FABRICATION OF AUTOMATIC TIRE INFLATION SYSTEM

A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGNEERING

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(2016-2019)

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CERTIFICATE

This is to certify that project report is entitled "FABRICATION OF AUTOMATIC TIRE INFLATION SYSTEM" was carried out by **M.DHANAJI VASU(16815A0325),U.PRADEEPKUMAR(15811A03D3),N.NARESH(16815A0328), G.GIREESU BABU(16815A0310),** in partial fulfillment of the requirements for the award of the Degree of Bachelor of technology in "**MECHANICAL ENGINEERING**" by Jawaharlal Nehru Technological University, Kakinada During the years 2016-2019.

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ABSTRACT

Since the discovery of tires, amelioration is being done in tires of a vehicle on a regular basis for its improved life and its role in increasing vehicular safety. As we all know that vehicle is the most important part of our life, because it helps us in traveling miles in a few minutes. The air pressure of the tires needs to be maintained at ideal level for better running of vehicle and for its safety purposes. So this system was introduced keeping in mind the fuel consumption, vehicular safety and comfort. It maintains the required tire pressure of vehicle, increases fuel efficiency and reduces tire wear thus increasing their life and reducing the tire replacement time and cost. Significant aim of introducing this system is to maintain ideal pressure in tires and when the pressure of tire goes below ideal vale pressure gauge monitors it and the tire is inflated again. This paper provides a better understanding for researchers and new learners on the working, advantages and limitations of the "Automatic tire inflation system" used in tires of a vehicle. Key Words: Automatic tire inflation, tire pressure, tire life, fuel consumption, vehicle safety.

Driven by studies, if there is a drop in tire pressure by a few PSI can result in the reduction of gas mileage, tire life, safety, and vehicle performance. We have developed an automatic tire inflation system that ensures the tires are properly inflated constantly. Our design proposes and successfully implements the use of a compressor which is centralized and will supply air to all four tires through hoses and a rotary joint which is fixed between the wheel spindle and wheel hub at each wheel. The rotary joints effectively allow air to the tires without the tangling the hoses. With the recent oil price hikes and growing concern of environmental issues, this system addresses a potential improvement in gas mileage; tire wear reduction; and an increase in handling and tire performance in diverse conditions.