a much more uncontrolled manner.
- Nothing good ever comes of that. By warning you of a problem well before the liner of the tire is worn off, TPMS can not only save your life, it can save you a considerable amount of money.

V. CONCLUSION

This is the unsafe pressure alert system to indicate the low pressure inside the vehicle tire to avoid accidents and to avoid any damage of vehicle due to low pressure in the tire and also due to in-flat tires.



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