

Air Operated Vehicle by Using Compressed Air from Suspension

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ABSTRACT: Pneumatic energy is the readily available and low cost energy. Non-conventional energy system is very essential at this time to our nation. So that the pneumatic type of energy is considered for our project. In this project compressed air can be produced with the help of motion of wheel. Then this compressed air is used to operate the vehicle. Compressed air production using vehicle wheel needs no fuel input power to produce the output of the air. This air operated four wheeler is the new innovative concept to run vehicle by using the compressed air system. Begins with an introduction to pneumatic it's various applications and units and briefly explains a few devices capable of utilizing air effectively and their relative merits. The pneumatic operated vehicle is very useful for drive the four wheel drives. Air is the working substance of our machine. This system gives smooth operation and smooth movement for vehicle. Our project model consists of air tank, air pump, spring, Pneumatic gun, Gear arrangement and Vehicle model.

KEYWORDS: Compressor , Air operated, Four wheeler, Renewable.

I. INTRODUCTION

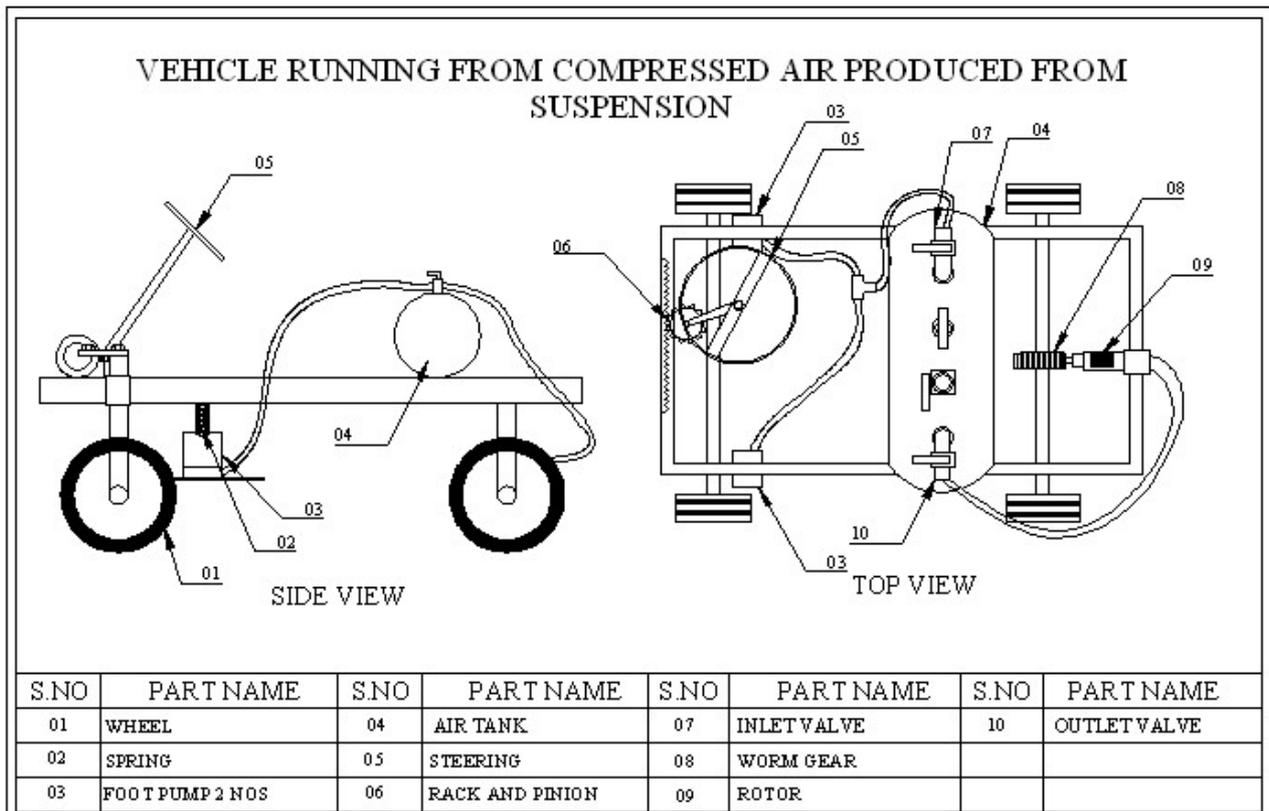
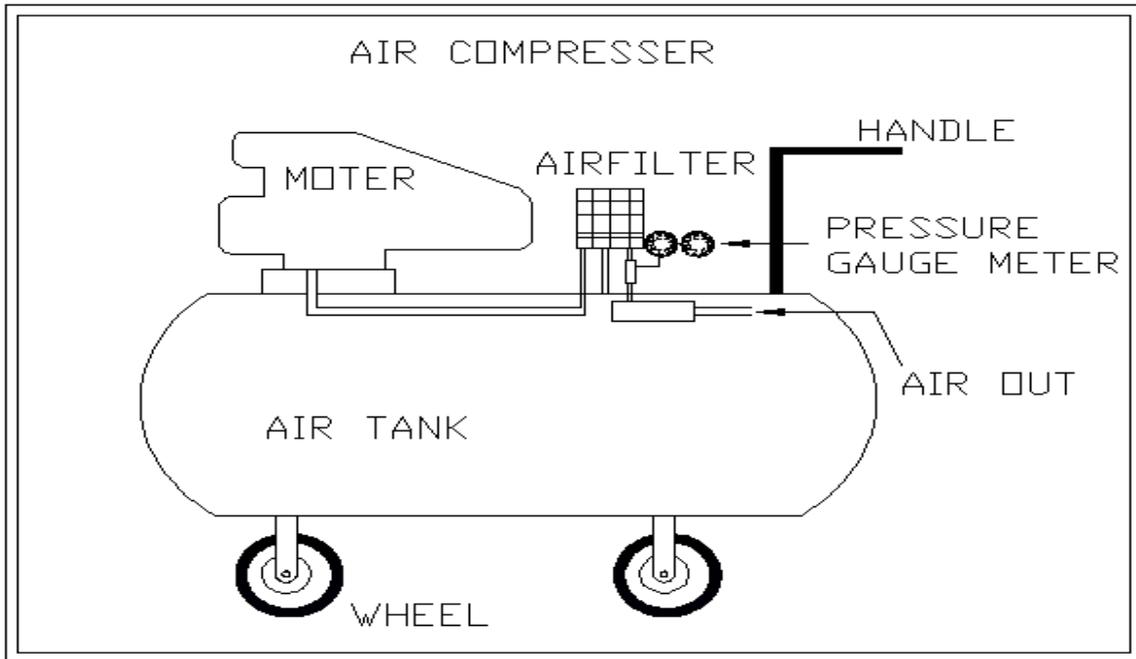
Vehicles, derived from the Latin word, *vehiculum*, are non-living means of transport. Most often they are manufactured (e.g. bicycles, cars, motorcycles, trains, ships, boats, and aircraft), although some other means of transport which are not made by humans also may be called vehicles; examples include icebergs and floating tree trunks. Vehicles may be propelled or pulled by animals, for instance, a chariot, a stagecoach, a mule-drawn barge, or an ox-cart. However, animals on their own, though used as a means of transport, are not called vehicles, but rather beasts of burden or draft animals. This distinction includes humans carrying another human, for example a child or a disabled person. A rickshaw is a vehicle that may carry a human and be powered by a human, but it is the mechanical form or cart that is powered by the human that is labeled as the vehicle. For some human-powered vehicles the human providing the power is labeled as a *driver*. Vehicles that do not travel on land often are called craft, such as watercraft, sailcraft, aircraft, hovercraft, and spacecraft Land vehicles are classified broadly by what is used to apply steering and drive forces against the ground: wheeled, tracked, railed, or skied.

