

Four Wheel Automatic Tyre Inflection System

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Abstract: Driven by studies that show that a drop in tyre pressure by just a few PSI can result in there reduction of gas mileage, tyre life, safety, and vehicle performance, we have developed an automatic, self-inflating tyre system that ensures that tyres are properly inflated at all times. Our design proposes and successfully implements the use of a portable compressor that will supply air to all four tyres via hoses and a rotary joint fixed between the wheel spindle and wheel hub at each wheel. The rotary joints effectively allow air to be channelled to the tyres without the tangling of hoses. With the recent oil price hikes and growing concern of environmental issues, this system addresses a potential improvement in gas mileage; tyre wear reduction; and an increase in handling and tyre performance in diverse conditions. The most important factors in tyre care are: Proper Inflation Pressure Proper Vehicle Loading Proper Tyre Wear Regular Inspection Good Driving Habits Vehicle Condition.

Keywords: Four Wheel, inflation system, Automatic filling air, Static Structural analysis

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