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II. DESIGN OF EQUIPMENT AND DRAWING



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Vehicle running on the road ways foot pump air produce in vehicle suspension. Generate air to store in tank. Here we are fabricating the model for four wheeler vehicles without using any fuel input, and it is known as pneumatic vehicle. The arrangement of the setup is using the pneumatic rotor (or) gun which is coupled with the worm shaft. The spur gear is connected with the rear wheel shaft which is engaged in the worm shaft. The front wheel drive is to make as the mechanism of rack and pinion which is coupled with the steering shaft. When ever we run the vehicle just switch on the gate valve to open from the air tank to air passed through the pneumatic rotor it will rotate the worm gear arrangement to rotate the rear wheel which is move the vehicle. By the adjustment knob from the pneumatic rotor we have to drive the vehicle in reverse direction. By this process we are able to run the vehicle without any fuel input.

III. DESIGN OF EQUIPMENT AND DRAWING COMPONENTS

The air engine is consists of the following components to full fill the requirements of complete operation of the machine.

1. Compressor
2. Pneumatic gun
3. Gear arrangement
4. Control unit
5. Foot Pump

IV. CONCLUSION

In this project we are collecting air from the air cylinder and store this energy to compressor tank as non-conventional method by simply driving the vehicle. This air engine is the new innovative concept to run the bicycle by using the compressed air system. Begins with an introduction to pneumatic it's various applications and units and briefly explains a few devices capable of utilizing air effectively and their relative merits. The pneumatic operated of air engine is equipment and it is very useful for drive the vehicle. It is operated by pneumatic system. Air is the working substance of our machine. This system gives smooth operation and smooth movement vehicle.

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